Primary teachers' conceptions of giftedness amongst schoolchildren

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- ABSTRACT -

The new National Curriculum for schools in England & Wales stresses the need for 'differentiation' in educational provision to cater for all children by attending to the needs of the individual. Special provision is made for slow learners and the physically handicapped, but despite a growing awareness, the needs of the 'gifted' have by comparison been neglected. Academic researchers have for decades concentrated on the identification problem, often based on standardized intelligence and creativity tests, whilst teacher support organisations in this country have concentrated on provision. Notwithstanding the activity of these interest groups the efficiency with which any provision is made for such children in the primary classroom is almost entirely dependent on the classteacher.

The present study sampled two classteachers, teaching nine and ten year old children, from each of 24 schools in the County of Northamptonshire. The schools chosen were large, small, rural and urban. Teachers were invited to respond to an unstructured, tape recorded interview which included flash cards of similar terms used to describe the different groups of able children, the results of which were analysed using cluster analysis (CLUSTAN 2 computer software) to identify similarities and differences between the respondents.

The results of the study reveal that most of the primary classteachers were able to recognise children in the classroom who they considered to be 'gifted' in their terms. However there was an apparent lack of certainty with which they conveyed their understanding of such terms as gifted, talented, exceptional, highly able, and bright. Inasmuch as a 'core' attribute can be ascribed to their concept of giftedness, specific outstandingness in relation to peers usually in such fields as mathematics and music was most frequently mentioned in their responses. The nature of that outstandingness is a matter of some debate.

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CHAPTER ONE - INTRODUCTION

"Giftedness is arguably the most precious natural resource a civilisation can have. There are a number of resources, natural and manmade, that contribute to the development of a civilisation. But if one looks back through history and asks what it is that made certain civilisations great, or remembered, or esteemed, it is inevitably the gifts, whether individual or collective, of those who lived in them. These gifts are what give civilisations such as ancient Greece or the European Renaissance a special place in the history of humankind. The key importance of giftedness has not been matched by either theoretical or empirical efforts"

[Sternberg 1986].

In 1986, Joseph Renzulli, viewing a worldwide perspective from an American standpoint stated,

"In recent years we have seen a resurgence of interest in all aspects of the study of giftedness and related efforts to provide special educational services for this often neglected segment of our school population".

Providing for the educational needs of the individual child, boy or girl, to enable them to reach their potential has for decades been stated as a prime objective of every developed country. Attempts to realise this aim, usually emanate from the formulation of government central policy statements, followed by the allocation of resources, subsequently disseminated, as in Britain, to Local Education Authorities plus other administrators and monitors, before filtering down for interpretation

and implementation by the individual classroom teacher. Such an initiative was the British 1944 Education Act, reflecting post-war optimism, and being particularly explicit in its requirements for the state school system, that all children, regardless of their background, should be educated according to their age, aptitude and ability. Since then, through many different types of government activity the principle has been expressed, sometimes in very direct terms by government ministers such as Sir Keith Joseph, then Secretary of State for Education & Science, addressing the 1984 North of England Education Conference, at which he called for greater breadth, balance, relevance and differentiation in the curriculum. The current holder of that office continues this tradition, albeit in a rather different framework of reference, based on the implementation of a stated National Curriculum for all schools in the State sector. The term 'differentiation', recurs quite regularly in documentary form such as the D.E.S. policy statement on science for children of five to sixteen years, published in 1985, and the D.E.S. National Curriculum discussion document published in 1987. The word in this context is commonly interpreted as meaning that children should be exposed to learning experiences which are appropriate to the needs of the child at that stage of their educational development. Such a statement on provision for the individual child has important implications for its implementation in the classroom.

There is a sense in which teachers, in their role as the spearhead of the descending chain of responsibility for children's education in schools, have always attempted to cater for the needs of the individual, as they see them. In this role, any legislation is only as effective as the teacher's conviction and ability to play a full part in its implementation in the classroom. The main thrust of this study therefore, has been to examine how teachers perceive the children they have taught or known, particularly in respect of those considered by them to be 'gifted' in their terms. This is based on the premise that whilst recognising the important role of parents and home, especially in the early formative years of a child's development, the

classteacher has an increasingly vital role to play. Being at the forefront of provision in the formal setting of the child's daily educational needs, the extension or enrichment activities designed with the gifted child in mind would seem dependent, notwithstanding any county and school policy, on the teacher's personal construct of giftedness.

Marjoram (1988), writing after a lifetime's experience at the forefront of provision, both as a teacher and one of Her Majesty's Inspectors with responsibility for the education of children of high ability, recognised that there has always seemed to be a mismatch between what he describes as the policy makers, purse-holders and the teachers. This has resulted from a combination of weak communication links, and a misunderstanding of the message being passed along the line, it also stems, in the context of classroom practice, from a less than adequate understanding of the daily demands upon classteachers, and any influence such demands may have on their conception of the individual children for which they are currently responsible. These local influences, recognised as a background to the unstructured interviews with classteachers conducted during this study, are summarized in figure 1.(page 9). Very little research seems to be available that has directly addressed the extent to which the totality of such influences affect teacher attitudes. Many workers such as Callow (1980), Tilsley (1981), Lowenstein(1982), Maltby(1984), Denton & Postlethwaite (1985), have alluded to such influences as a marginal issue in the investigations in which they have been involved. During this study there was evidence to suppose that contributory factors shown on the diagram, plus the following, although not a direct part of the research, and difficult to quantify or isolate their individual effect, did have some influence, positive or negative, on the way teachers mentally conceive the children they teach:-

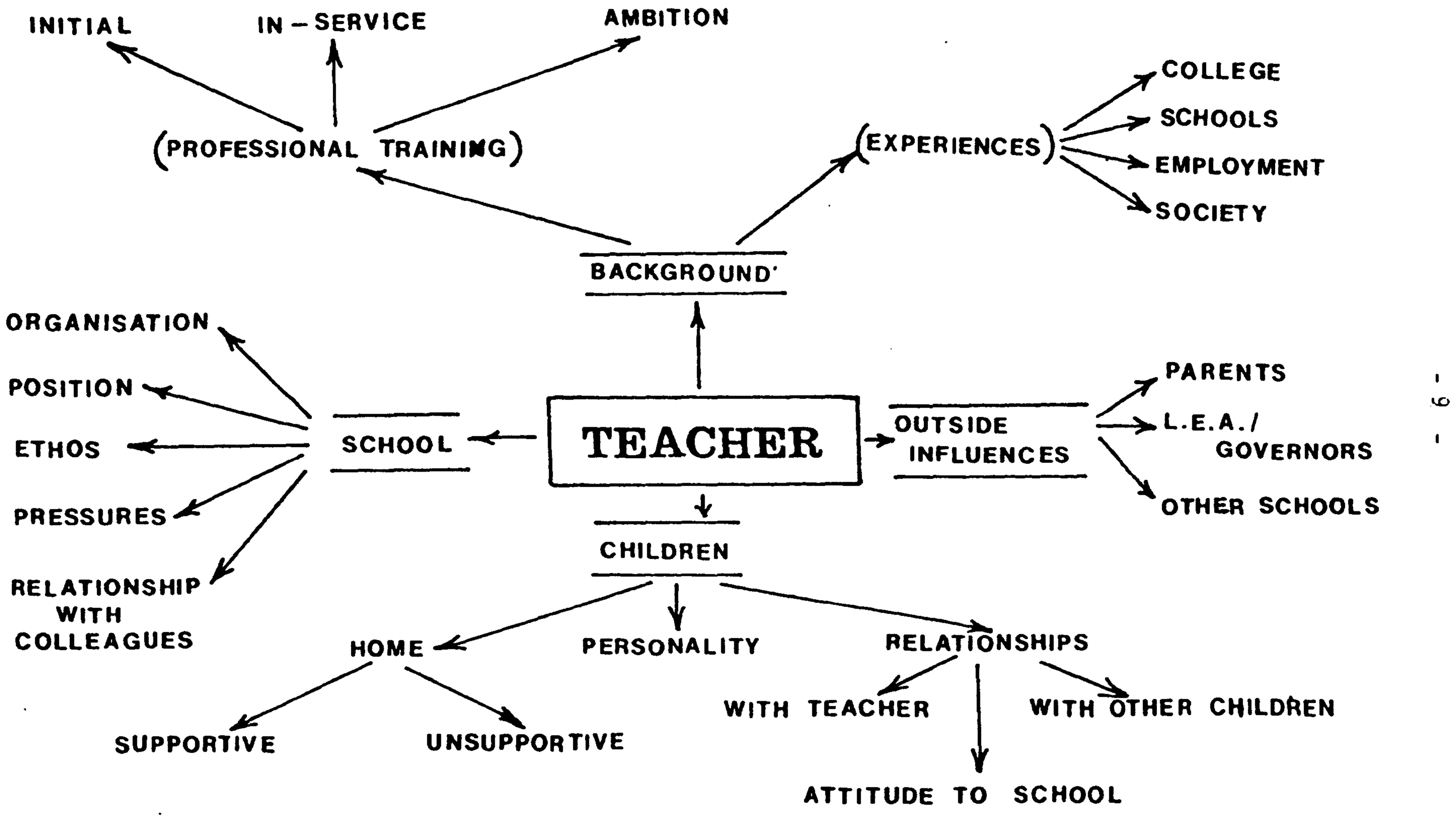

Figure 1: Summary diagram of the possible 'professional' influences on the primary classteacher's conception of the children they teach.

a).Time spent with the children

The English primary school classroom teacher, despite the currently increasing number of subject specialist responsibility teachers on the staff of the school who have a predominantly advisory brief, is still responsible for the implementation of the majority of the curriculum and all the other form matters that occupy a class's day. Such teachers therefore spend much more time with the children in their charge than in any other sector of the school system. This would presuppose an in-depth knowledge of all such children based on this daily contact, and to some extent this is true in this context, until it is realised, that although various estimates have been made, on average a nine to ten year old child spends less than twentyfive percent of his/her waking life in the school. It is possible that on this albeit important quarter of the child's waking experience that all sorts of far-reaching decisions are made and teacher attitudes developed, which can affect the child's progress, achievement and future. In examples of the best practice, teachers are aware to some degree of pupils extra-curricular activities, such as hobbies, especially when these are connected in some way with the school. Whilst this however would be true of best practice, experience from earlier work with individual primary schoolchildren, done by the author as a team member for science engaged in the work of the [1]'Schools' Council Curriculum Enrichment Project for gifted children, showed that teachers seemed to have very little knowledge about most children's out-of-school experience and aspirations, apart from official records, and information the children volunteered.

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[1]A summary of this work including extracts from Ilsley's learning materials package is reported by Eric Ogilvie pp 172-189 in Povey. R.(1980) *Educating the gifted child.* London: Harper & Row.

b).The number of children in the class

Other things being equal, the fewer children for which the teacher is responsible, the greater should be the opportunity to know them and assess their potential. The project mentioned in the previous paragraph necessitated the writer of the present study working with teachers responsible for pupils on ratios varying between 1:21 and 1:33. Notwithstanding personality and professional application differences between the teachers in question, observation revealed that those teachers responsible for the smaller classes did not seem to know their children any better than those responsible for the larger classes.

c).Initial and in-service training

On the American scene, reported by many including Addison (1983), the inclusion of identification strategies and provision for the gifted is relatively commonplace in the initial training of most teachers, as is the availability of special in-service programmes. In fairness it must be stated that Federal and individual State legislation specifically for the gifted with the accompanying funds such laws provide must have played a not insignificant part in the level of this provision. In accord with what could be seen to be characteristically British, progress in this area in the U.K. has been much more cautious. Whilst there has been an increase in the appointment of Local Education Authority support staff who both independently and in association with training institutions mount in-service courses specifically aimed at the gifted, this provision is still too infrequent and sparsely located for most of our primary classteachers to have benefited. The same situation exists with regard to initial training courses which now contain some element related to this level of ability, however small. These developments are recent enough for most of our practising primary classteachers not to be officially aware of the needs, identification and provision strategies for such children in their charge. Maltby (1985) found this absence of related in-service

experience and private reading on the subject to be true of most of the primary teachers with whom she worked recently in Sussex.

This state of affairs could be the reflection of a national attitude in the UK towards education, which tends in practice to avoid the demands of high ability in children as an area for special provision, and is often based on such authoritative statements as the Warnock Report (1978), which not only does not refer in any way to the needs of the gifted, but recommends the abolition of labelling handicapped children in favour of an 'exceptional needs' category, which it is envisaged would not include the needs of children of high ability. This would seem tantamount to proposing that children whose intellectual and creative abilities need 'stretching' towards the high potential of which they are capable, should not be recognised as needing appropriate provision, whilst those who have physical and mental remedial needs should benefit from such special provision. One suspects from personal experience that the oft quoted attitude that those with remedial needs require our continuing attention, whilst the highly able and gifted children can look after themselves. Lawrence (1980) reviewing Local Education Authority provision in this area of need suggests that one reason for this situation may be that,

> "It is not easy to persuade the average LEA (especially in times of financial stringency) that an ambiguously defined group, variously referred to as gifted or unusually talented, should receive a share of the budget when there are other more easily identifiable groups demanding more attention. Moreover, to suggest that money should be allocated for the needs of so-called gifted children is interpreted in some quarters as pouring extra riches on an already privileged group."

The phrase, 'ambiguously defined', very aptly describes the current situation in education, where there is no clear generally agreed

definition or means for the identification of this group of children. The international findings of research in this area over the years, despite the valiant work that has been done by so many workers, has at best produced a shop window full of varied definitions, numerous means of identification, and a sometimes confusing mixture of both of these, often without adequate guidance on how to apply them or what to do with their findings in a teaching situation. It seems tragic that these children are at present in our schools, and yet all the research seems to have little direct influence in what happens in most English primary classrooms. Busy classteachers, apart from the exception seem unaware of the implications for them of the findings of small, large scale and longitudinal studies based on such children, and the help available. This situation often reflects the pressures upon them summarized in figure 1 (page 9), and yet their reaction to the daily contingencies of their professional experience requires the recognition and identification of category models of all the children for which they are responsible. It is the need in this context to understand the classteacher's development of a personal construct of giftedness and exceptionality in the children they teach which is the raison d'être of the present exploratory study. An important partnership role occupied by the teacher as a potential provider for the development of giftedness in children is indicated in figure 2.(page 14). This role is particularly enhanced where the teacher is aware of the need and other members of the partnership are, for many reasons which could be discussed, inactive. This awareness will largely depend on the individual teacher's concept schemata related to giftedness.

All teachers in the sample studied were currently teaching in mixed ability classes, including those in an independent junior school. In this writer's twenty five years experience in the profession spent between classteaching and teacher education, it has been observed that teachers presented with such a mixture of children's needs and potential, and faced with designing appropriate provision for the needs of the individual, often find it comparatively easy to categorise those

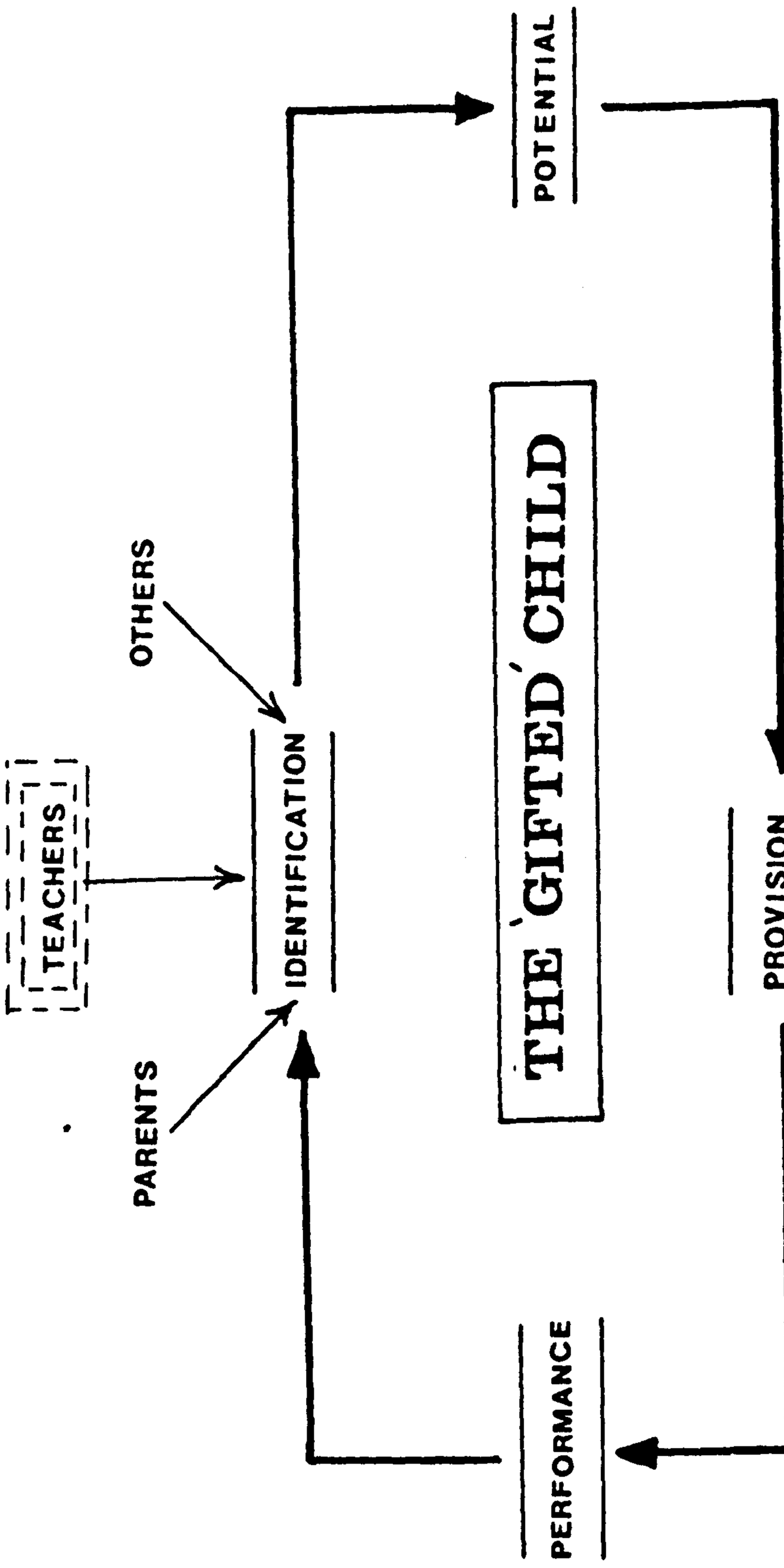

Figure 2: The teacher as a potential provider for the development of giftedness in children.

with learning difficulties at the lower end of the ability scale, but finds some difficulty in the choice of terms available to describe those who may be gifted. Part of their reluctance may be their uncertainty in what they mean by the word, or their recognition of its characteristics in the child, but more often the word 'gifted' tends in many to provoke either a positive or negative emotional reaction, and is one that seems to have more ready acceptance in the American scene than in this country, where in our state sector of education, in some areas, caution is exercised regarding the use of any word that has connotations of 'elitism'. There is a sense in which we expect the word even as a technical term to be the cause of offence, therefore refuge has been sought in using other words such as talented, exceptional, highly able and very bright, which are often used synonymously by teachers to describe giftedness. Denton & Postlethwaite (1985) although clearly subscribing to a concept of giftedness, decided to opt for the words 'more able' and 'most able' as operative terms to indicate levels of specific giftedness, in their recent study of teachers and 2,300 third formers in secondary schools. Their subject specific operational approach was justified by its relevance to the organisation of the secondary school, the objectives of their enquiry and their comments below,

> "One component of the insecurity that teachers feel in their work with gifted children is related to the fact that a certain amount of ambiguity has crept into the word 'gifted' over the last three or four decades. As our understanding of the structure of human abilities has deepened, and our views about the legitimate aims of schooling have broadened, definitions of the gifted have changed. The ambiguities have arisen as a result of this change. While some educationalists have accepted a wider definition others continue to use the term 'gifted' in its traditional sense, leaving those who are not experts in the field but who would wish to recognize and nurture the 'gifted' children that appear in their classrooms,

confused and insecure."

The present situation would seem to be that there is still a considerable way to go before both research and teachers agree on a working definition of the nature of giftedness, especially when both of these professional groups cannot agree within themselves, and despite the fact that it could be debated by some whether there should be such a definition. In the meantime the classteacher faces such children, who have a right to recognition and the provision of appropriate learning experiences, every school day. Her Majesty's Inspectorate in 1977 commented on this general situation with particular reference to middle and comprehensive schools stating that,

"There is no overall policy for identification. Identification is a hit and miss affair."

This document implies definition through identification, where such exists, and does not distinguish clearly between the two. One, therefore, is left without clear guidance whether the definition is a result of the identification, or that the identification procedure subsequently arises from a previously produced definition.

The available literature therefore does little to necessarily resolve this dilemma. It is a situation where there are very specific definitions of these terms available, which have existed since the work of Sir Francis Galton in his magnum opus, 'Hereditary Genius' published in 1883, and they continue to proliferate today. There are other cases where such terminology is used interchangeably, including such organisations as the Canadian Association for Bright Children, Robb (1980) reports their published aims as:

1. To foster a better understanding of bright children and their needs.
2. To create a climate of acceptance of gifted children.
3. To encourage educators and administrators to provide appropriate programs for the gifted which will help them realize their full potential.
4. To sponsor and organise meetings and conferences for parents, teachers, administrators, and politicians.
5. To engage in the production and publishing of learning materials.

These items reflect very closely the aims of the British National Association for Gifted Children, who do not use the term 'bright' in most of their literature. This raises the question as to whether bright children are classified as gifted, or gifted children classified as bright. By contrast, the Canadian Association for Gifted and Talented Children have quite precise definitions of the nature of their subject clientele, suggesting that giftedness is recognised by academic distinction, whilst evidence for talent is confined to outstanding prowess in the performing arts. This differs from George Robb's statement that,

> "Most workers in the field use the term gifted to mean a high level of ability in a wide range of subjects or areas. Talented refers to a very high ability in one or several such areas such as mathematics, music, or athletics."

In the absence of detailed clarification, this begs the question of the difference between 'high level of ability' and 'very high ability', applied to a 'wide range' or 'several' areas.

In ancient Greece, Plato writing in 'The Republic' which describes his model of the ideal society, was much more specific about

his 'men of gold' who were to be given a diet of philosophy, metaphysics and science to satisfy their superior intellect, over the men of silver, iron and brass. His definition was one based on hereditary intellectual attributes, and was flagrantly elitist in this development of his 'ruling class. It could be shown to have much in common with aspects of certain groups within the 'master race' concept proposed more recently by Adolf Hitler in his 'Mein Kampf', although apart from the listed characteristics of the Aryan race, neither work is very specific on initial identification.

With such clear cut definitions one wonders how efficient was the initial identification procedure. Such once-for-all labelling as they suggest begs the assumption that such a procedure is both totally objective and that such individual traits are permanent in themselves and continuously sought after by society. Many workers such as Getzels & Csikszentmihalyi (1976), and Terman & Oden (1947,1959), engaged in longitudinal research of those recognised in earlier years as gifted have found that the initial promise may not be sustained in later life, for all sorts of reasons, including the motivation, opportunity and expectations of the individual, but it does also call into question the nature of the original definition, its implications for any long term predictions, and the internal/external validity of the methodology employed in the initial diagnosis.

Terman (1925) in his monumental work on one of the early large scale child surveys of giftedness, which continued as a well-reported longitudinal study mentioned above, had a very specific definition for his '1000 gifted children' who needed to achieve a cut-off point of 140+ on his version of the Stanford-Binet intelligence test. As this cut-off point was also his identification criterion it would appear that he was 'posivistic' about his definition, in which case it would have been better to say, 'children who score 140+' rather than use the word 'gifted' unless a clear indication is given as to what this test result implies in terms of the concept. However his concept of giftedness

was wider than this, as indicated by other criteria used by him. It is perhaps more significant, in the context of the subject of the present study, that the choice of children to be tested was partly dependent on teacher recommendation and school record, conveyed to Terman's team through the Principal (Headteacher) of the institution! Marjoram (1988) gives a very apt table illustrating this way of describing children by an Intelligence Quotient measure, as follows:

(Table 1)

Researcher/Origin	% population	I.Q.	Generic term
Dr. Terman	0.38	140+	Gifted
[1]N.A.G.C.	2.00	135+	Gifted
[2]D.E.S.(Discussion Doc.4)		130+	Gifted
Belle Wallace-Adams	5.00	125+	Exceptionally Able
Dr.Trevor Kerry	10.00	120+	Able

Kerry (1981) also uses the 130+ cut-off to which he attaches the term 'bright'. Notwithstanding the current suspicion with which IQ testing is regarded in relation to its reliability as an identification instrument, the practising classteacher is unlikely to be convinced of the importance of recognising the needs of an ability group which constitutes less than five per cent of the child population. This is particularly true when account is taken of geographical distribution, alternative educational opportunities, and thereby the statistical likelihood of their presence in her class. Marjoram is really trying to demonstrate that for each parameter on which children can be defined

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[1]National Association for Gifted Children (United Kingdom)

[2]United Kingdom Government Department of Education & Science

as gifted, there are various estimates given by research workers regarding the proportion of the child population that fall into this category. By example, Callow (1980) although he does not give the evidence on which his conclusion is based, suggests that,

> "..even on purely statistical grounds we might expect any school with 250 pupils to have about five very bright children on its roll."

Two per cent would seem to be a low estimate compared with the some of the pragmatic estimates made today. Marjoram has something approaching ten per cent of the child population in mind as needing special consideration. Gallagher & Courtright (1986) commenting on the American scene make a similar point, regarding the dichotomy between percentages of child population produced by research definitions and those for stated target groups of educational providers,

> "While 'gifted' is rarely seen to include more than 5% of the population on a given characteristic, school systems often wish to organise instructional programs for high aptitude students that would include 10%, 15%, or 20% of the student body."

Such definitions seek to classify by a metric, which will be discussed later, and is sometimes taken in isolation rather than in combination with a series of integrated trends. The variety of definitions of the nature of giftedness is considered to be almost as wide as the number of workers involved in this field. The main trends in operational and theoretical definitions have been reviewed more recently by Freeman (1980), Painter (1980), Tuttle (1980), Ilsley (1982), Clarke (1983), Sternberg (1985) and Wallace (1987), who on occasion, find it necessary to use synonymously, terms such as exceptional ability, and talent. Renzulli (1986), in his attempt to provide the basis for moving towards a more widely accepted platform, considered a definition of giftedness to be a formal and explicit statement that

might eventually become part of official policy or guidelines, and therefore should meet the following criteria:

1. It must be based on the best available research about the characteristics of gifted individuals, rather than romanticised notions or unsupported opinions.

2. It must provide guidance in the selection and/or development of instruments and procedures that can be used to design defensible identification systems.

3. It must give direction, and be logically related to programming practices such as the selection of materials and instructional methods, the selection and training of teachers: and the determination of procedures whereby programs can be evaluated.

4. It must be capable of generating research studies that will verify or fail to verify the validity of the definition.

Laudable as the content of these items seem, they appear to beg many questions. It could be questioned how far validity mentioned in item 4 could be checked by empirical research, if we accept valid in its usual meaning of accurate or true. Notwithstanding such a reservation the United States office of Education, Marland (1972), on this basis produced Federal guidelines embodying the following definition, which numerous states and school districts have adopted for their schools:

"Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable

of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society. Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:-

(1) general intellectual ability,

(2) specific academic aptitude,

(3) creative or productive thinking,

(4) leadership ability,

(5) visual and performing arts,

(6) psychomotor ability."

As with most official statements of this nature, there are in this definition potentially contentious terms which need further clarification, and as is often the case the accompanying documentation in some of these areas at best borders on the ambiguous. The question is raised of who 'professionally qualified persons' may be! In many countries, such as Australia and New Zealand, but particularly on the American scene, the established professional heirarchy tends to consist of the educational psychologist, who unless engaged in a school-based research project only tends to deal with children that are referred to them by other agencies. This often tends to be the school, usually on the implicit assumption that the school has not overlooked the reference of any of those children it suspects need further diagnosis. This is unlikely to include those children who either live a Jekyll and Hyde existence between school and home and do not exhibit the symptoms for which the school is looking, or those whose giftedness in the classroom still needs to be recognised. At a lower level are the Canadian Special Assignment teachers (S.A.T's) who

have a brief similar to our LEA advisory teachers, and therefore do not have particular school or class responsibilities. This leaves the classteacher, as the one who has the most direct daily contact with the children, and given the appropriate awareness would seem best able to be a first reference to assess their needs and potential. Parents, potentially who have more time with their offspring than any other agency are given scant mention as identifiers in the accompanying guidelines, and are certainly not included as 'professionally qualified persons', and yet their role in partnership with the education system as a contributor of information and support in provision for the development of their children, is a very important one. It is perhaps also significant that the terms 'gifted ' and 'talented' are used jointly in this definition, and on face value the classroom teacher without further clarification would find it difficult to distinguish between them. One wonders whether it would have been wiser to either distinguish clearly between these terms or settle for a broader term such as high ability, as the newly (1987) formed European Council for High Ability (ECHA) which concerns itself with the definition, identification and needs in the same ability areas.

The following examples consider some of the broader yet specific issues related to definition. Tannenbaum (1986) proposes a 'pyschosocial' definition of giftedness based additionally, on nurture and chance as well as nature, in his five factor approach:

"There are five factors that have to mesh for a child to become truly gifted:-

(a) superior general intellect,

(b) distinctive special aptitudes,

(c) the right blending of non-intellective traits,

(d) a challenging environment,

(e) the smile of good fortune at crucial periods of life...

The five factors interact in different ways for separate talent

domains, but they are all represented in some way in every form of giftedness."

Tannenbaum here seems to be confusing definition, viz. what it is to be gifted, with causal explanation of development or origin, ie how you get to be gifted. The inclusion of (d) and (e) would seem to favour a definition based on performance as well as potential, which implies that the area of giftedness, to be recognised, must be within the particular purview and scale of values of those looking for it.

An example of ability undetected by the classroom teacher is extracted from the field notebook of earlier work by the present author. 'John' was a nine year old boy interviewed on several occasions by the author, during the Schools Council Curriculum Enrichment project. His primary classteacher found him on occasions, something of a nuisance, whilst the rest of the class ignored him most of the time. He was receiving extra help to develop his reading and number performance, yet the teacher perceived that there was something difficult to define about him that seemed to indicate underachievement. My enquiries revealed that the child was the youngest by five years of a working class family of six, all grown up and living very full lives, leaving little time to take very much notice of him. Although he could not be described as naturally withdrawn, he seemed to have very few friends outside the school, and spent most of his spare time with his grandfather, who lived on his own in the same street. Grandfather, in his close friendship with the boy provided him with Tannenbaum's (d) and (e), which revealed itself in a developing interest in astronomy, sparked off by their discussions of astronomer Patrick More's television programmes, *The sky at night*. The interest was reinforced by grandfather making him a present of a copy of the book, *The Observer's Book of Astronomy*. The outcome was his development of reading and language at a much higher level than he was achieving in school, the same was also true of his number work, especially as it related to his study of telescopes in books and museums prior to his designing and constructing his own, in the shed at

the bottom of grandfather's garden. Both his family and his school were unaware of what he did in his spare time, and neither he nor his grandfather were convinced that they really wanted to listen to what he had to say. Once his teacher was informed of the situation, he was sensitively given the recognition that he needed and has since gone on to show what he can really achieve now that school and leisure time have been linked for this child. Although one cannot generalise from a single example, perhaps the significance of this illustration highlights the desirability for some children, of basing definition and identification on what may seem to be intangible evidence for suspected potential, which may not be supported by standardised tests or school-based product

Renzulli (1978) re-examining some definitions of giftedness, took a different line to Tannenbaum when he developed his revolving door identification strategy based on a definition, which was later refined to what has come to be known as his triad or three-ring theory. Rather than defining giftedness from the standpoint of society, he defines it from the standpoint of the individual, In (1986) he expressed his model in the following terms,

> "Gifted behaviour consists of behaviours that reflect an interaction among three basic clusters of human traits - these clusters being above average general and/or specific abilities, high levels of task commitment, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance."

In the same reference he demonstrates its application by producing a taxonomy of behavioural manifestations of each cluster which include under 'well above average ability' such attributes as high levels of abstract thinking, adaptations to and the shaping of novel

situations, and the automatization of information processing; these are considered to be general abilities. Specific abilities include the application of various combinations of the above general abilities to one or more areas of knowledge or performance, the capacity for acquiring and making use of advanced amounts of knowledge, and the capacity to sort out relevant and irrelevant information associated with a particular problem. Task commitment involves the capacity for high levels of interest, enthusiasm, perseverance and self confidence, whilst identifying significant problems within specialised areas. It could be questioned whether those personal qualities included under task commitment are appropriate to an attempt to define cognitive abilities related to giftedness as distinct from the way in which they are displayed in the individual. It would seem that he is by implication relating task commitment to the need for performance indicators as a prerequisite to the application of the definition to the individual. This would seem to be much more related to identification than definition. He justifies the inclusion of the task commitment cluster of traits as the result of his review of research findings of workers such as Nicholls (1972) and McCurdy (1960), he states his evidence as follows,

> "Although the studies cited thus far used different research procedures anu dealt with a variety of populations, there is a striking similarity in their major conclusions. First, academic ability (as traditionally measured by test or grade point averages) showed limited relationships to creative-productive accomplishment. Second, non-intellectual factors, and especially those related to task commitment, consistently played an important part in the cluster of traits that characterized highly productive people. Although this cluster of traits (task commitment) is not as easily and objectively identifiable as general cognitive abilities are, these traits are nevertheless a major component of giftedness and should,

therefore, be reflected in our definition."

His creativity element encapsulates curiosity, fluency, flexibility and originality of thought. An apparently detailed definition, which although workable does pose problems when seeking to apply it in the primary classroom. Wallace (1987) also aware of some of its limitations, suggests that there are other prerequisites such as

perfect pitch and instinctive rhythm for the gifted musician; likewise muscular coordination, agility and physical strength for the gifted dancer. She also suggests that the application of the three ring model needs the addition of sensitivity, intuition, and zeal. An experienced practitioner and pragmatist, her questionable addition of personality traits to what seems a definition based on ability, is related to recognising the product as part of an identification procedure based on the definition.

A more recent and perhaps more significant definition of giftedness is presented by Robert Sternberg in (1981, 1985, and 1986). His view is developed round a model of exceptional intelligence which in essence he suggests in Sternberg & Davidson (1986), consists of,

"...purposive adaptation to, shaping of, and selection of real world environments relevant to one's life".

The first sub-theory of his triarchic model is concerned with three kinds of information-processing, viz. learning how to do things; planning what things to do and how to do them, and actually doing the things. The second sub-theory,

"Specifies those points along the continuum of one's experience with tasks or situations that most critically involve the use of intelligence",

whilst the third is concerned with relating intelligence to the external world of the individual. He illustrates his theory through the ability to perceive and learn how to solve problems through the application of

process components, which seems to be related to some of the earlier work of Getzels (1976). He defines a component as,

"...an elementary information process that operates on internal representations of objects or symbols..",

and he sees these components as performing three kinds of function namely *Metacomponents*- as higher order processes are used in planning, monitoring and decision-making in task performance. He sometimes refers to these as 'executive' control processes. Seven metacomponents are recognised as being prevalent in intellectual functioning:-

1. Decision as to just what the problem is that needs to be solved.
2. Selection of lower order components.
3. Selection of one or more representations or organizations for information.
4. Selection of a strategy for combining lower order components.
5. Decision regarding allocation of attentional resources.
6. Solution monitoring.
7. Sensitivity to external feedback.

Many workers such as Jensen (1982) have associated exceptional intelligence with speed of thought, but Sternberg states,

"...the metacomponental point of view would emphasise the role of speed allocation, rather than sheer speed, in thinking and behaving. Thus, this point of view can predict the many kinds of situations in which slower, rather than faster thinking and behaving, is positively associated with higher levels of intelligence".

Performance components are employed in the execution of various problem-solving strategies which he subdivides into the stages,

a) encoding of stimuli, b) combination of or comparison between stimuli, and c) response. The discrete components comprise:-

1. Assembling the necessary information to solve the problem.
2. Building relationships and drawing conclusions.
3. Seeing the commonality between domains of knowledge.
4. Applying knowledge from the familiar to the unfamiliar.
5. Comparing alternative possibilities.
6. Justifying the preferred alternative.
7. Expressing the solution in terms that others can understand.

In his 1986 statement, he is particularly concerned with recognising the limitations of the individual performance components when used for diagnosis and remedy, giving the following example,

"Consider...the possibility of a very bright person who does poorly on tests of abstract reasoning ability. It may be that the person is a very good reasoner, but has perceptual difficulty that leads to poor encoding of the terms of the problem. Because encoding is necessary for reasoning about the problem terms as encoded, the overall score is reduced not by faulty reasoning, but by faulty encoding of the terms of the problem... Different remediation programs would be indicated for people who perform poorly on reasoning items because of reasoning, on the one hand, or perceptual processing on the other."

The same type of sensitivity is needed if the individual's problem is not in the components at all, but in the strategy for combining them. The last set of process components, the *knowledge-acquisition components* are as the name implies concerned with a

threefold approach to acquiring knowledge through a).selective encoding involving separating relevant from irrelevant information, b).selective combination, joining selectively encoded information in such a way as to form an integrated, plausible whole, and c).selective comparison by relating newly acquired information to that acquired in the past. This process model is one that goes far to embrace the multi-faceted nature of giftedness, not restricting it to one set of attributes or one particular area of recognition. This sentiment is illustrated in the introduction to Sternberg & Davidson (1986),

> "Sternberg, like other contributors... does not believe that giftedness is any single thing,... Rather giftedness can come in several varieties. Some gifted individuals may be particularly adept at applying the components of intelligence, but only to academic kinds of situations. They may be thus 'test smart', but little more. Other gifted individuals may be particularly adept at dealing with novelty, but in a synthetic rather than in an analytical sense: Their creativity is not matched by analytical power. Still other gifted individuals may be 'street smart' in external contexts, but at a loss in academic contexts. Thus, giftedness is plural rather than singular in nature."

In this proposal of the types of process involved in the activities we call being intelligent and using intelligence, he significantly contends that ability is plural rather than singular, so that any level of ability would be a level of any component of ability or combination thereof. He states that the gifted individual, in whatever context, may be superior in applying the processes of intellectual functioning, as moderated by experience, to real-world situations.

There is a sense in which the individual society and culture influences definitions of giftedness. Tannenbaum (1986) states,

"Whereas the psyche determines the *existence* of high potential, society decides on the *direction* towards its fulfilment by rewarding some kinds of achievement while ignoring or even discouraging others.... There has to be a perfect match between a person's particular talent and the readiness of society to appreciate it."

This would seem to raise the question of how much definitions are influenced by the needs of society and how much towards the gifted individual's pursuit of fulfilment and satisfaction. Sternberg extended the theme of the influence of society in the rider to his triarchic theory,

"Our most intelligent individuals might come out much less intelligent in another culture, and some of our less intelligent individuals might come out more intelligent."

He perhaps would have been wiser to put the word 'intelligent' in inverted commas each time it was used on the basis that what we count as intelligent activities may be different to those considered by others to be intelligent. Any commonality between the culture differences in these activities is expressed in the components Sternberg postulates in his analysis of intelligent action. There has been some concern expressed about the culture-dependency of some strategies for identification, indicating the care needed in designing test components.

A long standing academic debate has been in progress regarding general overall and specific giftedness since Spearman's recognition of a general or 'g' factor in his model of intelligence. This has resulted in an apparent dichotomy between definitions of an individual's possession of giftedness in most areas of endeavour, at a level that would encompass a very small percentage of the child population, on the one hand, and those that would include every child as having some gift to be developed, on the other. Ogilvie in (1973), working particularly with teachers groups; in his 'curriculum' model and his

desire to provide practising teachers with a system that they could apply to the class for which they were responsible and the school in which they teach, set out to demonstrate that the incidence of children considered gifted increases if they are considered for identification in each aspect of the curriculum rather than overall, stating that,

"Most discussions of giftedness have been confined to problems concerning only the intellectually able pupils and have moreover generally assumed the existence of a 'g' factor as being overwhelmingly important. Consideration of relationships between the number of dimensions along which individual differences are recognizable and the total number of pupils likely to appear gifted seems thus to have been neglected."

Concerned to define giftedness wherever and in whatever quantities it occurred, he suggested the following definition of the gifted child in the questionnaire material used with teachers in the research sample,

> "The term 'gifted' is used to indicate any child who is outstanding in either a general or specific ability, in a relatively broad or narrow field of endeavour. Definitions in this complex field present a particularly difficult problem, but *most terms can be understood as carrying the meaning given to them by teachers in their ordinary conversation.* Where generally recognized tests exist, as in the case of 'intelligence', then 'giftedness' would be defined by test scores. Where no recognized tests exist, it can be assumed that the subjective opinions of 'experts' in the various fields on the creative qualities of originality and imagination displayed would be the criteria we have in mind."

It could be questioned how far this is a definition and how far an identification procedure; as it could be argued that the word

'identified' should be substituted for the word 'defined' when related to test scores. Notwithstanding that this pragmatic operational 'definition' was aimed at classteachers as part of a research project, and had a practical purpose in view, its all-embracing nature, especially indicated by the section picked out in italics for the purposes of this comment, seems to indicate that like beauty, giftedness is in the eye of the beholder. Whilst this has some validity as a truism, it would seem to evade the real issue despite the recognised inherent difficulty of attempting to identify the commonality of views of giftedness that may exist between all the professionals involved, to arrive at a situation where for equally practical purposes comparison can be made between the children so labelled. Although still rather broad and essentially imprecise, especially the implications of the term 'outstanding', a word which features centrally as one of the teachers' outcomes of the present study, the first sentence of the quotation could form the starting point of such an enquiry.

The use of the all-embracing definition, is alluded to much later in time by Marjoram (1988), who takes the same pragmatic approach. He takes comfort in, and is on record as frequently quoting the way in which children in France, Germany and Italy are referred to as 'highly' gifted, ie.'surdoués', 'hochbegabte', and 'superdotato' respectively, ón the assumption of a more widespread distribution of gifted potential. He also uses the Biblical parable of the talents, in which story everyone involved received at least one talent, which could analogously indicate the existence of possible exceptional potential in every child.

As already indicated the cultural influences on a nation's view of the term 'gifted' plays a very important part on emerging working definitions and approaches to identification, and this to some extent underlies the continuing 'nature or nurture' debate. However, the essential nature of giftedness needs to recognised regardless of its national or local environmental interpretation.. Gallagher & Courtright

(1986) aptly commented on national and regional differences in educational approaches to defining giftedness using a very pertinent analogy,

"The problem of the relativistic nature of the educational approach is that if the definition of 'giftedness' is to be different from one community to another, because of the differing presses and needs of the communities and school systems across the country, then what is to become of such a concept? What is the use of a concept of giftedness that is different in San Diego from what it is in Chicago, with both being different from Miami? It would be an odd taxonomy for butterflies that would define them in terms of the flowers they approach rather than their own essential characteristics."

There is a sense in which Marjoram's cultural allusion to our Judeao-Christian heritage impinges on our idea of the 'gift' as being bestowed without fear or favour by the giver, usually the Deity. In this case giving what is often called a 'natural' ability, as a seed within the individual which can grow given the appropriate nurture. On face value this implies that people could be distinguished from one another by the gift or gifts that they possess. Any attempt to apply this schema within the school setting taking into account the average scale of values existing there would seem to need the addition of Sternberg's 'streetsmart' category (cf.page 30). The present study attempts to go further than the analysis of everyday language through an empirical study of classteachers' word usage and definitions in this area.

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CHAPTER TWO - IDENTIFICATION

> "If you become wise it is not so difficult to become clever as well. But if you start out by being clever you may have little chance of becoming wise because you can so easily get caught in the intelligence trap."
>
> de Bono (1982)

Teachers always have found ways, sometimes very informal and subjective, of satisfying their need to recognise the different levels of potential and ability, evidenced or suspected, in the children for which they are currently responsible. This has often differed in levels of objectivity and methodology from the approach to the same end taken by academic researchers. It would seem that in this field of enquiry, more than most, the distinction between definition and identification is often obscured in both research reporting and classroom practice. Gallagher & Courtright (1986) acknowledged the dichotomy produced by these differences in the ultimate aim of each group, albeit from an American viewpoint,

> "The social scientists seek insight into human abilities and their development. The educator is looking for reliable and defensible ways for placing the proper children in the most appropriate educational setting. Given these differences it is no wonder that the uses of the term 'gifted' become a source of occasional confusion and controversy."

The aims of the social scientist are the same on both sides of the Atlantic, but U.K. educators would wish to see a more explicit statement concerned even more with the needs of the individual, which underlies the latter part of the statement. The present study is an approach to

exploring the primary classteacher's conception of the nature of giftedness, in which both definition and identification are involved.

In chapter one an attempt was made to examine what the literature would indicate was the essential nature of giftedness, which formulated into a definition would indicate what it is to be gifted, as distinct from the way in which such giftedness would be recognised which would constitute identification. Clearly, as this discussion indicates, workers in the field rarely give what is a clear definition without finding it necessary to reinforce its effect with the addition of what conditions such giftedness needs in order to be developed as inferred by Tannenbaum (1986), or how it can be recognised through behaviours as stated by Renzulli (1978). It is generally accepted that classteachers, because of the daily demands upon them, tend to be more pragmatic than reflective. If this is true it would not be surprising if teachers were to find great difficulty in giving a definition of giftedness without making the way it was recognised an integral part of their response. A full conception of the nature of giftedness must surely include the way in which it is recognised: identification implicitly contains elements of definition in application. Conversely definition may contain elements by which the attribute can be identified. In the Nottingham Teacher Education project, Trevor Kerry (1981) was concerned particularly with the identification, needs and provision for able children in secondary schools, seeking operational terms of reference, and combining both definition and identification in his statement.

> "We shall call 'bright' any child with an IQ in the region of 130 or one who shows an outstanding talent in any one field of schoolwork which sets him or her notably above other pupils in the class or age group."

On face value this statement would indicate that he apparently has two types of notion regarding level or degree of difference, viz. above a certain point on a continuous scale (IQ) and a 'quantum leap' notion of

being 'notably above' others. There is also an interesting use of the word 'bright' in this context, as distinct from 'able', 'outstanding', or even 'gifted', which has previously been discussed in this study in relation to other workers in the field.(see Table 1. page 19). The guidance he offers in this work is restricted to schoolwork, which may be a reflection of his enquiry being 'secondary' based, where the extent of continuous contact between the subject specialist teachers and pupil is likely to be more fragmented and restricted than the classteacher/pupil relationship in the primary sector. One speculates whether he considers IQ and talent to be the same thing. His comment also raises the question whether he considers talent as just a component of bright, or whether it can be a separate entity, especially as it is set alongside IQ which has often been seen as distinct from the creativity element frequently associated with a talent,(cf. Getzels & Jackson 1962). The standardized tests devised by psychologists to measure IQ could be seen to be a tacit 'operational' notion of intelligence. T.R.Miles in 1977 states,

> "It is the items in these tests (or, more strictly, the person's behaviour in producing correct responses to these items) that are regarded as constituting the exemplars of the word 'intelligent'. Intelligence, in other words, *is what intelligence tests measure*. This definition is a stipulative one."

The word 'stipulative' is here used in the sense of using an existing word in a special way, viz. stipulating that it shall be used with a particular (usually contestable) meaning.

Renzulli (1986) proposes two broad categories of giftedness which he considers appear in the research literature. One he labels 'creative-product giftedness' which could be considered analogous to 'talent' and the other 'schoolhouse giftedness' which could equate with the concept of IQ. As he puts it,

> "Schoolhouse giftedness might also be called test-taking or lesson-learning giftedness. It is the kind most easily measured by IQ or other cognitive ability tests."

His reference to cognitive ability tests in this context could be questioned in view of the fact that the modern tests of this type, such as those published by the National Foundation for Educational Research (NFER), do have a non-verbal element that in some of its characteristics is akin to parts of Torrance's creativitiy test, discussed by him in relation to gifted children in 1965. However this does not undervalue the distinction between Renzulli's two types of giftedness. The link between the attribute creativity as integral to talent and his 'creative-product giftedness' can be seen in his own definition of that type of giftedness,

> "those aspects of human activity and involvement where a premium is placed on the development of original material and products that are purposefully designed to have an impact on one or more target audiences."

He expands this description by stressing the application of information in a problem-solving situation. This, in his terms, transforms the role of the student from that of a learner of prescribed lessons to one in which he or she uses the modus operandi of a first hand enquirer. This would appear to support Sternberg's proposal for the 'plurality' of giftedness mentioned in chapter one. With such a variety of components comprising giftedness, it would seem impossible for any one method of identification to be effective. Some justification could therefore be claimed for using a series of different approaches to more effectively identify this attribute, in the particular form it takes.

A single metric such as the results of an IQ test would seem to be a very desirable and convenient way of identifying giftedness in children. It lends itself to the production of clearly defined

statistics, with an apparently high level of objectivity and capable of many forms of analysis, which seems to supply a neat solution to the identification problem. This topic is worthy of consideration at this point, not least for the part it played in the early experiments used in the field of identifying giftedness in individuals. Such a metric presupposes a theoretical model of intelligence on which the test is based, particularly in its relationship to the recognition of high ability, but to dismiss the issue with the oft used truism, 'Intelligence is what intelligence tests measure!', would seem to do little to clarify the situation. The author of the Wechsler intelligence scale for children nails his colours clearly to his chosen mast in the American preface to the 1974 revision of this test in which he states,

> "The author believes that general intelligence exists; that it is possible to measure it objectively; and that, by so doing, one can obtain a meaningful and useful index of a subject's mental capacity. He believes that the much challenged and berated IQ, in spite of its liability to misinterpretation and misuse, is a scientifically sound and useful measure, and for this reason he has retained the IQ as an essential aspect of the revised scale."

Such a categorical statement begs many questions, not the least of which require clarification of what is meant by 'scientifically sound and useful' and the context to which it should be applied.

Eysenck reviewing this field in 1985 indicates that the situation in this area is far from uncontroversial.

> "There have always been two divergent views, still contentious today, of the nature and measurement of intelligence, which have given rise to different conceptions, theories and types of tests. They began around the turn of the century with Sir Francis Galton in England, and with Alfred Binet a psychologist in France.

Their disagreements centred on three points - definition, the effects of genetics and environment, and consequently how to measure intelligence."

So began the continuing debate as to whether intelligence is a general ability related to all types of cognitive ability to a greater or lesser extent, differing from person to person, and determining the general level of performance of each individual the alternative school of thought following Binet, to whom intelligence could be considered as an average of a number of different abilities such as verbal, numerical, and memory. During the intervening period to the present day workers such as Guilford (1967) dismiss the idea of general intelligence entirely, whilst others such as Eysenck (1979) and Vernon (1979) favour a composite view. Eysenck more recently confirmed his standpoint that using the correlational and factor analytical methods of modern research, has demonstrated conclusively that there is a general factor of intelligence that runs through all types of cognitive tasks and problems very much as Galton predicted, but he recognises that additionally there are a number of special abilities as Binet described. This raises again the question as to what the IQ test really measures and the relation of this to the nature and recognition of giftedness. Tomlinson (1981) in his discussion on intelligence distinguishes between issues concerning,

> "...the nature, acquisition and development of those cognitive processes and skills whereby we adapt insightfully and therefore flexibly - ie., intelligently to our surroundings",

and the 'psychometric' or IQ test approach, the latter stressing attempts to measure intelligent performance as accurately and as reliably as possible by taking the nature of intelligence somewhat for granted by way of operational definitions according to which the nature of the test defines what it measures.

In the field of recognising giftedness, Terman in his large scale enquiry and the many who have followed him, have therefore by extension, associated giftedness with their intelligence model, and more specifically with operational intelligence as IQ. His cut-off point of 140+ on the Stanford-Binet test and one of 135+ on the Terman group intelligence test were the arbitrary definitions he expected would produce one per cent of the population. The arbitrariness of cut-off points on such testing is immediately called into question: why choose 140 and not 130, for example. Also, one speculates what real difference existed between those included at 140 and those who scored 139, and the difference between those who scored 139 against those who scored 138. This raises issues not only of the way in which the cut-off point is decided, but how frayed one suspects are the edges of such absolute cut-off points in relation to the test's effectiveness in achieving its selection objective. Joseph Renzulli (1986) writing much more recently echoes this view, indicating the injustice and questionable value of this aspect of testing, and its subsequent use in categorising individuals,

> "Because IQ scores correlate only from .40 .60 with school grades, they account for only 16-36% of the variance in these indicators of potential. Many youngsters who are moderately below the traditional 3-5% test score cut-off levels for entrance into gifted programs clearly have shown that they can do advanced level work. Indeed most students in the nation's major universities and 4-year colleges come from the top 20% of the general population... Jones (1982) reported that a majority of college graduates in every scientific field of study had IQ's between 110 and 120."

From the 1920's to the early 1950's the IQ criterion was given much prominence in a model of giftedness, identification being based heavily, and in many cases entirely, on intelligence. Its convenience

and practicality subsumed the warnings of over-interpretation made from the beginning. Terman himself in 1921 suggested we guard against defining intelligence solely in terms of ability to pass the tests of a given intelligence scale. That same year Thorndike (1921) stated that,

> "...to assume that we have measured some general power which resides in [the person being tested] and determines his ability in every variety of intellectual task in its entirety is to fly directly in the face of all that is known about the organisation of the intellect..."

Since the 1950's this metric has been more and more called into question, this has been partly through our developing understanding and broadening of the concept of intelligence. Guilford (1967) produced a notable innovation in this field, with what could almost appear to be an early attempt to map the cognitive domain, by producing his theoretical model of the structure of the intellect with its 120 abilities or components. This drew attention to the difference between convergent production tasks, having a single solution, and divergent ones where there is no single solution. He produced several tests which appeared to measure each ability in isolation, and was criticised particularly by Eysenck in 1967 who questioned the implication of the infinite subdivision of the statistical technique and the omission in the model of the essentially heirarchical nature of the data. Based more on what seems to be a value judgment he suggests that the model has a low predictive value. In (1985) Eysenck reflecting on intelligence and giftedness cites the work of Vernon (1979) and Cattell (1982) dividing intelligence into three kinds,

> "Intelligence A in the biological substratum of all cognitive behaviour, giving rise to individual differences of a largely or entirely genetic nature.
>
> Intelligence B is the application of this ability in everyday life

and is very strongly influenced by cultural, educational and social factors, by personality and the multitude of accidental events which befall everyone in life. It is the mixture which most people mean when they discuss 'intelligence'....

> Intelligence C is defined as the IQ measurement of intelligence, which attempts to come as close as possible to intelligence A and to predict intelligence B as successfully as possible."

Tomlinson (1981) questions the validity of this model, in particular the misleading use of the word 'intelligence' to describe Intelligence A, since the fertilised ovum has of itself no disposition to perform such intellectual operations, it cannot be said to possess intelligence. Cattell's subdivision of type C into the two closely related but non-identical parameters of 'crystallised' and 'fluid' intelligence has recently been examined in relation to giftedness in children. Tests to recognise fluid intelligence, test the problem-solving abilities of an individual, whilst crystallised intelligence is more evident in tests which rely on educational and cultural learning, such as a vocabulary test including word definition and the selection of the correct word from several alternatives. This latter type of test seems to be based on the premise that the more intelligent will acquire a wider vocabulary than the less able, thereby using the vocabulary test as an indicator of learning capacity. This would seem to be partly what Renzulli had in mind when proposing his concept of 'schoolhouse giftedness' or test-taking giftedness mentioned previously in this discussion. It is perhaps significant that teacher respondents in the present study placed some importance on the width of vocabulary as an indicator of high potential in primary schoolchildren.

Many workers have pointed out the sometimes serious shortcomings of both the design and use of the IQ metric. Getzels &

Jackson reporting their own studies in 1962 were specific in their injuction to avoid placing undue importance on the IQ metric for identifying gifted children, expressing their reservation that.

> "Giftedness in children has most frequently been defined as a score on an intelligence test, and typically the study of the so-called gifted child has been equated with the study of the single IQ variable. Involved in this definition of giftedness are several types of confusion, if not outright error. First, there is the limitation of the single metric itself, which not only restricts our perspective of the more general phenomenon, but places on the one concept a greater theoretical and predictive burden than it was intended to carry. For all practical purposes, the term 'gifted child' has become synonymous with the expression, 'child with a high IQ', thus blinding us to other forms of excellence. And second, within the universe of intellectual functions themselves, we have most often behaved as if the intelligence test represented an adequate sampling of all mental abilities and cognitive processes."

Tomlinson goes further in summarising some of this criticism of IQ testing in his statement,

> "...intelligence test results cannot constitute any sort of absolute measure, nor should IQ be expected to remain constant and completely predictable... Thorndike (1949) has listed some 17 factors that may influence a particular test score, from habits through to emotional states,.."

This apparently bald statement is based on such factors as the effect of coaching which is purported to improve the maxima by around

15 points on average, and in exceptional cases by 30 or 40 points. This becomes a highly significant issue when selecting children for appropriate educational provision, using a predetermined test cut-off point. Bearing this in mind it would certainly question the efficiency of the selection in the sense of sorting *all*, and only those who should benefit from the provision for the gifted category. The writer of this study is reminded of a similar situation in east London when marking 11+ tests for grammar school entrance and comparing the results with the assessed potential and performance of the same pupils at the end of the first year in the new school. It soon became very obvious which schools were 'cramming' for the test by comparison with others. Significantly, this also by implication revealed the some of the shortcomings in the way tests were constructed and administered. IQ tests have became more sophisticated and phase specific with the introduction of the Wechsler scales viz. Wechsler Intelligence Scale for Children WISC; Wechsler Preschool and Primary Scale of Intelligence WPPSI; Wechsler Adult intelligence Scale WAIS, and the British Intelligence Scale begun in 1975, which it was expected would displace the use in this country of the Wechsler scales. Notwithstanding this, IQ still seems to lose its meaning after the age of about 17 years, after which increasing age ceases to give increasing scores on items, hence the use of adult scales which by comparison rely on deviation scores.

Despite the number of longitudinal research studies into giftedness that have been mounted where the IQ of subjects based on test chosen has been checked from time to time, there are still a significant number of projects where, often of shorter duration, because of expense and time, the IQ test has been administered once only to the children in question. Renzulli felt particularly strongly about selection based on the use of a single test suggesting that there was an arrogance in the assumption that a single one-hour segment of a child's life could be used to determine if he or she was 'gifted'.

The same criticism was levelled by UK teachers at the 11+ selection tests, and similar criticism could be made by the same teachers about most public examinations which are single time tests. This deficiency will to some extent be increasingly redressed in our schools as the compulsory inclusion of methods of individual continuous assessment demanded by the new National Curriculum for children aged 5 to 16 is progressively implemented. Presently, this has been preceded by the popularity amongst teachers in the primary sector for individual project work as a regular learning and assessment medium.

Some of the shortcomings of IQ testing including those already mentioned can be reflections of problems with the model of intelligence on which the particular intelligence test chosen is based. Although aware of the subjective parameters of measuring techniques using the standardized test, some workers consider that intelligence as an entity continues to have a place in pyschological research. Eysenck stated his position on the intelligence issue in 1985.

> "Whatever else may characterize gifted children, there is no doubt that the feature they have most in common is a high degree of intelligence; so much so, that it is difficult to conceive of one who is not highly intelligent. Though some musical, artistic, or other specifically gifted children may be an exception to this rule, it has usually been found that an above-average, if not superior intelligence, is necessary for their talents to find social acceptance and fruitful application."

There is the implication here in the words 'whatever else' that elements other than high intelligence, and certainly than high IQ, may characterize gifted children. Vernon, Adamson & Vernon (1977) make the same point but with a stronger statement on testing,

> "No two gifted children are the same in their abilities, talents and personalities. Nevertheless, a very large proportion are

distinguished from average children by virtue of superior general intelligence; and this can be measured fairly reliably by an individual test as the Stanford-Binet or Terman-Merrill scales , or by one of the Wechsler scales... Some gifted children, however, are characterized by more special abilities or talents, for example in mathematics, science, mechanical construction, art or music and so forth, than by high general intelligence, though this will usually be well above average. Giftedness then is a great deal broader and more varied than just IQ. But intelligence is such a crucial quality, and so much is known about its origins and development..."

These workers opt for a wide ranging field in which to find giftedness, using the words 'gifted' and 'talented' almost synonymously; but significantly, although stressing the centrality of intelligence, they do recognise the need for the inclusion of other parameters in the process of identification. A possible and rather surprising construal of the statement is that scientifically and mathematically gifted children have a slightly lower level of 'high intelligence' (IQ) than those gifted in other fields. One can comprehend the inclusion of those areas such as art and music in this latter category, which are traditionally considered to need a greater emphasis on the attribute called 'creativity', but it is still questionable whether the need for the application of intelligence at a lower level holds true. Their statement, however, begs many questions on the relationship between 'special abilities' and 'intelligence' as they define it, as elements of giftedness.

Although standardized tests were included as part of the large scale, longitudinal, project design which she reported, Elizabeth Hitchfield (1973) in introducing the section in her book dealing with discussions and recommendations following the completion of her

enquiry, made a similar point regarding the need to consider other forms of identification as well as the IQ test. She was particularly concerned about finding identification parameters of the right type and level to help in the discovery of all the children of 'promise' for which she was searching,

> "The study of gifted children presented a formidable challenge. It raised problems of selection and testing of a most difficult kind for which there were no conventional solutions: one could only choose those which seemed appropriate at the time. The identification of 'giftedness' by such means might have resulted in a cancelling out of excellence by the disparity of results on such a variety of criteria of selection and tests. It might have proved, too, that the children were superior to the questions and tasks presented, too sophisticated to co-operate and clever enough to confound the interviewer's purposes."

Being specifically concerned with the gifted, she raises by implication the question of the appropriateness of the IQ test as it stands to adequately identify all individuals who occupy the higher end of the ability scale. The author of the present study is particularly cognisant of the significance of the last sentence of her statement above. Whilst engaged in fieldwork in local primary schools for the Schools' Council's Curriculum Enrichment project mentioned earlier, a number of outstanding children were encountered, who in an interview or test situation were able enough to make their own assessment of the purposes, correct or otherwise, for which the exercise in which they were engaged was taking place. Some accordingly would decide on the strategy they intended to adopt. Sometimes this took the form of engineering the answers they thought were expected by the tester/interviewer, without necessarily revealing their own thoughts; on other occasions they would deliberately set out to provide responses which were intended to shock the person or persons concerned. Those

who decided to conform to the situation in question sometimes displayed a surprising insight in the way in which they reflectively questioned the validity and content of the test/interview items, or provided answers whose quality made it obvious that the questions were not appropriate in their level of difficulty.

Additionally to those items discussed above there would seem to be two major problems inherent in relying on the IQ metric. These are problems of which teachers on a recent in-service course, tutored by the author if this study, were particularly conscious. The first is the 'norm' referenced nature of this form of testing as distinct from 'criterion' referencing. In the former, the individual child's performance is compared with that of the 'norm' standards produced by a large group of children nationally. It is the experience of the writer of this study that in the modern primary school, classteachers, not being involved in the intense level of formal assessment performance lists and schools' public examination results, currently show extreme professional reluctance, whilst recognising the value of competition, to provide attainment form lists indicating where the individual stands in relation to the rest of the form. Clearly, they have to produce such lists at some stage to satisfy school, society and its mentors, but the preference of the reflective teacher is to compare the individual with that child's appraised or suspected potential. This form of criterion based referencing, where the individual is assessed on his or her capacity to perform the task with which he is presented, is particularly suited to children of high ability, who are usually very individualistic in their approach to the activity in hand, (Freeman, 1983).

The second problem lies in the sole purpose of the IQ metric being concerned with intelligence. Guilford's proposal to introduce the consideration of convergent and divergent modes of thinking into the debate developed from his structure model of the intellect, produced an awareness of the convergent responses required by the

objective items on IQ tests. Butcher (1968) makes the following comments on the currency of Guilford's work in relation to these terms,

> "...convergent thinking is the kind required to solve a problem which has one definite right answer, whereas divergent thinking is more open-ended, less analytical, the kind of thinking needed to tackle a problem where there may be any number of more or less right answers or no right answer at all. Furthermore Guilford's laboratory has been the main source of the open-ended psychological tests used by other investigators both in the USA and in this country when they try to assess divergent thinking abilities. Many of these tests appear crude, and the intelligent layman will no doubt be quite sceptical about any relationship between, for example finding as many uses as possible for a brick and anything he is accustomed to regard as original thinking. ...On the whole, it is a sign of the vigorous and healthy development of psychology that its practitioners are increasingly willing to apply empirical methods, at first necessarily rough and ready, to the study of such elusive and complex aspects of behaviour."

The above statement, based on an extended model of thinking, is by implication another expression of the inadequacy of the IQ metric to stand as a single entity in the identification of giftedness. It would seem to emphasise the need to seriously consider the attempt to assess the importance and composition of divergent thinking, notwithstanding its lack, in testing and observation, of the IQ test neatness, precision and objectivity.

A broader definition of giftedness is needed than can be recognised using the IQ metric, moving from concentration on a general ability, to a consideration of specific abilities. Studies of the structure of human ability, really made an impact in the field of giftedness under workers such as Torrance in 1961 followed by Getzels & Jackson in 1962. These introduced the attribute of creativity as a component of giftedness needing identification. Getzels & Jackson were particularly concerned about attempts to confine this attribute to particular activities,

> "Despite the already substantial and increasing literature regarding the intellectual functions closely allied to creativity, we still treat the latter concept as applicable only to performance in one or more of the arts to the exclusion of other types of achievement requiring inventiveness, originality, and perfection. The term 'creative child', in becoming synonymous with the expression 'child with artistic talents,' has limited our attempts to identify and foster cognitive abilities related to creative functioning in areas other than the arts."

The terms 'inventiveness' and 'originality' in their implied part or whole definition of creativity, are essential prerequisites for scientific and technological learning experiences which now figure as part of the required curriculum for all English primary schoolchildren. As full implementation is still some way behind the national statements making this a requirement, it is the present experience of the writer of this study that the creative subject areas in this type of school, are on the whole, seen as art and craftwork, although all schools would additionally refer the enquirer to their creative-writing activities in this context. Those primary schools who are well advanced in their development of the new approaches to practical science and technology, and visited several times during the past academic year by the author of this study operating in an occasional support role, are finding

increased challenges to their teaching skills from the able child. These often take the form of greater demands upon the teacher's experience and understanding of the nature and potential of the materials being used in design/technology based problem-solving. This type of activity would seem to introduce three factors which provide a greater opportunity for the able child to display his or her potential:

a) Greater motivation in children to satisfy their natural curiosity in models and simulations based on the things which affect their everyday lives. This can be exemplified in such activities as the designing and subsequent construction of working model traffic lights to form part of a larger project concerned with the planning of urban cycleways for the area in which the children live. The 'open-ended' nature and non-restrictive terms of reference integral to this type of activity, usually operated as a group project, provides a vehicle for the 'gifted' child to exhibit all that Getzels & Jackson, Torrance and others define as creative ability.

b) The opportunity for self-determination, in allowing the pupil to take the task as far as his intellectual and creative abilities will allow. This obviates the need, as distinct from more linear and closed activities, for the teacher to ensure that the activity is appropriate for the intellectual needs of the child. This writer has found that under normal circumstances this can be an extremely difficult task when dealing with children of exceptionally high ability. Usually because in the classroom situation the range of a such a child's potential can

often be seen to be underestimated.

c) The opportunity for out of school interests and skills to be used by children when contributing to the school-based project.

Recently John, recognised by the teacher as a very able but low achieving and rather introvert 9 year old, discovered by the writer of this study when supervising a student on school experience, found himself in a situation where he was introducing the regular classteacher as well as the rest of the class to the intricate nature and uses of transistors, diodes, and light emitting diodes [1] (LEDs), as the class was trying to consider ways of exploiting the new [2]'buffer' box supplied by the local authority's science centre. His experience had been gained out of school in self-taught simple control technology applications, such as the design and construction of a simple pressure pad type burglar alarm, using a home computer.

The early 1960's could be considered as a vintage period for the developing importance of this aptitude. MacKinnon, writing in 1961 regarding his very detailed studies of famous scientists to discover if they had unusual or distinctive characteristics, came to the conclusion that,

---

[1]Light emitting diodes - used in many applications as warning lights including those on most automobile dashboards.

[2]A box of electronics that attached to a computer allows the use of peripherals, such as light sensitive, sound sensitive, and tilt switches plus other apparatus, to be controlled by computer software.

"There is no one to one relationship between creativity and intelligence. The feeble-minded are not creative. Yet it is also true that the most intelligent persons are not always the most creative. In the various groups we have studied, intelligence, as measured by the Terman Concept Mastery test, is not correlated with creativity.... Obviously this does not mean that over the whole range of creative endeavour there is no correlation between intelligence and creativity. It indicates rather that a certain amount of intelligence is required for creativity, but beyond that point being more or less intelligent does not crucially determine the level of a person's creativeness..."

He seeks to establish that creativity is a separate entity and not essentially related to a high degree of intelligence as defined by test scores. He does not give a specific definition except that implied by the characteristics displayed by the creative person which he lists as originality, independence in thought and action, perception, and intuition. Interestingly, these are oft included items on characteristics lists drawn up for the recognition of giftedness, which will be discussed later in this chapter. Relating his statement to the field of giftedness, Renzulli, in his three-ring model includes creativity as his third cluster of traits that characterize the gifted, co-equal with above average ability as the first of these clusters he discusses, indicating its close relationship with what he considers the intelligence parameter of the trio. (see page 25)

Creativity has been related by Tomlinson (1981) to problem-solving. He cites Wallas (1926) who suggests four phases through which creative/problem-solving activity characteristically proceeds.

"a) *Preparation*, during which the person becomes thoroughly familiar with the terms and background of the problem and begins to look for ways to solve it.

b) *Incubation*, when the problem is laid aside as far as conscious thinking is concerned, though unconscious processes seem to be at work.

c) Sooner or later *illumination* occurs, often in a sudden and unexpected way. That is, one intuits, gets an immediate awareness of, a set of procedures or state of events that seem to provide the problem solution.

d) In the final phase, *verification* the solution is tested consciously and systematically."

Workers such as Guilford (1967), Shapiro (1968), Torrance (1969) and Renzulli (1983) seem to consider that for problem-solving to be 'creative' divergent thinking is an essential prerequisite. However writing as recently as 1986 Renzulli warns that the research evidence to date is inconclusive on the establishment of clear relationships between measures of divergent thinking and creative performance criteria. He states,

> "Unfortunately very few tests have been validated against real-life criteria of creative accomplishment; however future longitudinal studies using these relatively new instruments might show promise of establishing higher levels of predictive validity. Thus, divergent thinking is indeed a characteristic of highly

creative persons, caution should be exercised in the use and interpretation of tests designed to measure this capacity."

Unfortunately he does not clarify his use of the term 'real-life' criteria in this context, nevertheless this does not undervalue his main contention that divergent thinking is part and not the whole of the creative process. Edward DeBono writing in 1982 examines the thinking processes involved in problem-solving and the relationship of thinking to intelligence. In the process he makes some very challenging observations regarding what he terms the 'intelligence trap' (see page 35) based on what he calls a modern fallacy,

"It has always seemed to me that the most dangerous and obstructive fallacy in education has been the belief that intelligent people are good thinkers. Implicit in education is the notion that thinking is simply intelligence in action just as traffic is cars in motion... In no way does the power of the car ensure the skill of the driver. In the analogy the engineering of the car corresponds to innate intelligence and the driving skill of the driver corresponds to the operating skill we call thinking."

In his terms the intelligence trap exists on the false premise that if high intelligence is possessed nothing needs to be done about the development of one's thinking. He dismisses the work being done on identification as addressing the wrong issue, which in his terms is the development of cognitive processes as exemplified in his Cognitive Research Trust (CoRT) course on the development of thinking skills. There is however a sense in which this in itself can be a performance criterion for high intelligence. He would seem to have some common ground with Renzulli's inclusion of the task commitment cluster in his essentially behavioural definition of giftedness, on the basis that some performance indicators are needed in order to identify the gifted.

The significance to practising classteachers of the terms 'illumination' and 'intuition' (page 55) displayed by children, as possible indicators of giftedness, is considered in the later discussion of the nature and use of characteristics check-lists as an identification tool.

Clearly there would appear to be some of the components of creativity in problem-solving, but it could be questioned whether problem solving per se is creativity or its total application. Problems every day are solved in a concrete way, and even if Getzels' & Jackson's originality and inventiveness are accepted as two requisite components of creativity, problems can still be solved in a non-original and non-inventive way. Further consideration of this point would require attention to the essential nature of problem-solving and likewise of creativity. The latter is still significant in the tenor of this discussion, particularly in its relationship to the identification of giftedness. It is the contention of the writer of this study that primary classteachers see the development of problem-solving ability at a relatively advanced level, for the age group concerned, as one of the indicators of giftedness as defined by them. This raises the question whether in reality the cognitive processes used by gifted children in this context are just advanced for the given chronological age or are different in nature and quality. Jackson & Butterworth (1986) state,

> "...we do not yet have a full picture of the special characteristics of gifted performance or gifted children. Many critical questions do remain to be answered... None of the studies...suggest the need to postulate new kinds of cognitive processes to explain giftedness. Gifted performance appears to be explainable in the same terms as average and deficient performance. We acknowledge that it is difficult to find unique, qualitatively different processes when one's studies are designed primarily to detect variation in the use of familiar

processes. Perhaps unique attributes of cognitive processing in the gifted will eventually be identified in studies specifically designed to focus on attributes hypothesised to be central to giftedness."

There has been a move by modern research towards a pluralistic approach to the identification of giftedness, combining both objective and subjective methods, which is reviewed by Haensley, Reynolds & Nash (1986) who conclude that,

> "A deepened understanding of the genesis and development of giftedness may require that we retain a multifaceted perspective instead of forcing giftedness into a conceptual box in order to simplify dealing with it. ...a prism, as it were, through which giftedness may be viewed as an ever-widening magnificent possibility rather than a sharply defined and limited trait. It is fitting that a concept such as giftedness should be approached in this enigmatic fashion, through an inductive rather than deductive process, yet pursuing a holistic synthesis rather than a particulate analysis."

Such an approach by bona fide academic researchers such as the authors of this statement would immediately find empathy with primary classteachers. To other academics it may on the surface appear to be an evasion of the more difficult task presented by the parameters of giftedness already discussed in this chapter. The commonality which seems to link the different multi-dimensional methods is their relationship to identification by performance. The authors of the previous statement base their holistic synthesis on three premises:

a) The multidimensional or dynamic possibilities of human responses.

b) The immense variety of abilities that are available for any single response.

c) The intricate combination of abilities and attitude that qualitatively differentiates gifted responses to the ordinary.

The recognition of potential through response embodied in these premises would seem to clearly indicate a performance criterion for identification. This is confirmed in their statement that,

> "Giftedness, then, implies an ability to adjust a response to a situation or setting in a way that will produce a maximal outcome, with the adjustment defined and shaped by the individual."

The requisite performance indicators of this flexibility in the application of cognitive processes to the situation in question, are even more explicit in their contention that giftedness is a uniting of the following abilities,

> "To see possibilities where others do not.
>
> To act upon those possibilities in an extraordinary way or with extraordinary skill.
>
> To maintain sufficient intensity to overcome obstacles over a sufficient duration of time.
>
> To produce a response (material or physical).
>
> To share the outcome of the process with society in some temporal or permanent way."

Their entire approach to the definition and identification issue is one that would find many supporters amongst educators as distinct from academics, it being developed specifically around the need of the gifted as one group for special consideration in the provision of education.

They justify what they term a dynamic/process orientated definition on the following rationale,

> "The rationale is twofold. Although static definitions are more "comfortable" because they allow us to characterise or pigeonhole information, they are also self-limiting in scope, tending to suggest labels and unidimensional provisions. Static definitions tend to generate packaged, programmatic approaches for the education of the gifted, clearly abusing the crucial concept of an operational definition. Again, although this is "comfortable" because it makes teaching manageable, and selection of students convenient, it is limiting because coalescence, context, conflict and commitment will never be exactly the same for any two students, or group of students. Good educators, teachers and planners alike, must forever be adjusting their sights, and it is unfair to suggest that education of the gifted can or should be any different."

Standardized testing of various aspects of intelligence and creativity, both of the individual and groups of children, because of their complexity and in some cases difficulty of administration, became mainly the preserve of professional psychologists, and this despite that generation of 'teacher-friendly' tests that can be administered by the school. In response partly to the instinctive realization by teachers that children of high ability existed in classrooms, and partly by academic researchers communicating their interest in particular characteristics displayed by such children, there developed as a strategy for recognising giftedness an often informal use of check-lists of attributes and behavioural traits possessed by such children. In the recent past many of these can be traced back to the list proposed by Laycock (1957) containing such items as:

1. Possess superior powers of reasoning, of dealing with abstractions, of generalizing from specific facts, of understanding meanings, and of seeing relationships.
2. Have great intellectual curiosity.
3. Learn easily and readily.
4. Have a wide range of interests.
5. Have a broad attention span that enables them to concentrate on, and persevere in, solving problems and pursuing interests.
6. Are superior in the quantity and quality of vocabulary as compared with children of their own age.
7. Have ability to do effective work independently.
8. Have learned to read early (often well before school age).
9. Show initiative and originality in intellectual work.

This list which he produced specifically for teachers guidance, has appeared in many publications since, such as Povey (1980), Denton & Postlethwaite (1985). Even the Department of Education and Science quoted it in their guidance booklet for teachers circulated in 1980, (Hoyle & Wilks, 1980). Using the metaphor of an acorn, the growth of such lists now constitutes a dense forest, with each tree although of the same genus and species being different from its neighbours in height, width, number of branches and leaves. Almost every new book in this field aimed at classroom application contains such a check-list; most school-based research projects and interest groups also provide this itemised advice. Some lists consist of a few items whist others are presented in much detail, being tabulated into lengthy sub-sections under each major item, as that used by Kerry (1981) in the Nottingham Teacher Education project. One of medium length and detail is that used by Ogilvie (1973) who produced 38 individual items of behavioural criteria which were drawn from practising teachers, responding to the

invitation to list briefly the kinds of behavioural criteria by which talented or potentially talented youngsters might be recognised.

It is the contention of the writer of this study, based on many years of INSET course provision, that teachers discussing identification strategies in the context of provision for the gifted, most frequently favour a behavioural criteria approach, and left to themselves in a workshop situation inevitably start to compile their own check-list items, sometimes based entirely on personal observation. A case could be made that such observations, based on wide, informed, professional experience over many years are a very powerful front line in the identification of giftedness, and there is no desire to devalue its effectiveness, which will be discussed later in this study. It is, however, at this stage where teachers and others are invited to state how they intend to use such check-lists that problems inherent in this method of identification begin to arise. The euphoria with which the check-list is often welcomed begins to dissipate when considering how many of the characteristics and at what level must be displayed or suspected, for a child to be considered gifted. Practitioners suggest different solutions to this problem, some favouring a more detailed and specific content of each item, which although offering further clarity to the item, still does not aid that difficult to define totality of items needed for the recognition of giftedness.

Further questions arise such as if there are a finite number of items on the particular list in question that have to be satisfied for selection to take place, what of the borderline cases, and how are they to be defined? This produces a similar problem to the IQ cut-off zone discussed on page 41. How certain is the teacher that on such criteria A is of high ability but B is not? Has the item in question been applied to both equally? On this basis check-lists would superficially appear to be less suited for this purpose than some of the forms of objective testing already discussed. Freeman (1981) reflected this view arguing that,

"Some educationalists prefer to avoid IQ tests by, for example, drawing up lists of characteristics. In time the lists grow to accommodate the inevitable exceptions until they become so all-embracing that they would describe almost any child."

Yet in the same book Joanne Whitmore, considering new challenges to common identification practices, includes a list of what she calls observable characteristics of gifted children. She subdivides them into 'primary identifiers' which she contends are most reliable when accurately recognised, containing such items as:-

Learns quickly and easily when interested.

Unusual comprehension of complex, abstract ideas - develops or elaborates ideas at a level not expected.

High level of enquiry - the qualitative nature of questions raised and the subjects that arouse interest and sustained curiosity.

but regretfully does not go on to indicate how such accuracy is to be achieved. Her second group termed 'secondary identifiers contains such items as:-

Highly creative behaviour in the production of ideas, things, solutions; can be noticeably creative and inventive (originality); fascinated by 'idea play'.

A wide interest range; basically very curious.

A profound, sometimes consuming interest in one or more areas of

intellectual investigation.

The distinction between the two categories does not seem clear, and they have the same inherent problems in application. This situation is not clarified by her statement that,

"It should be noted that a child may exhibit all the characteristics in (the lists) yet still be neither a high scholastic achiever nor highly motivated by the basic school curriculum... Furthermore, giftedness may exist only in one area of intellectual activity, such as mathematics, or creative writing; or alternatively, the child may excel in all curriculum areas."

In contrast to Renzulli and others she feels that characteristics which reflect socialization and leadership potential can obscure the field when attempting to identify intellectual giftedness. Whilst in the opinion of the writer of this study, the variation of the forms of giftedness contained in this statement come near to being a true description of the reality in the school situation, it seems to do little to assist the practising teacher in his or her search for guidance regarding the classroom application of such a characteristics list.

Much of the previous discussion has indicated the extreme difficulty of labelling such children with any degree of certainty regardless of the identification parameters used. This seems to have led to the recent more widespread use of the multi-dimensional approach which encapsulates testing check-lists and observation profiles. To this approach the check-list would seem to have a particular strength to contribute when used as an identification instrument. It has the potential to be longitudinal, based on the application of exercises specifically designed to test the cognitive processes in question. The shortcoming of such a strategy would be

the concentration primarily on the child's performance as viewed periodically through a series of windows in his or her continuing experience. The alternative and more holistic approach alluded to by Sternberg (1986), is based on long term daily observations of the child in a multitude of learning, social and physical situations. This view of the child with every factor in his or her make-up interacting over a period of time, must be the optimum in the recognition not only of intellectual and creative ability, but also of the personal characteristics which likely to see those abilities developed. The methods most used in schools to assess children's ability and potential are usually teacher-intensive in the collection of data, if not also in its interpretation, but the use of alternative identification instruments requiring the intensive involvement of professional psychologists is often determined by the availability, expense and time of such experts in the field.

The problems inherent in the practical application of check-lists have to a large extent been neglected by academic researchers, and very few publications offer constructive advice defining the parameters in which such lists are best used. The recent exception to this rule is Clarke (1981) in his booklet for teachers where he reviews various methods identifying giftedness in children, does provide guidance on the construction, use and limitations of such lists. Working primarily in the secondary age range, in addition to general attributes, he is interested in the application of list items to specific subject areas, such as science. The a same is true of Denton & Postlethwaite (1985) working in the same age range but on more subject areas encompassed by their Oxford project. In the book reporting this project they justify their use of subject specific checklists, compiled by them after careful research, as an essential adjunct and aid to teacher recognition of high ability, with the following statement:

"From what we have said so far, readers might detect some uncertainty related to the use of checklists even though in principle it seems that they should help the teacher to make objective judgements of his/her pupils ability. However, despite this uncertainty and because the errors in teacher-based judgment without checklist assistance are not enormous, we hope the checklist could go a long way to help the teacher decrease the remaining error."

They also give a detailed appraisal of the parameters in which they used such lists. By contrast Straker's (1981) booklet published for the Schools Council Programme 4 and specifically concerned with mathematics, expressed many of the reservations shared by the writer of this study, sharing much in common with Freeman's view on the compilation and use of checklists. Such subject specific lists although of interest for the compilation factors seem less relevant to primary schoolchildren where subject specialization is minimal. There have been very few adequate research studies which have looked at the validity of this strategy for identification. Renzulli, Hartman and Callahan (1971) attempted to examine the validity of the very comprehensive Scale for Rating Behavioural Characteristics of Superior Students produced by Renzulli & Hartman that same year.

Following Renzulli's holistic approach to the identification problem, based on his three-ring definition of giftedness, this scale is sub-divided into four scales concerned with:

Learning characteristics

Motivational characteristics

Creativity characteristics

Leadership characteristics

Vernon, Adamson & Vernon (1977) considered this scale to be particularly soundly constructed in its practical nature and its applicability to Canadian elementary schools. There are even fewer workers who have looked at this problem in relation to primary age range children, though one such is Solomon (1979) who suggested as a result of her work that teachers could improve their skill to identify fourth year junior pupils who were gifted intellectually.

As many of these lists like Ogilvie's are either drawn directly from or modified by teachers they sometimes, as a bi-product to the project in question, serve a useful purpose as a strategy for eliciting teachers' profile characteristics of gifted children. This type of possibility was used in the present study by way of a Kelly repgrid study, using supplied and elicited constructs.

Based on the premise that there still exists some confusion not only in the definition but also in the identification of giftedness in children, it is not surprising there continues a parallel debate about the effectiveness of teachers in recognising those possessing such a gift. The present researcher/teacher divide in the identification process is aptly stated in Maltby's (1985) paper delivered at the biannual World Council for Gifted & Talented Children conference held in Hamburg,

> "Frequently, researchers made the assumption that teachers were not efficient or effective in screening children as gifted, because of the teachers' inability to identify the same children as tests... As a result, IQ tests have traditionally been regarded as the most reliable indicator of giftedness. However we are now in a situation where the use of IQs is unacceptable or impracticable, with the result that we have to rely more on teachers who are in a position to observe the classroom

performance of children. If teachers' perceptions of giftedness can be confirmed as a reliable indicator of academic success, then problems associated with IQ testing will become less relevant. Because of research emphasis in the past on children categorised as gifted by researchers, or identified by criteria chosen by the researcher rather than by teacher identification, there is very little knowledge available about how teachers decide on whether the label 'gifted' is appropriate for a child."

As already indicated by Renzulli, the resurgence of interest in this field by educators and the policy/decision-makers in the system, will devolve even more on teachers, especially with the imminent introduction of the National Curriculum for schools in England & Wales, the need to play an increasing part in classroom provision for such individuals, which in practice will be based increasingly on their own, one hopes informed, conception of able children. This provides the *raison d'être* for the present study which seeks to contribute to our understanding of teachers' construct of giftedness.

The importance of the classteacher as the provider of learning experiences in the context of giftedness can be demonstrated by giving a converse example, in the refusal to identify. Her Majesty's Inspectorate cited the following example of the attitude of some teachers from their review of secondary schools, in a discussion paper circulated in 1977,

"Some schools had little wish to consider giftedness. In one school teachers refused to identify giftedness on the grounds that in a school which purported to be comprehensive, it was wrong to recognise a special category of pupils for whom some unusual provision might be made. The only school in which this

extreme view was encountered was one where strong egalitarian views were held by staff. Paradoxically, the staff were not averse to the recognition of a remedial category which was segregated out for special treatment, nor to the thesis that individual needs should be identified and provided for."

Although some antipathy by teachers to the concept of giftedness was encountered amongst classteachers included in the sample used for this study, the incidence of such views was rare. Howard (1987) considering the individual's concepts and schemata, by a parallel example further implies the importance of teachers' views, and by extension their concepts in relation to subsequent action they may take, in his assertion that medical patients are categorised by using the individual doctor's concepts, and they are then treated on the basis of that category membership. With time and experience that doctor's concept system is further refined, sophisticating his or her schema to include an increasing number of characteristics and reactions to given situations which are added to that category.

Teachers have always been used by researchers in this field, doing anything from subservient test administration assistance to subjective selection of the gifted children in their class. They have been used by some workers such as Terman, and Renzulli already cited, as a first sieve for suggesting those worthy of further consideration and subsequent testing. This is true of Florence Maltby who states that her study was based on those children categorized as gifted by their schools, although she was partly cognisant of local authority standardized test results available in some of the schools. It is perhaps salutary to remember in this context that her original intention was to study those children identified as gifted by their classteachers, but because access to the schools had to be negotiated through headteachers, they and not the classteachers initially decided which children were appropriate for the purposes of the study. As was to be expected, once she was in the schools there were differences of

opinion between heads and classteachers. Some classteachers suggested children who they considered to be gifted, but of whom the headteacher seemed to be totally unaware. Most headteachers like to think that they know all the children in their school, but partly depending on the size of the school and partly on teacher/headteacher communication, in some cases this will be true whilst in other cases it is not. Notwithstanding this expression of the headteachers' views there can be little doubt that, other things being equal, few people in the school should know the child as well as the classteacher, who in most primary schools has the benefit of more continuous daily contact than any other person on the premises.

Other researchers such as Denton & Postlethwaite have used teacher recognition of high ability as one of the main comparative parameters in their enquiry. Teachers also satisfy the continual demands of the school and local authority for test and questionnaire results on the children in their charge, such as the questionnaire cited by Vernon, Adamson & Vernon (1977), circulated to its schools by one of the Canadian school boards. In Canada these are sometimes accompanied by what is intended to be a practical definition of giftedness, as the one that follows quoted by the same authors.

> Please note that gifted children are not necessarily those who always get high grades, nor always the most attentive, docile, and cooperative in class, though they may be so."

They go on to list several necessary and positive attributes, but many English primary teachers will be able to recognise children who fulfil most of the above criteria, whilst other personnel in the system are more likely to be concerned with categorization by performance on formal assessment instruments as Richmond or Cognitive Abilities Tests.

Hitchfield (1973) reporting her findings from teachers and their views as related to a defined group of underachieving children, stressed,

"...the need to take an overview of each child in many aspects of his life before making judgments about his functioning or underfunctioning in one."

Pegnato & Birch (1959) seeking to compare the efficiency of several different techniques for recognising giftedness in American 14 year old children, considered teachers to be poor assessors of high ability in their charges. However their base metric for the study against which other parameters were compared, did not take cognisance of the type of giftedness which teachers do recognise. Denton & Postlethwaite (1985) compared their large scale Oxford project test/teacher results with those of Pegnato & Birch coming to quite different conclusions on teacher judgement in this context. This may be because their teacher nominations were treated independently and not compared directly against what the IQ metric purported to measure. Working in a subject specific secondary environment, they used both standardized tests and carefully monitored teacher observations based on subjective criteria, for their enquiry, and as a result recommend the following,

> "We suggest that those who seek to make judgements of the abilities of pupils should be encouraged to develop strategies that rely more on day-to-day clues to ability that pupils display, as a result of the challenges set them, than on test measures of performance. We are encouraged to recommend this because, even when teachers' judgments were made on the basis of rather superficial knowledge, our evidence supported an optimistic view that the judgments could be as effective as those which relied on carefully developed test predictors for 'O' level. Furthermore, we have shown that a teacher-based identification scheme could be developed to a degree where

considerable confidence could be placed on the outcome of the identifications."

THey do however make the proviso that extra effort is needed on the part of the teacher who wishes to eliminate bias of judgment.

John McLeod working in Carleton, Ontario has for many years been specifically interested in the field of establishing the value of teacher-judgment and its relationship to standardized test scores. In his 1985 paper he gives a practical illustration of how Renzulli's three ring definition might be used as a basis for identification. He proposes that teacher ratings of pupils be scaled in such a way that the ratings of different teachers may be legitimately compared, ie may be used in a similar way to standardized test scores. This is with a view to producing computer software for identifying giftedness, which will be multi-dimensional, including test scores and the subjective parameters of teacher nomination. He sees teacher nomination as playing an integral part in any identification procedure. He also considers teachers as an agent for continuous review of the needs of the individuals in their charge. This latter would seem particularly significant as long term trends of individual development are notoriously uneven.

Fellow Canadians Hoge & Cudmore (1985) made an extensive review of 23 North American research projects that had compared the effectiveness of teacher-judgment of the gifted with standardized tests. When they had completed a detailed examination of the internal and external validity of each project, their findings were inconclusive to the point where they, one suspects with tongue-in-ckeek, made the following statement,

"One conclusion which might follow from an examination of the literature is that we should suspend all efforts at identifying gifted children until we are able to develop improved assessment tools!"

They did on a more serious note make one of their main recommendations that the use of teacher judgments in the identification of the gifted should be continued and furthermore should be extended. They did however add a rider that teachers must be provided with more adequate tools for expressing their judgments. Later it will be suggested that a similar conclusion could be drawn from the present study.

The following conclusions could be drawn from this review of the literature in relation to the need for the present study. Hoge & Cudmore above would seem to support the preceding discussion which concludes that the general situation in the field of definition and identification as a desirable prerequisite for appropriate educational provision is one of some confusion. Their suggestion that until in their terms an effective solution is found all efforts at identifying gifted children should be suspended, is a strategy that is not open to us as these children are at present sitting in our primary classrooms, with a moral right to recognition and the appropriate provision of learning experiences.

The plethora of proposed, disparate alternatives which have developed over time would clearly indicate that the search for a generally accepted definition of the nature of giftedness continues to remain a core problem for researchers and educators. A current review of issues in the definition and measurement of the giftedness construct particularly in relation to the transatlantic scene has been reported by Hoge (1988), who is particularly concerned with the adequacy with which such a construct is defined in applied settings, and concludes that,

> "At one extreme is the situation where no special efforts are made for these children (reflecting sometimes an egalitarian philosophy and sometimes an effort at economy), whereas at the other extreme we have intensive efforts to identify these pupils

and provide them with an education appropriate to their special needs."

Many would contend that the first part of this statement bears more than a passing reflection of the scene in most British primary schools, some of which seem to hope that if ignored the problem and challenge may go away. However, this statement is a reminder that recognised or otherwise such children are presently with us complete with their special needs, and therefore the move towards the goal of identification and provision at classteacher level needs to continue.

One concedes that some would question the desirability of pursuing such a problem, often on the grounds of the nature and complexity of individual differences in the children in question. A case could be made that it is this very complexity which is the root cause of the definitional problem. The early definitions based heavily on intelligence as defined by IQ, despite their questioned efficacy, considered only one parameter of the totality that makes up the individual. The same could be seen to be true of that group of attributes defined under the term 'creativity', which led to the more appropriate thrust towards multi-faceted definitions. These differ from the holistic definition which tends to go further still to include the personal qualities such as task commitment needed to provide the performance criteria by which such giftedness can be recognised.

Identification procedures based on such premises have traditionally been used in what could be termed 'formal' application to children. These are the group and individual diagnostic tests, often applied by agencies external to the school, which require a carefully structured set of conditions for their administration, notwithstanding the interruption to the normal life in the classroom. There is no intention here of undermining the necessity of such formal assessment, the above discussion however would seem to indicate a greater need to combine any interpretation with the subjective assessment of the individual child by the classroom teacher.

The previous discussion would also indicate that since Terman, teachers have increased their role alongside the researcher in this pursuit of the nature and identification of giftedness in children. Researchers seem to have been slow to capitalise on the detailed daily experience of the individual child that teachers can provide. Hoge & Cudmore (page 68) and others have demonstrated that American researchers are divided on their attitude to the nature and value of teacher recognition of the gifted. In this country recent workers in this field such as Maltby engaged on an individual study and Denton & Postlethwaite completing the most recent large scale school-based enquiry, recognise the vital importance of a teacher's daily experience of the children in his or her charge, especially at a time when there is an increasing trend towards projects based on a multidimensional approach to identification which includes teacher nomination.

Both these workers however highlight the dearth of information and neglect by researchers of the personal constructs of giftedness and related concepts that teachers possess. It is to this end that the present exploratory study has been designed to make a contribution.

---oOo---

CHAPTER THREE - PROJECT DESIGN AND PROCEDURE

"The capacity to learn from experience and to take control of the direction, quality and content of one's learning is central... to making the best use of educational opportunities."

[Thomas & Harri-Augstein 1985].

Chapters one and two are not intended simply as a philosophical treatment of the literature, although clearly it has been necessary to offer analytical comments upon and comparisons of the different approaches to the problem of teachers' recognition of giftedness in primary schoolchildren. They also provide the essential background and justification for the present study. The thrust of the literature review was to examine aspects of the development of the concept of giftedness in children, with particular reference to its implications for primary classteachers. The same objective has also been applied to the survey of factors affecting the design, use and limitations of various identification strategies in the same field of enquiry. A central integrating theme in both chapters has been provided within this context by the current role of the primary classteacher as identifier and provider of learning experiences for the gifted children met during the performance of his or her professional role. The present enquiry started from a concern with this basic issue. As a consequence, rather than set out to analyse and prescribe any particular conception of 'giftedness', it seeks more fundamentally to obtain empirical evidence of the conceptions that may lie behind or within the usage of that term by British primary school classteachers.

Such an approach to this particular aspect of the general issue of giftedness presupposes a theoretical conception of the ways in which teachers develop their own concepts of the children for which they are responsible. One major contribution to studying the evolution of an individual's concepts and schemata was made by George Kelly in 1955, when he introduced his theory of personal constructs with an accompanying methodology for pursuing such study. He

developed his theory and practical approach to the elicitation of such constructs from his background as a clinical psychologist working with schoolchildren. He discovered that his understanding of the problems posed by the children referred to him was closely related to the way in which the teacher construed the child. He found himself reformulating his synthesis to include an analysis of the teacher referring the child. This new emphasis enabled him to conceive a wider group of possible solutions to the problems posed and a formalisation of his personal construct theory. His postulation is based on the premise that the individual is continually practising scientific method, i.e. mentally observing, recording, raising mini-hypotheses, testing, modifying and extending a personal construct system, as he strives to understand, interpret, anticipate and control his experiences of the world around and within him. The relevance of this to the present study exists in the way people subconsciously develop and use such a personal construct system when assessing others. Kelly defined constructs as bi-polar dimensions separated by a continuum, which provide the individual with a way of categorising the similarities and differences we find in our environment. There is a sense in which the term 'construct' is very similar to our understanding of the word 'concept'. Tomlinson (1981) suggests,

> "The reason why Kelly preferred construe/construct to conceive/concept is... it places more emphasis on the active and often highly individual ways in which people make sense of their situations. The term 'concept' is sometimes taken to imply some fixed, externally defined practice, almost a 'thing out there'. However the distinction can be over-drawn, for sooner or later even 'concept' implies someone thinking, conceiving of events, which they may do in quite individual ways."

To add to this statement, Kelly also saw constructs as being organised into a complex heirarchichal network, comprising the construct system. It is the development and content of the individual's network of systems that are seen as determining not only his categorization, but also his subsequent reaction to the situation in question. This has tremendous implications for classteachers' recognition and

appropriate provision of learning experiences for children of high ability in the classes they teach. However, on the basis of this close relationship it would seem appropriate in the context of the present study to use the terms construe/construct and conceive/concept interchangeably. Many workers since, such as Bannister (1977), Fransella & Bannister (1977), Fransella (1983), have embraced the tenets of this personal construct theory as a contribution to the study of cognition, particularly in situations requiring the 'unpacking' of an individual's construct system.

Significant in the above statements is the distinctly individual way in which a person not only responds to events, but in the context of the present study, also assesses other people with whom they come into contact, particularly those for whom they are responsible. This individuality is generated by a wide variety of influences from past experiences, current relationships and role expectations. (see Figure 1 page 9). It could thus contain elements from background reading of research findings, the individual's outcomes from initial training or in-service courses, snippets of national and local authority policy documents, headteachers', parents' and governors' opinions, all making a contribution to the content and complexity of the teacher's construct system. It is as a function of this 'mix' that, the classteacher's process of deciding whether or not the child she teaches is gifted or otherwise, occurs. The reality of the specific instance contributes to and is filtered through different constructs already comprising particular areas of her system. The teacher's construct system reflects her expectation of outcomes which are determined by the relationship of the separate constructs within that area of the system. This predictive role of the current construct system is an important one, particularly in the context of the present study, and such constructs are only likely to be retained in their current form as long as they remain acceptably accurate in their prediction of outcomes. The complexity of this situation can be illustrated by the proposition that if a teacher construes a child as reliable rather than unreliable, and if her construct of reliable/unreliable is closely linked with a network of constructs such as punctual, trustworthy,

affectionate, then she is committed, until her system is modified by subsequent experience, to a whole series of expectations about the behaviour of reliable children.

The intricacies of the nature and application by individuals of their construct systems does not stop there. Bannister (1977) raises the question of the reluctance by some individuals to modify their constructs in the light of subsequent experience,

> "...constructs or whole systems can be tightened or loosened. A tight construct is one which leads to unvarying predictions and is therefore brittle and liable to invalidation, but useful because it is precise; or a construct may be loose, in which case it is likely to give multi-directional predictions, it is vague and woolly, this has the advantage that it is difficult to invalidate, but at the same time is lacking in precision...".

There is also a sense in which the very notion of 'prediction' can be called into question, as prediction may not in reality refer to the behaviour of the person being construed as much as the intention of the construer viz. if a teacher describes a child as 'pleasant', it may indicate her intention to get to know that child, as well as her future expectations of him or her.

Seeking to explore and understand in a research context such complexity as a classteacher's personal construct system in relation to giftedness and related concepts, makes any one approach to the enquiry unlikely to exhaust significant contribution or methodological adequacy with respect to our understanding of the issue. In the light of the variables indicated and implied above it was seen as necessary that the design of the pilot study should consider the potential of a number of methods of eliciting the required information.

As previously indicated, the choice of the present field of enquiry, had arisen over a number of years as a result of this author's continued interest and involvement in the provision of learning experiences for children of high ability taught in the ordinary classroom. Over this period of time one's interest moved from the

needs of the able child to those of his or her classteacher as a result of having been involved in the design and production of learning materials packs, designed for individuals or small groups of children to work with in their normal classroom. In many schools the packs seemed to be well accepted by both teachers and pupils, however in quite a number of other schools the materials were less successful in many respects. Class sizes and the daily mode of operation put constraints upon a primary classteacher's freedom to give individual attention to all their charges, therefore a minimal teacher-involvement element was built into the design of the learning experiences provided by the packs. However, notwithstanding the commonly accepted empirical generalisation, that children of this ability level often exhibit a degree of self-sufficiency when absorbed in the task in hand, there was a growing realisation that the initial attitude of the child and the chances of a successful outcome to the use of the materials involved, depended largely on the attitude and expectations of the classteacher. An informal assessment of the situation revealed the importance of the teacher's view of giftedness and of the individual children in question, as a major influence in this issue.

Pilot Study

The need for a pilot study became evident from the results of three considerations. Firstly, the complexity of the field revealed by the literature available, which has been indicated in the previous chapters and at the beginning of this one. Secondly, by informally following the progress of the two most recent British school-based research projects in this field which were under way at the time, viz. Florence Maltby's individual observational enquiry in Sussex primary schools, and Clifford Denton & Keith Postlethwaite's much larger scale more subject specific secondary-based 'Oxford project'. Although concerned with gifted and able children in schools, in neither of these 1985 studies were the classteachers themselves or attempts to explore their constructs of giftedness and related concepts, the prime objective of their enquiry. The third consideration resulted from the discussions held on separate occasions and comments made by some 43 serving teachers, over a two-year period, attending science education

in-service courses for which the author of the present study was responsible as a tutor.

Following reflection on the above considerations it seemed important pay attention to the following aspects of the teachers themselves whose construals of giftedness were to be studied:

1) Age -

The relevance of this aspect was seen by the teachers consulted as important in relation to whether teachers had children of their own and the closeness of the relationship they had with them. There was some contention that mothers would know their children better than fathers, but this may have been influenced by the three to one majority of female teachers in most groups.

2) Sex -

Based on the premise that sexual equality is purported to be a fact in our modern society, but may not necessarily be practised as such within our schools. This aspect concerned the way male teachers see gifted boys as distinct from the way they see girls of the same calibre, and correspondingly the way female teachers draw similar distinctions if at all.

3) Initial training -

Its type, objectives, and specific outcomes as seen by the teacher in question. The measure of its effect will possibly be related to the length of time that has elapsed since it was completed.

4) Professional experience -

Length versus width, type of schools, (Secondary, primary, comprehensive, grammar, independent, etc.), catchment area, foreign service, and the cultural background of pupils.

5) In-service course experience in the field of enquiry - The inclusion of this item was influenced by such workers as Beard (1982).

6) Current post -

Including aspects such as length of appointment to present, different roles undertaken within the school and types of class responsibility.

7) Extra curricular activities -

That may include close contact with children, such as involvement in youth movements such as scouts, and youth schemes such as the Duke of Edinburgh Award Scheme, that might thereby add to a teacher's formal and informal assessment experience.

Interestingly, teachers did not seem to consider their own experience as pupils to be relevant, many of them considering it to be too distant to be significant. In relation to the teacher's current experience it was considered desirable to consider the following parameters concerned with the class for which the teacher was at present responsible:

a) A class list showing pupils in order of general ability potential as seen by the teacher.

b) Profile of pupils nominated as gifted by the classteacher which requires the teacher to solicit the pupil's help to complete, particularly in relation to out of school interests and activities.

c) A Kelly pattern repgrid using the pupils in the current class as elements for the elicitation of the teacher's personal constructs for comparison with a similar activity in which the constructs are provided by the researcher.

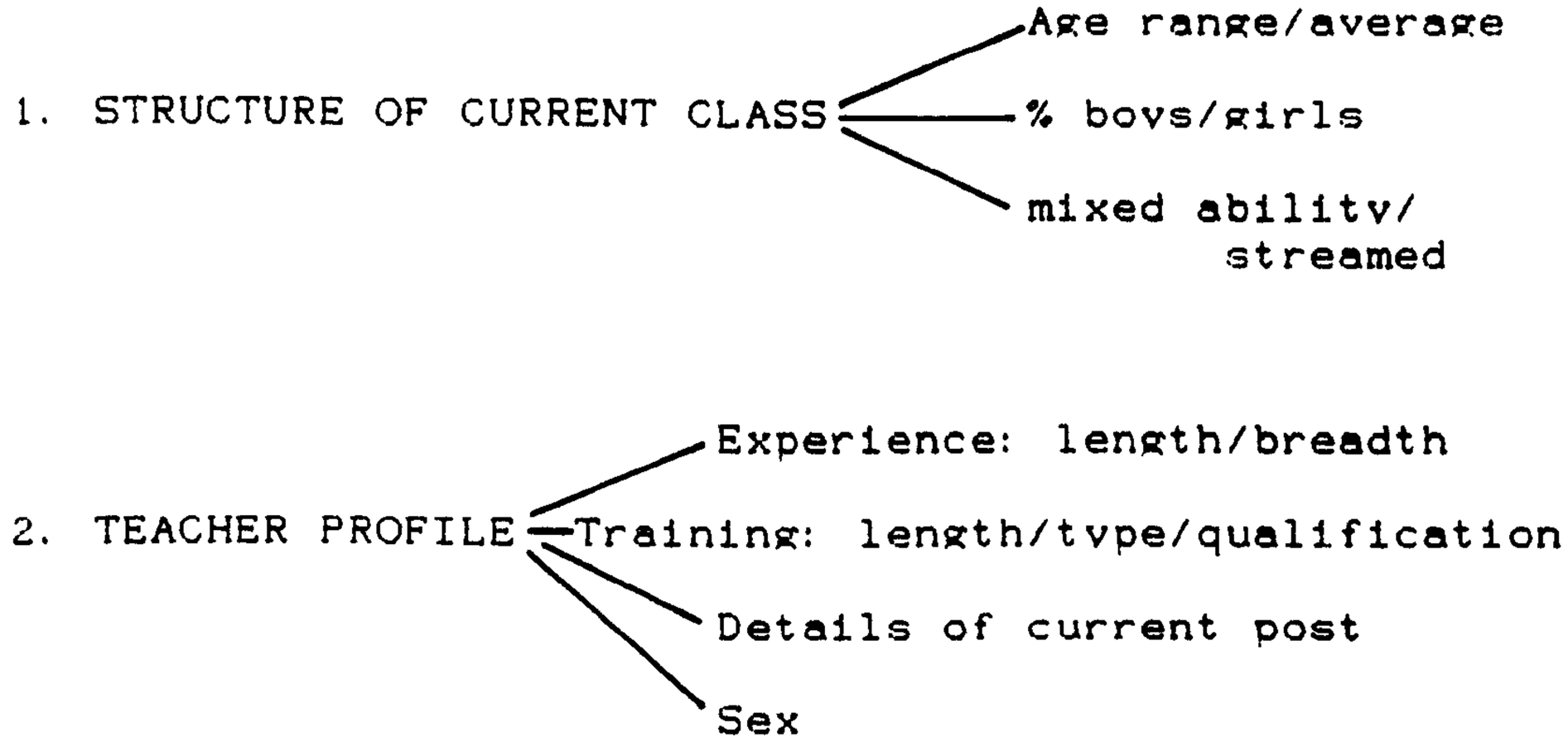
d) Results of a standardized test.

The second major task to be considered in the design of the pilot study was how and under what conditions this information could be best obtained. The question of when and where was partly resolved by the responses of the in-service teachers consulted, who considered that a more sympathetic response would be forthcoming from busy classteachers if they were approached in their own schools, not too near either the beginning or the end of the term. This was based on the experience of some who consider that a disproportionate amount of their professional time is spent satisfying the requests of visitors, local inspectors and researchers. In the primary school the first few and last few weeks of the term are very intensive with normal classwork being squeezed alongside activities associated with getting the term under way or winding it up. This is particularly true of the end of the Autumn term with the Christmas celebrations, and the Summer term with the school sports and excursions. The decision was made to mount the pilot study immediately before and after the Autumn half-term holiday, to be followed by the main study occupying most of the Spring term.

The original intention was to include classteachers from local comprehensive schools in the study to provide a further element of comparison with primary colleagues, but whilst the schools were officially willing the individual teachers approached seemed a little suspicious and less than enthusiastic. By comparison with their primary colleagues, the two secondary teachers who did respond to the first interview seemed generally to know much less about their charges. This perhaps could be partly due to their subject specializations and the number of children that pass through their hands for less contact time than that enjoyed by the primary classteacher.

A decision was therefore made to conduct the pilot study with three primary classteachers currently responsible for nine and ten year olds, but teaching in three different primary schools. The schools were randomly chosen from the county's 280 primary schools, to include one rural primary school, one urban junior school, and one middle school. (see figure 3 page 84, for parameters on which teachers were to

(Figure 3 - Data types collected as related to teacher's contructs of giftedness.)



5. DEFINITIONS of terms: *GIFTED: TALENTED: EXCEPTIONAL HIGHLY ABLE: BRIGHT.*

be compared.). The headteachers were first approached regarding the objectives and method of the enquiry as it related to their schools, and then they were invited to suggest an appropriate teacher and class for further study. There were some initial misconceptions by the headteachers, two of whom considered themselves as suitable candidates for the pilot study. However as neither head had specific class responsibilities, and taught in each case for less than one third of the time available, and as the design of the pilot study required the collection of class data specific to the teacher in charge of that class, their offer was respectfully declined. Not wishing to disregard the contribution their experience of children could make to the enquiry as a comparison with that of the classteachers, they were invited to submit to the unstructured interview. Prior to the formal start of the pilot study, and once teachers had been nominated by their school for participation in the project, a pre-interview was held with each teacher to outline the general aim of the enquiry, to relax them and solicit their cooperation in providing the information sought.

The nature and amount of data the pilot study was expected to produce from the teachers and their classes necessitated three visits to each school.There was a one week gap between each visit, all of which were carried out during the school working day. However small the school, heads were particularly cooperative in this respect, on occasions providing substitute supervision of classes to free the respondents, to concentrate on the task in hand. As each class in a school changes to a new class teacher at the beginning of the school year in September,the first visit took place during the first week in the Autumn term following the half-term holiday, to give teachers an opportunity to get to know their pupils before beginning the pilot study. The visits comprised the following items in the order in which they were presented to the teacher: (See figure 4 page 86)

Pre-interview	First interview	Second interview	Third interview
(20)	(30)	(90)	(147)
(Explanation of reasearch project to headteachers & their selection of two classteacher respondents.)	1.Teacher profile. 2.Unstructured interview(30) 3.Flash cards	1.Kelly repgrids: a)Elicited constructs (45) b)Provided constructs (45)	1.N.F.E.R. Cognitive Abilities Test on teacher's current class (132) 2.Nominated pupil profile discussed with teacher. (15)

(30) = target time for completion of each item in minutes. (Total = 287 minutes)

Figure 4 - Items comprising pilot study school visits.

I - First visit:

---

a) Questionnaire - [no contact target time]

This element of the pilot study was designed to elicit base information related to teacher background plus examples of their hypothetical model, supplemented by real past and present gifted children. It required the respondent to provide written sentences in response to the questions posed. The questions were based on items 1 to 6 inclusive as indicated on pages 81-82.(See Table II page 88)
[The questionnaire was left with the teacher for completion and collection on the second visit and was therefore completed after the unstructured interview.]

b) Unstructured interview - [target time - 30 minutes]

This consisted of eight questions with supplementary prompt questions based on the method suggested by Cohen & Manion (1980), and designed to elicit the same information as the questionnaire but allowing the teacher to express their opinions in a less formal situation than that presented by form completion.

c) Flash cards - [In practice, added to the end of the unstructured interview]

These consisted of separate cards (10 x 6cm) on each of which was a word related to the concept of giftedness. The words were selected as being related to the word 'gifted' in common synonymous usage and were chosen from a review of the literature available and during the previous school-based work conducted by the writer of the present study, whilst a member of the S.C.C.E.P. team. viz *GIFTED, TALENTED, EXCEPTIONAL, HIGHLY ABLE, BRIGHT.* Teachers were given these cards and asked to shuffle them into the order in which they wished to give an immediate verbal response.

(Table 2)

- T E A C H E R P R O F I L E -

[Please comment as fully as possible on the items below.]

1. School:.....

2. Forename:..... 3. Age:.....

OWN SCHOOL BACKGROUND

4. Primary: a. Type of school:.....

b. Own experience of assessment & selection: *[Please state the criteria used, as far as you remember it.]*.....

.....

5. Secondary: a. Type of school:.....

b. Organisation: *[ie. streaming/mixed ability]*

.....

c. Criteria for selection, if known.....

.....

.....

ACADEMIC AND PROFESSIONAL EDUCATION

6. Post school academic education: a. Type & specialisms:.....

.....

.....

b. Institution:.....

.....

7. Views on effectiveness of staff recognition of exceptional ability in students: *[Give evidence where possible]*.....

.....

.....

TEACHING EXPERIENCE

8. Length:.....years 9. Type: *[Age ranges, schools, classes.]*

.....

.....

10. Staff development: *[Inset, SITE, GRIST]*.....

.....

11. Criteria used for recognition of ability in children taught:.....

.....

II - Second visit:

---

a) Kelly repgrid - [Target time 45 minutes]

(Elicited constructs) The repgrid as a method was considered particularly appropriate in this enquiry because of its design to tap the concepts as distinct from the attitudes of the individual, and therefore was used in preference to attitude scales as summarized by Oppenheim (1966) and used by Tilsley (1982) in his review of teacher attitudes to the gifted. The method used was an adaptation of that extensively used by Fransella & Bannister (1977). The proforma (See page 109) was used by the researcher to:

1. record the teacher's bi-polar constructs as they were presented.

2. apply those constructs to the teacher's rating of where each child (used as an 'element' in this context) in the current class would be placed on a five point continuum between each pair of poles.

b) Kelly repgrid - [Target time 45 minutes]

(provided constructs) The same activity as a) but using a list of constructs derived from attributes of giftedness commonly appearing in the literature and employed by teachers observed by the writer of this study since 1972.

c) Teachers were invited to provide a list of their current pupils entered in the order of what they considered to be their potential ability. The request was phrased in this way to include those pupils who on a variety of other than formal performance evidence were considered to be in a high ability category. They were also invited on the basis of this list to nominate the two pupils they considered to have the greatest potential, for interview on the third visit

III - Third visit:

a) Standardized test - [Target time 132 minutes]

The test selected for this purpose was the N.F.E.R. Cognitive Abilities Test Category level B for Junior School Year 4. This test was considered appropriate because of its potential to provide a nationally standardized measure that could be compared for each child with that obtained from the Kelly repgrids which reflected teacher nominations for exceptional ability. Primary schools in the area used for the enquiry had been encouraged by the local authority to use the similar Richmond test on an annual basis. Schools were therefore aware of the logistic implications of such tests. However, it was not possible to avoid the necessity of conducting a separate test by using the existing test results as a comparison in this study, because not all schools used the tests and therefore their availability for the geographical area to be used for the main study was very incomplete. The two hours and 12 minutes out of the day of each of the three classes used for this purpose in the pilot study, was subdivided as follows:

(Activity)	(Minutes)
Preparation of room and class	20
Verbal items battery	34
Quantitative items battery	32
Non-verbal items battery	32
Collecting papers, materials and dismissing class	14

The test conditions required throughout this period, provided a series of other logistic challenges which included decisions of when and where they were to be held, to avoid unnecessary noise or interruption. The middle school at the time had temporarily falling numbers of pupils on roll, so were able to make a spare classroom available for the purpose.

(Table 3)

- N O M I N A T E D P U P I L P R O F I L E -

[Please: comment as fully as possible on the items below.]

1. School:.....

2. Forename:..... 4. Age: Years....Months.... 5. Sex:.....

6. Formal attainment: a) Use of language.....

.....

b) Number work.....

.....

c) Project *(creativity)* work.....

.....

d) Other.....

.....

7. Special aptitudes or attributes observed.....

.....

.....

8. Social and leadership skills.....

.....

.....

9. Movement skills *(interest, ability, attainment)*.....

.....

.....

10. Attitudes: a) to authority.....

.....

b) to school activities.....

.....

11. Out of school interests: *(hobbies, sports, clubs)*.....

.....

.....

12. Use of spare time: *(normal week/specific week)*.....

.....

.....

.....(See page two)

[page two]

13. Home background: *(family members, supportive, unsupportive, neutral, socio-economic group)*.....

.....

.....

14. Description of pupil's personality:

a) by classteacher.....

.....

.....

.....

b) by pupil.....

.....

.....

.....

15. Pupil's recent noteworthy achievements:

a) classteacher comment.....

.....

.....

.....

b) pupil's comment.....

.....

.....

.....

16. Teacher's constructive comment on the design of this questionnaire:.....

.....

.....

.....

.....

(GVI/384/res)

(Thank you for completing this form, please retain it for collection on my next visit to your school. George Ilsley)

b) Nominated pupils' profile - [Target time 15 minutes]

These profiles were to be completed for the two children nominated by each teacher as having the highest potential ability in the class currently taught. The profile forms were given to the teacher during the second school visit, with the request that they be completed by the third visit, when a short time would be allowed for discussion and clarification on the information entered.(see table III pages 91 & 92). Teachers were invited to constructively criticise the design of the profile, with a view to improving it for use in the main study.

In the event, the following issues emerged from the completion of the nominated pupil profiles by the six teachers participating in the pilot study:

a. All six teachers completed this profile, as distinct from reticence by five of the teachers and refusal by one to complete the teacher's profile.

b. Questions 1 to 10 and 14 to 16 inclusive were answered extensively by all six teachers.

c. Two of the six teachers were also able to give extensive answers to questions 11 to 13, whilst the remaining four found most difficulty in addressing, to their satisfaction, these issues of extra-curricular activities, spare time, and home background. Each of these teachers voluntarily confirmed their lack of this type of background knowledge of some of the children in their charge, during the discussion which took place during the collection of the completed profiles. See page for a comparable picture of teachers' responses, to this background knowledge of the children, in the main study.

The following lessons were learned from the analysis of the procedure and results of the pilot study:

1. The total school-based procedure appeared to be too lengthy for the schools to undertake within a three-week time span. In the event the minimum time spent in contact with each teacher over the study period was in excess of four and a half hours, of which over two of

these were subject to the inevitable disruption to the normal life of the class produced by arranging the necessary test conditions for the standardized test. All three headteachers particularly, felt that from the school point of view such a lengthy process could really not be justified against the interruption caused to the work of both the classteacher and the children. Comments were particularly heartfelt from the headteacher of the rural primary school who had fewer staff than the others to use in a substitution role.

Classteachers anxious to cooperate with the project, suggested that from their point of view the standardized test caused them most organisational concern. This was particularly true of the semi-open-plan urban junior school, where the headteacher decided that the test would be held during the morning in the school hall to avoid the necessary noise of practical work in progress in adjacent classroom areas. Matters were not helped on this occasion by the collapse of a shelf of saucepans in the adjacent school kitchen combined with the frequent insistence by school canteen staff that the need to prepare the school hall for lunch was imminent!

This situation necessitated a review of the importance of each type of data in the design of the main study against what the schools would be reasonably prepared to accommodate within a given time and number of visits. It was also necessary to consider the disruptive potential in the conditions required by a standardized test of all pupils in the classes for which the teachers in the study sample were responsible, if this test was included in the main study.

The elicitation of individual constructs in the first repgrid interview also took very much longer than anticipated. This was perhaps partly due to the interviewer's relative inexperience in using this method of enquiry, notwithstanding some 38 repgrids applied by the writer of this study on different occasions during the previous year, which included constructs elicited from undergraduate student teachers, and partly because this was the first time the three teachers concerned had been interviewed in this way. A redesign of the period of verbal

explanation immediately prior to this part of the repgrid interview seemed to be indicated. On the basis of this previous enquiry with student teachers it was anticipated that one might expect an elicitation of some ten or so bi-polar constructs from each teacher. The middle school teacher who seemed to be aware of this method of enquiry from an in-service course attended (although he had not directly experienced it), produced nine constructs, which on final review he changed to eight on the basis that the wording of two of them meant to him exactly the same thing. The other two produced five and four respectively. The rural teacher seemed to be uncomfortable in this type of situation which invited spontaneous verbalisation of her introspection in this area. The use of element cards for the teachers to 'shuffle' into triads for all the children in the class, the largest group being 33 and the smallest 29, was very time intensive, the longest elicited repgrid interview taking one hour 57 minutes. This would seem to indicate that a more selective method of using the triads to concentrate more on the middle and high range of ability is desirable.

2. The use of the specific equipment needs to be reconsidered for the main study. The hardware used for the first interview consisted of:

a) a clipboard which held the main and prompt questions, plus the flash cards, and the interviewers background notes including notes regarding the responses of that interview.

b) a portable cassette tape recorder measuring 35 x 25 x 10cm. This was usually placed in a convenient position to manipulate the controls, and was supplemented by a table top tripod microphone. The separate microphone was included following trials conducted with other teachers, before the pilot study began. In these trials the multi-directional integral microphone recorded an unacceptable level of background noises taking place in schools, thus making the main signal hardly discernible. As a consequence a high quality single direction separate microphone was introduced, which proved markedly superior in the clarity of the

signal received. The main objective of this item of hardware, was to record the entire interview for later verbatim transcription, and subsequent comparison with handwritten notes, both from the clipboard and from the field notebook.

The intention of including the tape recorder was also to allow the interviewer more freedom to participate in the dialogue and in this respect it was considered to have been successful. However the desire to place the respondents in an informal situation, in which the expectation was that feeling more at ease they might therefore feel more inclined to reveal their true responses to the questions, was seen to be less than successful. The major cause of this seemed to be what they considered as the prominence, in the interview situation, of the clipboard and the tape recorder. It is commonly accepted that people may have a subconscious reaction to information they provide being entered on a clipboard and also having their responses to questions recorded on tape. It is possible that the teachers on the in-service course who volunteered to trial the research methods before the start of the pilot study were atypical in this respect. It may partly have been the influence of an informal relationship between them and the interviewer built up during the course, produced more relaxed responses, and thereby did not provide any evidence that the hardware might produce such a problem. The urban junior classteacher was the last of the three pilot study respondents to be visited for the first interview; it was therefore decided to dispense with the clipboard on this occasion in favour of mental notes being recorded immediately after the interview and the occasional field note on such things as body language being written into the hand-sized field notebook during proceedings. One subject's reaction must obviously be treated with caution, but the responses certainly seemed more relaxed, either because of or despite the absence of the clipboard and extensive note-taking.

3. There was a need for the interviews ideally to be free from interruption, thereby allowing the classteacher to fully consider his or her responses, and avoiding unnecessarily lengthening what

classteachers already felt to be lengthy interviews. The achievement of this objective is related to both time and venue. With regard to when the different interviews were to take place, teachers were understandably less than willing to involve themselves in any interview activity outside the period between the beginning and end of the official school day. This placed severe constraints on the researcher, whose college teaching day on most days finished at 4.45pm whilst, the latest of the schools used in the pilot study officially finished at 3.40pm. Clearly, it was necessary for the researcher to be available during the day for the standardized tests. Where heads were unable to temporarily release teachers from class responsibilities, interviews took place, according to the length of time needed, during morning break or lunchtimes. On three occasions where the teachers because of the contingency agreed to use time after the end of the school day, they were understandably conscious of the pressure of time, as in primary schools this is a vital classroom preparation time for the teacher, and it is also the time when headteachers arrange staff meetings and school-based in-service workshops. It became obvious that for the main study the researcher would need secondment in order to adequately collect the data under the stringency of research conditions.

Interview venues varied widely, including the headteacher who kindly offered his study, which used once was declined thereafter because of the constant interruptions by himself, the school secretary, and the telephone. Apart from the standardized tests, a classroom was only used once with the class present. This occurred because of the force of circumstances outside the control of both the teacher and researcher in the rural primary school in question. The curiosity and demands on the part of the children understandably appeared to produce in the classteacher the stress resulting from both divided attention and loyalty to her charges, plus a consequent lengthening of the time needed to complete the interview. The responses when analysed possessed all the evidence of divided concentration and were quite atypical of those she provided in other interviews. Classrooms during breaks with the class absent, in many cases provided ideal conditions

and were much to be preferred to staff common rooms, medical rooms, and the school hall. These instances clearly indicate the preferred venues to be aimed for in the main study.

4. Of some concern was the discovery concerning one classteacher, who following the pre-interview explanation of the objectives and methods used in this enquiry, subsequently discussed with colleagues, at some length, the responses she should make in the succeeding interviews. This was particularly evident in the unstructured interview where she regularly wished to rephrase her comments, confessing that they really represented the opinion proposed in the school staffroom, and on reflection she wished to express her own thoughts on the matter. For an enquiry that in total purports to be designed to elicit the concepts and schema of giftedness possessed by the individual classteacher, it is seen that last minute input by colleagues may not only be a spontaneous rather than a considered response on their part, but may tend to add to any confusion that may currently exist in the mind of the teacher. This would seem to indicate the need to solicit the teachers' cooperation in not discussing with anyone the content of the interviews, from the pre-interview until the completion of the last input by them.

5. As an individual research study, with fieldwork for the main enquiry to be conducted with two teachers from each of 24 schools, plus the need for the data collection to be largely completed within the one term secondment period permitted, and notwithstanding the views already reported as expressed by the school personnel, there was a need to reduce the number of data items required. Two outcomes of the pilot study can be recognised as contributing towards the selection of the optimum number of items and the data types they would yield:

a) The following are comments from the headteachers and classteachers, after the conclusion of the collection of data for the pilot study. Concern was expressed about the type of data required. Headteachers, sensitive to their responsibility for the children attending their school and to the parents, considered some of the

information in the pupil profile to be 'sensitive' in their terms, particularly that relating to home background and certain out of school activities, and allowed it to be supplied only under protest. All three headteachers continued to maintain this view despite assurances of total confidentiality and an indication of the contribution of such data to the study. As indicated previously they also felt particularly strongly about the effects of the standardized test upon the schools concerned, in terms of both time and class disruption. They were additionally concerned about classteachers individually and solely nominating children as of exceptional ability, within the class they currently teach. The feeling was unanimous by the headteachers that such nomination would be best made on a schoolwide basis with for example, the previous classteacher of a nominated child making a contribution. Maltby (1985) used the views of the previous teacher as well as the existing teacher of children identified by the school as gifted. The emphasis of her study however, was placed more on teacher/pupil interaction, than on eliciting teacher constructs of giftedness *per se*.

b) Two of the classteachers stated that they felt that they had benefited from the interview experience, through being made to think of children and express their feelings about them in the way required by the different types of interview conducted. However, all three were unanimous in their reticence to provide a class list of children placed in general ability order, which they considered to be divisive 'league' tables, and indicating their preference to compare the child with their estimate of its potential, however subjective, rather than with the rest of the class. In some ways this view seems rather surprising from practitioners who on the one hand express a wish to compare children with their assessed potential, whilst at the same time providing headteachers and others with league tables of attainment in mathematics and use of language which often reflect competition within the class and between the classes in that year group.

One teacher refused to complete the staff profile on the grounds of invasion of privacy, whilst the other two refused to include

age, or pre-teacher training education. All three teachers suggested that they would have preferred to give all the information needed in one or a series of oral interviews, and questioned the repetition of information given on the questionnaire profile forms and that provided in the first interview.

Main Study

The main study was redesigned on the basis of what could appropriately be achieved during the fieldwork in the schools by an individual researcher so as to yield data needed to pursue the exploration of teachers' concepts of giftedness and related terms under acceptable research conditions. As a result of the outcomes of the pilot study discussed previously, the selection of each item to be included was considered in relation to the nature and relevance of the data to be collected compared with the logistic constraints of the procedure to be adopted in the fieldwork.

The main fieldwork was conducted during the Spring Term on the basis of the following considerations. Most primary classteachers start with a new class of pupils each September, by the Spring term they tend to have built up a relationship and understanding with most of the pupils they teach, which would be advantageous to the present study where characteristics of children in the current class were to be used to help gain access to the teacher's concept of giftedness. During both Autumn and Summer terms primary schools are heavily involved in time-consuming supplementary activities. The Spring term is seen by most schools to be less intensive in this respect, and therefore provides a better opportunity for research fieldwork, that does not of necessity need to be restricted to the other terms.

The 24 schools were all located in the County of Northamptonshire, including the one independent junior school. The Local Education Authority (LEA) senior phase inspector for primary education was approached to seek passive support for the study to proceed and to make the authority aware of the enquiry. The schools

were then selected from 281 institutions on a random choice system, and as classteachers of the nine to ten year old children were to be the target group it was considered desirable to extend the comparison to different types of institution, viz. junior, primary and middle schools, reflecting the state, grant-aided church, and independent sectors of the education system.

As with the pilot study headteachers were approached firstly by letter (see Appendix I page 228), and on the receipt of an affirmative reply were visited for a pre-interview to clarify the objectives and procedure of the enquiry and to solicit their support in selecting and allowing teachers in their school to be interviewed. It was considered necessary following consideration of the pilot study to request headteachers to engage in a form of stratified random sampling of their colleagues, inasmuch as they were asked to select two teachers who would vary in both sex and length of experience, but who would apart from this, be chosen at random. This form of selection was attempted, in order to lessen the likelihood that headteachers might, for any reason, select staff whose interest in and knowledge of higher ability issues would make them unrepresentative of the general run of primary teachers. It was also requested of headteachers that the chosen classteachers did not discuss the project with their staff colleagues until the research enquiry had been completed. Two only of the total number of teachers in the sample made it clear that for varied reasons related to their selection they were unwilling 'volunteers' although once involved they both were numbered amongst those who found the experience interesting and challenging. (See Table IV page 112). As expected the final sample of classteachers unavoidably reflected the high proportion of women teaching in the primary sector of education.

Resulting from the findings of the pilot study, it was decided to substantially shorten the content and procedure to be applied in the fieldwork. (See Figure 5 page 102). This is reflected in the following issues:

Topic:- Primary teachers' conceptions of 'giftedness' amongst schoolchildren

SAMPLE:-

Respondents

Men 21, Women 31 (Average experience 11·6yrs)

- First interviews (Headteachers & Others) = 27
- First interviews (Classteachers) = 53
- Second interviews (Classteachers) = 52
- Total interviews = 132

Schools represented

Type:- Primary (5-11yrs.) = 4
Junior (7-11yrs.) = 17
Middle (9-13yrs.) = 3
24

Location:- Urban 13; Rural 10; Independant 1;

TARGET GROUP:- Teachers currently teaching children 9-10yrs.

THE DATA:- [a). Tape recorded interviews (transcripted); b). Kelly type repertory grids.]

First interview (unstructured) [Classteacher data only, used for analysis.]

Question No.	Data type			Sorting	
5.	Word definition (Flash Cards). [words:- gifted; talented; exceptional; highly able; bright]	Abstract		1st. Raw direct categories compared for similarities 2nd. and reduced to numbered concept clusters for further definition.	① Process: Comparison of similarities and differences ② Cluster analysis using CLUSTAN
3.	Characteristics of 'ideal'. ["what would you look for?"]				
4.	Personal experience ["Give an example of a boy/girl known to you."]	Boys / Girls	Direct experience		

(Questions 1 & 2 give elicited teacher background.)

Second interview (repertory grids)

1. Elicited constructs (applied to current class taught, including example from 4 above).
2. Provided constructs (applied as above.)

③ Computer analysis using SPSSX.

(Figure 5 - Outline of study design)

a) Most of the data would be collected during two visits to each teacher separated by at least one week's interval between each visit, to give the teacher time to partially forget the responses made to the questions posed on the first visit, and to reflect on their approach to the whole issue of giftedness in their professional experience.

b) On the first visit written responses were to be kept to a minimum in favour of the unstructured interview. The comparative viability of the open interview versus the questionnaire as research instruments has been considered by workers such as Thorndike (1949), Oppenheim (1966), Cannel & Kahn (1968), Cohen & Manion (1980), and Verma & Beard (1981).

The questionnaire, usually requiring a written response, is a comparatively popular educational research tool for eliciting information, not least because of its ease of application, and comparative standardization of responses for analysis. Its integral limitations occur in the degree of confidence possessed by the researcher that the questions posed are the right ones to be addressed in relation to the objectives of the enquiry, notwithstanding any ambiguity interpreted in the mind of the respondent. This is particularly true in postal surveys where the researcher is unable to use subsidiary clarification or prompt questions directed at the individual respondent to elicit as complete a response as possible. The problems continue with the dependence on the written response as a true expression of the views of the respondent which thereby relies on their ability and desire to convey their total thinking through this medium. These limitations together with the need to reduce the demands on the classteachers used in the sample seemed to indicate a preference for the interview as the main means of tapping teachers' thinking.

Interviews are generally divided into three types, which include the *formal interview* in which a set of questions are asked and the answers recorded on a standardized schedule. This type in practice is similar to the questionnaire approach with spoken responses,

which the interviewer records on the form provided. This system possesses many of the shortcomings of the questionnaire, and raises similar questions regarding its structure in relation to the objectives of the interview. A second or intermediate category is the *less formal interview* in which the interviewer has some freedom to vary the order of the questions, modify them and offer explanations. The interview type used in this study is the *completely informal* or *unstructured interview*. In this mode the interviewer takes the role of prompting the respondent to verbalise his or her thoughts on a series of key issues which are raised by the researcher. The objective being to create a conversational situation in which the respondent feels completely at ease and thereby more likely to reveal their true thoughts on the issue in question. To reduce the influence that the interviewer may have on the respondent in the way the questions were phrased, a standard question format was used for each teacher. Clearly, with such open-ended structure supplementary and prompt questions were necessary in most cases, but the format of these had arisen from the outcomes of the pilot study. Notwithstanding these precautions, much care was necessary on the part of the researcher to avoid any inappropriate directive influence on the content of the responses. Following a first visit for an explanatory pre-interview with the teacher, this first interview usually needed twenty minutes to complete the six questions posed, including the flash cards. Headteachers were also invited to personally participate as respondents in this first interview, as were college lecturers interested in this field together with the local authority's senior phase inspector for primary education. These interviews were to comprise data collected at the same time as the main study for use in comparison with the classteacher data at some future post-research period as a follow up activity. The first interview comprised the following items in the order in which they were presented during that activity:

a).Five questions based on the five basic issues, as follows:

1. Would you care to comment on the class you currently teach?

2. Would you describe in outline your training and experience in teaching?

3. [Mode I used with half the sample]. If you were asked to choose the brightest child in this or any other school, what characteristics in that child would you look for ?

3. [Mode II used with half the sample]. If you were asked to choose a gifted child in this or any other school, what characteristics in that child would you look for ?

4. Describe to me a bright [gifted in Mode II] child you have ever taught or known personally.

5. (If the response to 4 gave a boy as an example, the same question was posed inviting the respondent to choose a girl, where possible.).

Prompt questions, where needed:

4/5a. On what evidence did you base your assumption that he/she was gifted [bright]?

4/5b. How did he/she relate to his/her peers?

4/5c. Do you know of any hobbies or interests he/she had outside school.

4/5d. How would you describe the home background? As supportive, pushing, or apparently disinterested ?

The terminology used in phrasing these questions was based on the outcomes and teacher's retrospective comments on the first interview in the pilot study.

b) Flash cards containing the same words as those used in the pilot study (See page 87) viz. *GIFTED, TALENTED, EXCEPTIONAL, HIGHLY ABLE, BRIGHT.* The teachers were similarly invited to peruse and then to shuffle the five cards, each containing one of the above words, into the order in which they intended to explain the meaning of each word.

As a comparatively short interview, teachers, notwithstanding constraints to be mentioned later, found this activity fairly easy to fit into the working day. Despite the variety of venues which varied from the corridor to the school kitchen in the late afternoon, once the interview was under way the minimum conditions acceptable for the responses to be usable in later analysis were exceeded in every case where the interview was completed.

Following the problems indicated in discussion of the pilot study (See page 95), the conduct of the main study was modified by dispensing with the clipboard used in the pilot study, an occasional note was entered in the field notebook, and new hardware was also introduced. Now most of the record of the interview proceedings was to rely on tape recordings, it was considered essential to use a reliable recorder and one preferably that was more inconspicuous than that used in the pilot study which obtruded into the consciousness of the respondent. A miniature recorder was chosen which whilst taking the standard audio cassette could be housed in a brief case, jacket pocket or be placed on a table out of sight. This apparatus was used in conjunction with a miniature clip-on lapel microphone, the whole system being similar to that used by journalists and reporters, when equipment is to be inconspicuous. Once the problem of interference produced by static electricity integral to modern artificial fabrics used in coats and jumpers worn by the respondents had been overcome, this apparatus results not only increased the in quality of the recordings, but also drastically reduced the short time span in which subjects became unaware that they were being recorded in this way. This justified the replacement of the original equipment. At the conclusion of each interview, usually outside the school building,

additional comments regarding body language and expressive utterances that may help analysis and interpretation but were unlikely to be transcribed from the tape, were recorded by the interviewer on a pocket dictaphone. This hardware was also used with headteacher's permission in the introductory pre-interview with them, but was not used at the pre-interview stage with the classteachers.

The second interview occupying some 45 minutes was concerned primarily with the application of a version of the Kelly repgrid. The theoretical basis of this instrument is discussed in relation to Kelly's theory of personal constructs at the beginning of this chapter. The resulting data was given a pilot analysis, after which, considering the results, and in view of the richness and complexity of the analysis of the data accruing from the other four parameters of the investigation covered in the first interview, it was considered that the full treatment of data resulting from the Kelly repgrid interviews would be more appropriately reported elsewhere at another time.

The times of the interviews varied during the day to fit in with the teacher's availability, this was also true of the venue. The constraints experienced during the fieldwork revolved around a combination of union members' school-based action regarding a national teachers' pay dispute, a localized influenza semi-epidemic in a group of the schools, and a period of heavy snow and icy conditions. The teachers' action affected fewer teachers than was anticipated, however it did require the re-arrangement of 14 interviews, and resulted in only one teacher refusing on grounds of the dispute, to complete the second interview. Its main effect was evident on the part of some teachers in the strict restriction of interviews to the teaching part of the school day, in this respect headteachers were particularly helpful in providing class cover, which was often themselves, to ensure the release of their colleague. Of more disruption was the influenza attack sustained by teachers who having completed the first interview, had a necessary delay of up to three weeks before being available for the second interview. Absenteeism and school closure during the icy conditions in February only delayed five interviews. The change of

one school's headteacher did result for a series of reasons, in the withdrawal from participation in the project of two teachers who had completed the first interview. It is interesting to note that despite these constraints, the goodwill and cooperation in this project on the part of the teachers remained throughout the fieldwork period.

Supplementary information collected during the main study consisted of background information on each of the schools contained in the local authority standardized format general booklet given to existing and prospective parents. This information was supplemented by that given by the headteachers. They provided this during the first interview, which they all agreed to undertake, in response to the question on their role and school, which replaced the question on the structure of the class given to the classteacher respondents. Some of this information provided a very useful cross reference with the responses of particular teachers relating to the school system as it impinged on the class for which they were responsible.

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CHAPTER FOUR - THE NATURE AND ANALYSIS OF THE DATA

"All real knowledge we possess, depends on methods by which we distinguish the similar from the dissimilar. The greater number of natural distinctions this method comprehends the clearer becomes our idea of things. The more numerous the objects which employ our attention the more difficult it becomes to form such a method and the more necessary." (Linnaeus in *Genera Plantarum* 1737)

The concentration in this study, on the use of the interview as a technique for eliciting information from classteachers within the permitted parameters allowed by the schools in the sample, has already been considered in chapter three. As with the pilot study, it was anticipated that the choice of this method of data collection would provide its own integral analysis problems, in comparison to the more straight forward questionnaire, when making an attempt to sort the information objectively into appropriate categories for further treatment. Cohen & Manion (1986) seem to provide a succinct definition of this particular research instrument.

The research interview has been defined as a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information, and focussed by him on content specified by research objectives of systematic description, prediction, or explanation.

In approaching the data assembled in this present study there was a need to recognise the key words and phrases used by respondents, to enable comparison to be made between the individual teachers, groups of teachers, and the characteristics presented; in order to reach conclusions regarding their construct of giftedness in primary schoolchildren. Care therefore was taken to ensure that classteachers were given as long as they needed in their response to the main and supplementary prompt questions when used, to enable their answers to be as full as they wished to make them. Some respondents volunteered quite lengthy supplementary comments, after the interviews were concluded, and these were summarised at the end of the school visit by the researcher, in a field notebook.

It is recognised by workers such as Cohen & Manion (1980), and Verma & Beard (1981) that any research data drawn from the spoken word, especially in the type of face to face interview used in this study, which requires a spontaneous response to the questions posed, must take into account the language and idiom used by the interviewee, which will in many cases be different from a spontaneous or reflected written response on the same topic, by the same person. Study of the intonation and gestural features of interviewee responses might be interesting and possibly significant, but these features have not been systematically examined in the present investigation.

As previously indicated the main strength of the 'unstructured' interview, by its 'open ended' nature, is the opportunity it provides to engender a relaxed conversational response in the subjects being interviewed. In this study, the pre-interview served two purposes: to explain the objectives to the subject and more importantly, through the everyday things discussed, to relax them. The time taken by this element of the study varied according to the personality and the proportionate existence or absence of stress in the classteacher at the time of the interview. As much of the discussion centred around daily trivia seeming to bear no relationship to the task in hand, subject

responses in this situation were not tape recorded but where noteworthy were entered in the field notebook after leaving the school. The prime objective of such a strategy is to persuade the subject to fully reveal their true thoughts on the issue in question, without any desire to impress, and as total anonymity was assured plus the fact that the research was being conducted by one not connected either with the school or the local education authority there was unlikely to be any ulterior advantage to them in providing other than answers which reflected their true opinion. To gain an indication of how effective was this strategy, after the conclusion of all the interviewing, each classteacher was invited to comment how they felt about the experience now that it was over, particularly in relation to how relaxed they considered they were. Again, to encourage a frank response this part of the sequence was not tape recorded but was entered in note form into the field notebook. The following are the results of classteachers' responses to that invitation when placed in broad categories:

Table IV - Teachers' comments on their reaction to the interviewing experience expressed as a percentage of the total sample interviewed. (n = 45)

Category	*% of tot.sample.*
1. Relaxed,interesting and challenging,	64
2. Not consciously relaxed, but it made me think.	22
3. Uncomfortable, glad it is over, hope it's useful.	6
4. Too busy really, to fit it in, but glad to help.	4
5. Does not like interviews of any description.	4

Each classteacher has been allocated once only on the basis that all the terms used in the category were included in the response and percentages have been rounded down or up to whole numbers. The categories defined have resulted from joint agreement with a college colleague and the writer of this study after independently studying the notes on the individual responses. One has some sympathy with teachers in categories 3 & 4 which combined with the categories above reflect the willingness of primary school classteachers to be involved in research despite any personal reservations and the myriad of other demands upon their time. As relaxation and feeling at ease is a matter of degree rather than an absolute, in category 2 a case could be made that the term 'not consciously relaxed' could indicate that there was a measure of relaxation within these teachers during the interviews of which they were not conscious at the time. If this contention can be accepted, then in combination with the results of category 1, there seems to be an indication that most of the 45 teachers in the main sample analysed felt sufficiently at ease in the interview situation to be likely to produce full and frank responses.

A strength of the open or 'unstructured' interview, conducted under conditions where the respondent feels comfortable and at ease, is the opportunity for the interviewee to expound as much as they wish, in their reply to the questions posed, without being restricted either to time or to the space/structure constraints integral to the written questionnaire response. This allows both digression, which can be positive or negative in its value, and clarification questioning, (See prompt questions used on page 105), either by the interviewer to the interviewee, or vice versa. The chance for illustration or repetition usually for clarification or emphasis is also available. The information subsequently gathered is therefore rich in its complexity and diversity. Since, as a research method it is much more difficult to predict the detailed nature of the data which accrues, from such open ended responses, it makes any previously planned strategy for analysis subject to subsequent modification.

Figure 5 page 102, lists the complete information collected by type and quantity. The complexity of analysing the interview data collected, in sufficient depth to draw any valid conclusions, within the constraints of this study, has made it necessary to postpone the treatment of some aspects of the data, to be considered at another time. For present purposes the interview data of those, part of whose role in the school was current responsibility as a classteacher during the period of the fieldwork, is used in the analysis for this study.

To reduce the variables in the analysis, the interview results of the headteachers were examined and considered for comparison with the main findings of the study at a later date, on the following bases:-

1. Of the 24 headteachers, nine were non-teaching administrators, in larger schools, whose contact with children in terms of time was substantially less than that of the classteachers, and whose contact in

terms of the range of children was abnormal. The remainder, excepting the one headteacher included in the sample, taught different classes on a part-time basis, for not more than one third of timetable time.

2. Notwithstanding the centrality and extent of headteachers' influence in the subsequent implementation of policy in the school for which they are responsible, their answers to the questions, with rare exceptions, presented views that seemed to reflect their position as leaders of what they perhaps justly saw as a dynamic organism, and therefore tended to present a school-wide view of children rather than an individual child-oriented one. This could be valid for a separate enquiry which will be discussed later. In many cases answers included some where headteachers openly admitted that they felt that their views ought to reflect what they considered to be county policy for this area of education, sometimes with a personal addendum.

The college lecturers and LEA senior phase inspector for primary education, were included as respondents because of their interest and expertise in this area, and as a possible specialist measure with which to compare the teachers. However, the rich nature of the data produced from the classteacher interviews is such that this aspect cannot be contained within the constraints of an individual research project but will be explored and discussed at another time.

Despite the practical feasibility problems indicated by the pilot study it was considered desirable to attempt to include in the main study a standardised test to be used with the class currently taught. As explained in chapter three, the test chosen was the NFER Cognitive Abilities Test. However, early in the fieldwork, and notwithstanding the goodwill and cooperation of the schools, plus efforts to make alternative timetable arrangements, the pressure of time for classwork during a comparatively short school day in the primary school, precluded the application of the test under conditions prescribed by NFER for its administration. In most cases the school

hall was already being used for other activities, and the classrooms which were offered as an alternative venue were too crowded to ensure the individual's own responses to the test items.

The Local Education Authority have been encouraging schools to regularly apply to children the very similar Richmond test, but this test was only used by eight schools in the sample. Those schools using this test set aside the full time required under carefully coordinated test conditions. However, notwithstanding their sympathy towards the main question this study is seeking to address, headteachers were reluctant, despite local authority recognition of the study, to allow the same amount of disruption in their school for the sake of what they saw as the standardized test component of one individual's research project. It was therefore necessary at that stage to abandon the use of the standardized test as a comparative measure of cognitive ability amongst the children for whom the classteacher was currently responsible, in the schools used in the sample. It was not considered that this would invalidate the pursuit of the main exploratory theme of the study which was the teacher's conception of giftedness in schoolchildren per se, to which the current children in the class would obviously contribute and play a part, but not the only, or in some cases even the most significant part.

Of the 53 classteacher interviews conducted, one teacher completed the first interview only, extended illness making it impossible to complete the second one. In two other cases interviews were not completed because the arrival of a new headteacher for a variety of reasons made it necessary for them to withdraw their participation in the project. One teacher, as already indicated felt it necessary to refuse to grant the second interview on the grounds of solidarity with the national teachers' dispute existing at the time.

Three other teachers were unable to complete the first interview because of premature termination due to a class emergency in two cases and a vomiting attack in the other. Because of the incomplete nature

of the data collected from these respondents it was considered inadmissible for inclusion in the analysis. therefore 45 practising primary classteacher interviews were completed and subsequently transcripted.

At this stage some consideration would seem necessary of the nature of the sample of teachers used in this study and how far it could be seen to represent a crossection of primary classteachers in the County in question, notwithstanding the fact that as illustrated in figure 1 page 9, background is a commonly accepted experience that can influence teachers' concepts and schemata. It has already been indicated that the author of this study had no direct part in selecting the teachers who subsequently participated in this project, except inasmuch as the expression of the objectives in the initial letter to schools and answers to clarification questions in a first meeting with headteachers may have influenced their choice of teachers proposed for participation in the project. Further information on the selection of both schools and teachers has previously been discussed on page 101.

Table V on page 117 summarizes teacher background, by total number of teachers involved, in three main divisions viz. (I) current post; (II) teaching experience; and (III) teacher education (training). The selection of schools by type under heading I compares favourably as a representative sample with the proportionate distribution of such schools within the County's 280 institutions providing education for children within the target age range of nine to ten years at the time when the data was collected. The one independent junior school originally included in the main sample for comparison, has not been included in this figure, and as one school neither can it be seen to be representative of the local provision for children by the independent sector of the education system. An attempt was made to balance the

Table V:

Summary of Teacher Background for 45 Primary Classteachers

(I) CURRENT POST

School type Jun:	School type Mid:	School type Pri:	Location Urban	Location Rural	No. in class Average	No. in class Range	Age Average	Age Range	Responsibility post
32	6	7	25	20	* 28.4	21/38	9.8yrs	8/11	# 27

* Because of the effect on the average, the three classes of 16, 12, & 14 children respectively, from the one Junior independent school have not been included in the calculation of this figure.

\# Comprising: 1 headteacher: 7 deputy headteachers: 19 other responsibilities.

(II) TEACHING EXPERIENCE

a). Length:

<5yrs	6-10yrs	11-15yrs	16-20yrs	>20yrs
5	8	14	8	10

b). Type

Jun.	Inf. Jun.	Pri.	Inf. Pri.	Mid.	Mid. Jun.	Inf. Jun. Mid.	Sec. Jun.	Sec. Pri.	Sec. Mid.	Sec Pri Mid	Univ Mid.
17	2	8	2	1	0	1	5	4	1	1	1

(III) TEACHER EDUCATION (Training)

a). Length

1yr.	2yrs.	3yrs.	4yrs.
3	9	29	4

b). Phase

Inf.	Jun.	Pri.	Mid.	Sec.	Inf. Jun.	Jun. Mid.	Pri. Mid.	Jun. Sec.
1	15	14	2	5	2	1	1	4

c). Qualification

Teacher's Certificate	PGCE	Teacher's Diploma	Bachelor of Education	Other Degrees
28	3	3	11	**5

** Other degrees: First degrees in Theology:Arts:Science: Psychology. One higher degree in Education.

rural and urban schools with a view to seeking any differences between teachers on this basis at a later date. The location of schools represents a fairly even distribution throughout the County in both villages and towns in an attempt to represent a County view of the subject of this present study. Most English primary schools adopt varying strategies for placing pupils in classes, especially in relation to age. Sometimes there is a deliberate policy notwithstanding the opportunity to do otherwise, to place a group of children with a two year age gap in a class ie. 8+years to 10+years, as distinct from the usual one year difference. This is most frequently done in the larger urban schools, whilst the small village school often has no alternative to this position even if it wished to impose it. Such age range differences are reflected in the calculation of the average age on Table V, which despite their influence is well within the target age for the study. Every classteacher included in the sample was currently responsible for children within the target age range as members of the class for which he or she was responsible. In relation to the County's currently held responsibility posts in the primary sector, the number held by teachers used in this study show a much greater representation. One suspects that some headteachers may have had some preference for approaching their post holders first in relation to participation in the project.

The teaching experience of the classteachers involved illustrated in IIa of Table V produces an average for the 45 teachers of 14.6 years with a range from 3 years to 34 years. Some 66.7% of the total sample have between 6 years and 20 years experience. This experience seems rather wide with only 35% being specifically and solely junior experienced, whilst some 28.8% have taught totally outside the target age range in secondary schools, one classteacher having been a university lecturer before teaching in the middle school. Teaching abroad forms part of the experience of 11% of the sample, most of such professional experience being in foreign national educational institutions where English as a language appears on the curriculum.

Section III of Table V indicates that all teachers in the sample used had completed a course of teacher training, there being comparatively few exempted teachers with qualified status now teaching in the County's primary schools. A teachers' certificate to teach was held by 62% of the total, and would seem to proportionate to the teaching force as a whole in primary schools; it would also seem to reflect for most teachers the number of years since qualification. The number of graduates in the primary sector is steadily increasing, although the highest proportion of these are amongst the most recent to qualify. In the sample most of the graduates (24% of the total sample) have a Bachelor of Education qualification which could be seen to be proportionate to the type of degree held by primary school teachers generally. Correspondingly only 7% possess a Postgraduate Certificate of Education. The university lecturer is unusual in teaching abroad for a number of years, followed by changes of location in this country initiated by the needs of her husband's career. In relation to phase of training 64% of the total sample were trained for teaching the target age range of the present study, the majority of which followed a three-year course.

Table VI on page 120 (See key to table VI on page 121) indicates the background detail of the individual teachers used in the present study. This table also provides information on the size of the schools in which the teachers currently operate. The number of men in the sample at 40% of the total number of teachers is much higher than the percentage of the County's teaching force employed in the primary sector, but it is however more in proportion to the number of postholders in the County. The local authority's records concerning the background of its teaching force in the primary sector of education were not made available to the author of this study, therefore recourse has been made to such information as is available from various sources to ascertain the representative nature of the sample in relation to the County as a whole. The results of this comparison would go far to support the contention that the sample is

Table No. VI:

Background of practising classteachers used in this study

1	2	3	4	5	6	7	8	9	10	11	12
8	f	3	1/s	Cert.	13	J	JU	336	27	8/9	PE
9	m	3+	p	BEd	11	J	JU	336	29	10/11	DH
10	m	3	1	Cert.	9	J	JU	336	26	9/10	DH
11	f	3+	p	BTh/PGC	26	PMS	MUCE	239	30	9/10	HT
12	m	3	s	Cert.	6	JS	JUCa	250	33	9/10	-
13	f	3	1/1	Cert.	14	IJ*	JUCa	250	33	9/10	-
14	f	2	1/1	Cert.	25	IJM#	MUCE	239	31	9/10	DH
15	m	3+	s	BEd	10	IJ	PR	352	26	10/11	DH
16	m	3+	s	BEd	13	J	PR	352	33	8/10	ES/PE
17	m	2	p	Cert.	23	PS	JU	200	21	9/10	DH
18	f	2	p	Cert.	28	P#	JR	362	30	9/10	DH
19	f	3	1/s	Cert.	16	PS	PR	352	27	8/9	Lang
20	m	3	1	Cert.	13	J	JR	362	32	9/10	Rem.
21	f	3	1	Cert.	6	J	JR	362	31	8/9	-
22	m	3+	1	BEd	8	M	MUCE	182	34	9/10	Hum.
25	f	2	p	Cert.	23	P	JR	182	24	8/9	-
26	f	3	p	Cert.	11	J#	JUT	N/A	16	8/9	-
27	m	3	p	Ce/DpEd	11	P	JR	182	34	9/10	Art
28	f	2	1	Cert.	26	J#	JUT	N/A	12	8/10	-
29	f	1	1	Cert.	34	JS#	JUI	N/A	14	9/10	-
30	m	3+	1/s	BEd/MEd	13	MS	MUCE	441	27	9/10	Yr. 1
32	f	4	p	BSc/DpEd	16	MU*	MUCE	441	27	9/10	-
37	m	2+1	s	DpEd/Mus	17	PS#*	PR	132	25	9/10	Mus.
38	f	3	1	Cert.	15	JS	JU	200	23	9/10	-
42	f	2+	1	Ce/DpMan	27	P	JU	338	24	8/9	DH
50	f	3	1	Cert.	7	J	JU	340	28	9/10	-
51	f	4	m	BEd	4	MS	MU	552	32	9/10	Sci.
52	f	3	1	Cert.	20	IP	PR	323	30	9/11	-
53	f	4	1	BEd	3	IP	PR	323	30	8/9	Sci.
56	f	3	1	Cert.	20	J	JU	237	29	10/11	-
57	m	3	1	Cert.	16	JS	JU	237	22	9/10	-
59	f	3	s	Cert.	16	PS	PR	85	21	8/11	-
63	f	3	m	Cert.	12	P*	JU	205	27	10/11	-
64	m	4	p	BEd	6	J	JU	205	27	9/10	Ava
65	m	4	p	BA/PGC	14	P	JU	253	38	9/10	DH
66	m	3	1	Ce/DpMat	14	P	JU	253	30	9/10	Math
67	f	3+	1	Ce/BEd	10	J*	JU	253	30	9/10	Art
68	f	3	1/m	BEd	5	JS	JR	181	29	9/10	-
70	m	3+	1	BA/PGC	3	P	JR	181	24	9/10	Sci.
72	f	2	1/s	Cert.	18	JS	JR	294	28	9/10	-
73	f	3	p	Cert.	21	P	JR	294	26	8/9	Lib.
75	f	4	p	BEd	3	J	JR	280	31	9/10	PE/SN
76	f	3	p/m	Cert.	12	J	JR	280	27	9/10	Art.
78	m	3	p	Cert.	14	J	JR	205	30	9/10	Sci.
79	m	2	p	Cert.	25	J	JR	205	28	10/11	Sci.

Explanatory key for Table No. VI: Teacher background

Column No.	Description
1.	Teacher/tapescript number.
2.	Male (m) or female (f).
	Training:
3.	Number of years initial training.
4.	Age phase for which trained. [i=infant (5-7yrs); j=junior (7-11yrs); p=primary (5-11yrs); m-middle (5-11yrs); s=secondary (11-16yrs).]
5.	Qualifications obtained. [Cert. or Ce=Teacher's Certificate; Dp=Diploma *followed by subject area ie.* Ed=Education, Man=Management, Mat=Mathematics, Mus=Music; PGC=Postgraduate Certificate of Education; BEd=Bachelor of Education; BA=Bachelor of Arts; BSc=Bachelor of Science; BTh=Bachelor of Theology; MEd=Master of Education.]
	Experience:
6.	Number of years teaching experience.
7.	Age phases taught. [Key as for column 4 - upper case.] [* = teaching experience abroad; # = independent school experience.]
	Current School:
8.	Type and location of school. [Type:- J=junior; P=primary; M=middle; CE=Church of England aided; Ca=Catholic aided; I=Independent; Location:- U=urban; R=rural.]
9.	Number of pupils on roll.
	Current Post:
10.	Number of pupils in class on date of first interview.
11.	Age range of class for which teacher was currently responsible.
12.	School-wide responsibility post additional to classteacher. [HT=headteacher; DH=deputy headteacher; PE=physical education; ES=environmental & social studies; SN=special needs; Yr.1=first year coordinator; Lang=languages; Hum=humanities; Sci.=science; Math=mathematics; Mus.=music; Art; Ava=audio-visual aids; Lib.=library; Rem.=remedial work.]

broadly representative of the primary stage teaching force for the target age range in this County.

With reference to training in areas that may have relevance to the present study, 76% of our sample teachers during their initial training had not been introduced to the recognition of and provision for the needs of high ability children. The remainder had received no more than a passing mention of the topic, under the umbrella of 'special needs', with the exception of one classteacher who was currently attending an in-service course related to the general area of giftedness. With the exception of this respondent, no teacher ever referred, however vaguely, to any formal source or course when articulating their responses to any aspect of this investigation of their concepts.

Methods of Analysis

One cassette tape was allocated to each practising classteacher used in the study, on one side of which was recorded the unstructured interview whilst the reverse side of the cassette was used for the repgrid interview. Some 45 tapes were transcribed for subsequent analysis in combination with accompanying field notes on extra-verbal communication and any special circumstances. As indicated in the diagram of the main study and the analysis (See figure 5 page 102), the following stages were used to interpret the tapes in relation to the objectives of the main study:

1) Examining the nature of the data

Each of the tapes in combination with the transcripts, which were necessary for cueing and reviewing the sound record, were raw scanned to identify the individual teacher's key words and phrases used in responses to the questions posed. This method using initial clues from the transcripts, necessitated frequent recourse to the tapes and field notes to recoup the body language and vocal expression in order to decide which were the key words and phrases used. The frequent use of a college colleague to assist in making a decision where some doubt existed helped to ensure content and construct validity as indicated by Verma & Beard (1981).

Prior to considering the content offered by interviewees, it is worth stating that some 63% of teachers in the sample mentioned spontaneously, usually by way of apology and justification for their perceived difficulty in answering question three, that for them, children who could be considered gifted or bright were low on their list of priorities in the classroom situation, because of what they considered to be the greater demands of the rest of their charges. This would seem congruent with the 78% of the sample who indicated that they rarely used the word 'gifted' to describe such children when they were encountered. However such teachers accepted that they possessed a concept that could be labelled thus.

Assembling this raw data produced a large quantity of what appeared on a first review to be a mass of totally unrelated information. The data assembled was subdivided into the categories which relate to the way in which the information was collected during the interview. Questions one and two of the unstructured interview were primarily concerned with the classteacher's current class, personal professional training and experience. Such information as responses to these two questions revealed was considered less directly relevant to the teacher's construct of giftedness at this stage of analysis than

the remaining questions of the interview which were directed towards the model and experience of such children possessed by the interviewee.

Some of the problems encountered in interpreting interview responses in order to produce a first categorization of key phrases and words can be illustrated through the following verbatim transcripts for two different classteachers:

(Interview question posed, 'If you were asked to choose a gifted child in this or any other school, what sort of characteristics would you look for?')

Response: *"Perhaps that is best understood by saying some of the things I would not look for. It is very tempting just to look for performance and conformity and to look for someone who wishes to please you, but I don't think any of those criteria are what I would look for first. I think that one of the most important things would be their ability to see relationships in their environment and their ability to make relationships in their environment. I think a lot of things that they achieve would come out of that. That is why I'd say I'd start off with things I wouldn't look for. (pause) I think their imagination is an important factor, I even think their humour is important."*

(In the second example below the classteacher had shuffled the flash cards and decided to define the word 'gifted' after having dealt in a similar way with the word 'talented'..)

Response: *"Gifted is a term that I would use for a child who not only showed particular potential but was beginning to achieve that*

potential. To be gifted you must be able to be recognised as such. I find that word slightly more difficult to define. I'm not sure for instance of the difference between gifted and talented."

In both examples the complete response to the particular question posed has been quoted. In the first case the response is rather unusual being one of three respondents out of the total sample whose definition was based on a negative rather than positive approach. This respondent appeared to reflect carefully on each question before making any comment and did not in any other way indicate that he could not or found it difficult to provide an answer. This was consistent with an extended pause for careful thought after he had completed the statement, whilst the interviewer was expecting a further addition which never materialised. Neither does the wording of the response seem to be tentative, nevertheless whilst he dismisses classroom performance and conformity to please the teacher as possible criteria that could be used to identify giftedness, he then produces a statement about environmental relationships that is so general it begs many questions. This part of his statement seems absolute, implying one has this attribute or not, rather than as a matter of the degree to which it is possessed and developed. This response was discussed not only with an academic colleague of the writer of this study, but also with an experienced primary classteacher, both of whom suggested that the environmental relationship attribute was possessed by all children to some degree. Some allusion to the degree of the possession of this attribute could be inferred from his statement that, "....a lot of things that they achieve could come out of that". This situation was not helped by his declining the invitation to clarify this part of the statement.

The second classteacher in the examples quoted above seems to contend that the evidence for and application of potential is a prerequisite for the recognition of giftedness. She does not seem to give any clear indication of the nature of this attribute, further

indicating her uncertainty in the sentence that she finds that word more difficult to define. She gave a similar response to the word 'talented' and indicates that she is not sure of the difference between the two terms on the flash cards. This would seem to be a classteacher who, notwithstanding her school reputation as a very professional practitioner, for reasons not revealed to the interviewer has not previously needed to seriously consider what is meant by 'giftedness', let alone be invited to verbalise that concept.

Fortunately these examples were not the norm for the majority of the sample. It would seem necessary to bear in mind that the tapescripts quoted above although complete for the particular question posed represent only one item from the total interview responses provided by these two classteachers. The problems presented by such tapescripts for assembling the key word/phrase raw analysis were sometimes cancelled out by that same teacher's response to another item in the interview procedure which although different required the same information. Using the total interview responses it seemed possible to determine a classteacher's concept of giftedness in relation to related terms.

It would seem indisputable that the content of each tapescript is as unique as the classteacher making that response but inasfar as it is possible to provide a tape extract that seems to comply with a norm, the following could be seen to be an example. This particular extract provided below is a response to the flash card containing the word 'gifted':

First of all, by circular argument, I would ask in what area he or she was considered to be gifted. In physical skills I would have no problems. Someone who was outstanding and clearly superior to the good run of child, someone who had something rather special, on

another plane, a brilliant pianist, or a very talented sports person who was 3, 4, 5, 6, or even a lifetime in front of his contemporaries. Academically speaking this is the hardest thing to say, having not recognised any child as outstanding in my care, or in anyone elses in the schools I have attended. We normally grade our children A,B,C,D,E using national standardised tests. I am not talking here about the character of the child, but if he didn't get 'A's' in the thing that he was reputed to be outstanding in, then he probably wouldn't be regarded by me as outstanding. Having said that, I do feel that there may be factors about my conception of an outstanding child that may not make him succeed in something as formal and inwardly directed as a standardised test. Such things as creative written work, or ability to construct his own mathematics, which perhaps wouldn't satisfy an examiner but which may show entirely different activities... Somebody who, if gifted in mathematics, liked mathematics, did mathematics, perhaps even breathed and slept mathematics, a narrow child because of this, who would do mathematics when he was allowed to be free, would bring things to school his father couldn't solve and nor could I, but which he was well on his way to doing so.

This respondent seems quite certain about the criteria he would use to define the gifted in school, despite the sad fact that in his teaching career of some 25 years he has not recognised a single child with these attributes. The following comments are an attempt to illustrate the importance of teacher background and current post information in placing their comments in context to aid an understanding of their view of giftedness in primary schoolchildren. Perhaps there may be some significance in the fact he was one of the

four classteachers all of whose experience had been in the same school. He was also one of two teachers of this latter group who had been an original member of staff at the school's foundation. One speculates how high his expectations are of children, to never have encountered such a child in what is by any standards a lengthy period of experience, in his eyes they must certainly be better in the prescribed field than the parent or teacher. It is perhaps also notable that he did not mention the out of school interests or display any knowledge of this aspect of the lives of the children in his charge in either of the two interviews to which he contributed. This may be a reflection of the very traditional mode of operation with which the school started some 25 years previously and has continued predominantly with the same staff and teaching philosophy through the years. It seems to have developed an ethos distinctly different to that indicated for the example schools cited in the Plowden Report (1967), evidenced in the volunteered comment after the interview by the teacher in question, in which a child's out of school existence is seen as quite separate from the school experience. Furthermore, whilst it is acknowledged by this teacher that skills and knowledge developed out of school can contribute to the work in school this factor is not necessarily taken into consideration when designing the school curriculum or the learning experiences through which it operates. It is not surprising therefore that his criteria revolve around school activities, notwithstanding the total immersion by the child in the interest in which he is exceptional, which this teacher sees as one of the characteristics of the gifted.

As far as this interview on its own indicates his concept of giftedness could be summarized by the following comments. He states that in physical skills he would have no problem presumably in recognising giftedness, and he goes on to clarify this statement by referring to children who are clearly outstanding amongst their peers, particularly in the fields of sport and piano. A variety of indicators appeared to suggest that he was clear in his mind about physical skills, but felt the need, possibly anticipating what he considered the

interviewer wanted to hear, or what what was the norm for these interviews, to mention what he later described as formal school subjects. Notwithstanding the mention of creative writing it is interesting that the other field to be developed in the interview item was mathematics, especially in view of the other teacher respondent from this school citing a child as gifted in mathematics and creative writing, who was applauded on many occasions by the whole school for outstanding performance in these areas. One could interpret his mention of a child's own mathematics as the process by which a child arrives at the correct solution using his own methods of reasoning and calculation. He also indicates in his statement that performance is necessary for recognition but that such a child may not necessarily perform well in standardized tests. It may be of little significance but field notes reveal that he did mention his longstanding opposition to the use of standardized tests in the school, basing more confidence in the schools' own methods of assessment to categorize children.

Responses to the interview item inviting the description of children with whom the teacher has come into contact professionally produced a wider variety of approaches to the issue. They also contained further information on such aspects as social skills, home background and out of school activities compared with the descriptions of a hypothetical model of the gifted child. This additional information offered further supporting evidence for the teacher's construct of the characteristics of the gifted, notwithstanding that in the majority of cases the initial recognition of such gifts was based on performance and/or suspected potential within school activities. The following extract gives an example from a class teacher established by his headteacher as an ambitious and energetic exemplar of good professional practice,

"This chap was I think, mathematically, the brightest child I've met. He came to a reasoned conclusion of the value of pi after measuring

two circular objects with a piece of string and then made a graph. There were actually ten objects, and after two of them he said to me, his exact words were, "There's a relationship between this diameter and the circumference isn't there?" and I said how many have you done? and he said, "Well! Iv'e only done two but it looks as if to me it's going to be just over three". So he was incredibly bright. He would reason at something for a very long time if he didn't make a Gestalt jump, when he did it was blinding, and it would ruin perhaps a couple of weeks work that I had planned for him.... He again would question what I'd done... he would say to me, "Have I done this right?" when what he meant was have you done this right?...."

Obviously, before any conclusions can be drawn from this statement more background information is needed on both the child and the teacher. Such information was obtained through the interviews and is combined with the descriptions when discussing the data in chapter five of this study.

The comments above are intended to convey two significant considerations for the nature and analysis of the data. Firstly, that the richness and complexity of the responses are such that each item is capable of infinite dissection particularly in relation to the total context in which they were contributed, and as such the possibilities offered by the data cannot be exhausted in the confines of the present study. Secondly, that as complete an understanding of the teacher's concept of giftedness that can be based on the data assembled, must be based on each teacher's total number of responses rather than on individual items. However before such an overall picture is discussed, it is first necessary to attempt a relatively detailed analysis of each of the different kinds of data assembled.

2) The first and second sorting of the data

As a first step in such detailed analyses, the results to the requests for definitional responses to the flash card words 'gifted', 'talented', 'exceptional' and 'highly able' were examined for meaningful categories. The frequency of such responses is shown at a basic level on the first sorting of the interview data for each of the total responses made by the individual teacher. For the purposes of comment at this stage, examples of a first sorting for 45 teachers responses to the flash card words 'gifted', 'talented', and 'exceptional' are provided on Table VII on pages 132/133. The method used was to examine each tapescript, any relevant field notes, listen to the tape recording, and at sample intervals or in difficulty compare notes with a college colleague to establish a level of internal validation. This strategy of using referee agreement in an endeavour to establish consistency was applied to the formulation of each category and to the allocation of 25% of the responses to that category throughout the sorting procedure. As indicated, the response items, listed in the order in which they first occurred, were carefully formulated directly from the above information types. Care was taken, to avoid as far as it was possible, the influence of any pre-conceived notions or lists from the literature in determining the response items.

Even at this first examination of the data Table VII indicates some categories with a very high rate of mention, whilst others are noteworthy for the apparent contradiction by some individual teachers' responses to the different terms on the flash cards. An examination of the responses to the individual flash cards would seem to indicate the following:

(Table VII - Categories and frequency of occurrence yielded by the first sorting of responses to question six of the unstructured interview)

Interview item: Flash Cards - GIFTED: TALENTED: EXCEPTIONAL: (Similar data was also obtained for the flash cards HIGHLY ABLE: BRIGHT.)

[KEY: figures following the description of the response items indicate the index number of the tape which is also the teacher reference. The items were extracted direct from the tape responses and do not conform to any predetermined list. The order of the response items is as they occurred first on the tapes being examined.]

Method: Examination of tapescripts with cross reference to field notebook and internal validation reference where necessary.

(Number of tapescripts = 45. Tapes with no response to flash cards: No's. 25,10,9.)

" G I F T E D "	No. of responses
1.outstanding amongst peers 79,63,56,16,42,26,12,19,28.	[9]
2.positive attitude to learning 26,	[1]
3.particular ability or abilities 79,42,23,	[3]
4.maths, 79,52,20,29,18,	[5]
5.music,79,70,29,19,18,65,	[6]
6.chess 79,	[1]
7.creative writing 52,	[1]
8.creative 19,	[1]
9.independent learners 13,	[1]
10.can be poor performers academically 21,	[1]
11.unrealised potential 17,	[1]
12.exceptional,78,8,28,27,51,	[5]
13.outstanding ability in a particular area,(one area of the curriculum)78,75,72,67,57,59,51,15,37,21,29,30,11,13,	[14]
14.outstanding ability in several areas 53,32,26,12,28,27,	[6]
15.quick, intuitive thinking 38,	[1]
16.shown in use for recognition,78,32,14,	[3]
17.art,76,20,	[2]
18.physical education,75,	[1]
19.vague & unclear what is meant by gifted 73,57,15,20	[4]
20.high IQ 72	[1]
21.emotional & disturbed feelings, frustrated 72,	[1]
22.same as talented 70,50, 52,20,37,14,	[6]
23.same as exceptional 68,64,	[2]
24.exceptionally brilliant 67,18,	[2]
25.behaviour problems 56,	[1]
26.easily bored 56,	[1]
27.high concentration level 56,	[1]
28.scientific understanding 51,66,	[2]

(Table VII continued)

' T A L E N T E D '

1.outstanding ability/skill in a specific area 65,18,38,8,14, 12,11,30,23,21,17,26,42,32,37,16,15,51,52,53,50,56,64,66,67, 68,57,72,76,78,79, [31]
2.music 65,18,28,12,21,42,51,53,59,57,67,68,76,79, [14]
3.art 65,38,28,8,13,12,21,26,42,52,53,66,59,57,73, [15]
4.PE 65,18,8,26,16,53,64,66,59, [9]
5.maths 38,12,42,52,72, [5]
6.science 38,72, [2]
7.English 13,42,52,56, [4]
8.creative ability 38,28,56, [3]
9.as gifted 17,32,37,75, [4]
10.as exceptional 51,68, [2]
11.unrealised potential 27,30,29, [3]
12.same as but less than gifted 19, [1]
13.most children talented 11, [1]
14.vague and unclear what they mean by talented 20,51,63, [3]

" E X C E P T I O N A L "

1.rare phenomena 78,76,73,57,20,42,26,12,14,38,65, [11]
2.outstanding in one area 76,59,51,15,16,32, [6]
3.outstanding in many areas 79,70,66,52,20,37,21,23,29,12,14, 13,8,28,18, [15]
4.as gifted 68,59,64,50,8,38, [6]
5.as talented 14,13,19, [3]
6.as gifted and talented 30, [1]
7.as gifted but more 70,32, [2]
8.as gifted but less 72,67, [2]
9.as talented but more 70,67, [2]
10.as both but more 79, [1]
11.music 76, [1]
12.maths 76, [1]
13.English 75,56, [2]
14.indiviual item of work that is exceptional to the norm 17, [1]
15.all children at some time 11, [1]
16.exceptionally poor 65, [1]
17.vague and unclear what they mean by exceptional 63,53,38, [3]

a). Flash card responses to the word 'gifted' dominantly favour outstanding ability in a specific area as the most popular characteristic with 14 responses, followed by outstandingness amongst peers which rated nine responses, and further by outstanding ability in several areas including music each of which had six responses. Interestingly, these last two equate in popularity with those teachers who considered the word 'gifted' similar in meaning to 'talented'.

b). The responses to the word 'talented' indicate that 31 of the 45 teachers in the sample, which was the highest single category response frequency for any word on the flash cards i.e. 68%, consider outstanding ability/skill in a specific area to be the dominant characteristic of this category of child, especially in music and art which attracted 14 & 15 responses respectively. The most popular areas for this specific ability/skill are music and art followed by physical education and mathematics with a distinctly lower number of responses. Some element of overlap of definition could be interpreted from the six teachers whose definitional response to the word 'gifted' considered this characteristic to be the same as that described under the heading 'talented'. One teacher amongst the six confirms this by cross-reference to this synonymous relationship as part of their response to the word 'talented', whilst another member of the six was vague and unclear in what they meant by talented. Four of these six respondents considered talented to mean outstanding ability/skill in a specific area.

c). Although with 15 responses it is a lower single response frequency than the most popular categories on the other two flash cards included in this table, teachers appear to be in accord when considering 'exceptional' children as those who are outstanding in many rather than a single area. This is accompanied by six teachers who consider such children to be outstanding in one area. Some 11 teachers recognise it as a rare phenomenon. As this flash card word can, in common usage, be assigned to both ends of the performance/ potential continuum, it was anticipated that some respondents may wish to interpret it in a negative sense as the attribute of being

exceptionally poor, but in the event only one teacher out of 45 chose this option as part of his response.

Given that the first sorting of the data remained cautiously close to the respondent's wording when defining response-categories and assigning responses to them, it was necessary to examine the results of the first sorting with a view to re-grouping categories to form more economical classes of response. To ensure a measure of internal reliability in this operation 25% of the cases were independently agreed by an academic colleague. Nevertheless, even greater care was necessary in this procedure, with back-checks being made to the tapescripts, recordings and field notebook. The categories yielded by the second sorting of the data on Table VII are shown on Table VIII found on pages 136 to 138 inclusive. This table shows that the number of response categories has been considerably reduced to a level suited to more detailed treatment in the analysis. These response aspects were also used as the base data for the computer cluster analysis to be described later. The table also shows the percentage occurrence figures for these aspects, being the number of respondents mentioning a category, as a percentage of the total sample.

As was expected, some of the categories whose individual popularity is measured by the number of teachers mentioning the item in question, are similar to those identified in the first sorting. However this rationalization of the data has revealed some further noteworthy categories. A consideration at this stage of some aspects of the response patterns emerging from the data for all five flash cards as shown in Table VIII, are included in the following comments:

a). Responses to the word 'gifted' are varied, but there is some tendency towards outstanding ability in a specific area especially in relation to peers. These are mentioned by 40% and 33% of the

Table VIII: Response categories and percentage occurrence of flash card definitions; second sorting

[45 tapescripts]

"G I F T E D" Characteristics grouping list:-	% Occurrence
1.Outstanding ability in relation to peers	33.3
2.Outstanding ability in a specific area	40.0
3.Outstanding ability in many areas	13.3
4.Unrealised potential	4.4
5.High score on IQ tests	2.2
6.Personal characteristics - frustrated unconformist	4.4
7.Same as talented	13.3
8.Same as exceptional	6.7
9.Synonymous with other terms used on flash cards	33.3
10.Unable to define gifted	8.9
11.Potential & performance in mathematics	11.1
12.Potential & performance in music	13.3
13.Creative ability	6.6
[classteachers with no response to flash cards	6.6]

"T A L E N T E D "	
1.outstanding ability/skill in a specific area	68.8
2.music	31.1
3.art	33.3
4.PE	20.0
5.maths	11.1
6.science	4.4
7.English	8.8
8.creative ability	6.6
9.as gifted	11.1
10.as exceptional	4.4
11.vague and unclear what they mean by talented	6.6

(Table VIII continued)

" E X C E P T I O N A L "	
1.rare phenomena	24.4
2.outstanding in one area	13.3
3.outstanding in many areas	33.3
4.as gifted	22.1
5.as talented	11.1
6.music	2.2
7.maths	2.2
8.English	4.4
9.vague and unclear what they mean by exceptional	6.6

" H I G H L Y A B L E "	
1.high attainment in class	15.5
2.as gifted but not quite	11.1
3.as bright	4.4
4.as exceptional	2.2
5.less than exceptional	11.1
6.as talented	2.2
7.less than talented	4.4
8.high ability in many areas	22.1
9.high intelligence	2.2
10.vague and unclear what they meant by highly able	6.6

(Table VIII: continued)

" B R I G H T "	
1.academically gifted	2.2
2.works hard and succeeds in most things	28.8
3.less than exceptional	6.6
4.less than talented	8.8
5.less than gifted	8.8
6.quick thinking	8.8
7.relates to a particular subject	6.6
8.relates to attainment	22.2
9.above average	17.7
10.relates to academic subjects	13.3
11.did not answer the question	4.4
(Personal characteristics mentioned when describing this term.)	
12.manner as well as ability and achievement	4.4
13.attitude towards life	4.4
14.curiosity	4.4
15.bright personality	2.2
16.happy and popular	4.4
17.uses imagination	4.4

teachers respectively. To this is added the 33% of teachers who considered the word 'gifted' synonymous with the other terms used on the flash cards. It was indicated in comments on the first sorting of the data that teachers considered the areas in which 'talented' children were likely to be outstanding were art followed closely by music and then by physical education and mathematics, with science being the least likely area. On Table VIII teachers' responses to 'gifted' would seem to indicate with a lower number of responses than 'talented' for named areas in which children were likely to display their outstandingness, that music followed by mathematics are the areas for this flash card word.

b). Although referred to in the comments made on the first sorting, the overwhelming use of the attribute outstanding ability/skill in a specific area to be included in a description of the characteristics of a talented child seems to be shown more clearly in Table VIII especially its contrast to the outstandingness in many areas preferred by teachers when describing exceptional children. There appears to be some inconsistency between teachers responses to the different words on the flash cards. An example of this is the responses to the words 'gifted', 'exceptional' and 'talented'. Of the total sample of teachers 22% said that they considered the term 'exceptional' to be the same as 'gifted' whilst only 6% of the teachers indicated that they considered the reverse to be true. This situation is further complicated by the contention by 40% of the teachers that outstanding ability/skill in a specific area is a common characteristic of the gifted, whilst only 13% said this was true for the exceptional child. Similarly, 11% of the teachers describing their understanding of the word 'exceptional' considered it to be the same as 'talented', whilst only 4% of the total sample considered the reverse to be true.

c). The additional results shown in the Table for the words 'highly able' and 'bright' seem to reveal some noteworthy points of comparison. The greatest number of responses for the 'highly able' flash card (22%),

as with 'exceptional', favoured high ability in many areas as a main characteristic of this group of children, but tended to link it at a lower level of responses with high attainment in class. It was also considered by 22% of the sample to be an attribute that was less than 'gifted' or 'exceptional' whilst still fewer teachers thought it less than 'talented'. 'Bright' is a word which 28% of the teachers in the sample said was typified by children who worked hard and succeeded in most things, smaller numbers of respondents suggested that the above average ability in such children was related to their attainment in academic subjects. Some considered this attribute to be at a lower level than the other words used on the flash cards. Unfortunately they did not define what they meant by 'lower level'. In responses to other elements of both interviews teachers indicated that they would expect a higher proportion of 'bright' children to be in the classes they taught than children of any other group indicated on the other flash cards.

3) Cluster analysis

Although rates of mention of particular definitional aspects and of broader groupings of such attributes conveys important trends in the responses, the latter typically contained more than one such feature. A technique was therefore required which would yield an analysis in terms of sets of similar groups of features offered as definitional responses to each of the flash card terms. Such techniques are those of cluster analysis (cf.Everitt 1980), which has been extensively used in various areas where multiple attribute taxonomies are required, including in recent years the classification of teaching styles on an empirical basis (cf.Bennett 1976; and Galton & Simon in 1980). Given the complexity of such analyses, the availability of responses to a variety of specific items and the need to limit the scope and length of this thesis, it was decided to use cluster analyses on the data sets indicated in Table IX on page 141, which diagram for the sake of clarity also attempts to place each data

Table IX: Data sets subjected to cluster analysis

[ ] = Number of teachers responding to this item.

I - Data based on responses to the concept 'Giftedness'

1. Characteristics of an ABSTRACT example given by teachers [23]
   (Question: "If you were asked to choose a gifted child in this or any other school, what characteristics would you look for?")

   a).Boys — c).Boys & Girls combined — b).Girls

2. Characteristics of a direct EXPERIENCE example given by teachers [23]
   (Question: "Would you care to describe the characteristics of a gifted boy/girl that you have ever taught or known personally?")

   a).Boys — c).Boys & Girls combined — b).Girls

3. Understanding of word 'gifted' in comparison with similar terms on FLASH CARDS [45]
   (Question: "Would you care to examine the five flash cards and using any order you wish describe as fully as possible the meaning you would attach to the word on each one?")

4. Analysis of 1 - 3 inclusive [23]

II - Data based on responses to the concept 'Brightness'

5. Characteristics of an ABSTRACT example given by teachers [22]

   a).Boys — c).Boys & Girls combined — b).Girls

6. Characteristics of a direct EXPERIENCE example given by teachers [22]

   a).Boys — c).Boys & Girls combined — b).Girls

category in the wider context of the entire responses from the unstructured interview.

Although the SPSSx computer software package yields heirarchical cluster analysis dendrograms it does not provide the cluster characteristics essential to the present study. The data were therefore processed by the use of the CLUSTAN 2 software package installed on the Leeds University Amdahl mainframe computer. Within the options offered by this package Ward's method was considered the most suitable in that, as Everitt (1980) states,

> Ward (1963) proposes that at any stage of an analysis the loss of information which results from the grouping of individuals into clusters can be measured by the total sum of squared deviations of every point from the mean of the cluster to which it belongs. At each step in the analysis, union of every possible pair of clusters is considered and the two clusters whose fusion results in the minimum increase in the error of squares are combined.

In other words, this technique compares all the respondents' profiles and forms the two most similar into a cluster. It then repeats the process, entering the cluster profile as an 'individual'. It carries on in this way until all respondents have been conjoined into a cluster at the same level. The height at which a pair of respondents (or clusters) is fused corresponds to their degree of dissimilarity, so that all respondents end up in one super-cluster at the highest level of their dissimilarity. Conversely in dendrograms such as that shown as Figure 6 on page 145, the lower the point at which two branches join (fuse), the more similar the individuals (or clusters) on the end of their branches. Thus a set of relatively long branches tends to indicate a set of clusters of respondents which are similar within such clusters, but dissimilar between them, i.e. a relatively clear typology of profiles - in the present case made up of

varying aspects mentioned in response definitions. Which aspects characterize which cluster is also supplied by the CLUSTAN 2 software package.

The printout of the coefficient of dissimilarity was used to identify cluster solutions on the dendrograms, an example of which for flash card responses to the word 'gifted' is shown as Figure 6 on page 145. Dendrograms were produced for each of the data sets shown under b) on Table X page 144, which also under a) itemises the types of output data resulting from the computer analysis. Figure 6 shows that the 23 teachers' responses to the flash cards can be divided into four separate groups at the dissimilarity level of 0.569. Conversely this means that at this level teachers number 37, 50, 70, and 52 have a commonality in their responses to this interview item. This provides the initial indicator suggesting a closer examination of the key words and phrases they used, and the general tenor of their responses on the tape recordings. The same procedure was adopted for the other dendrograms produced from the processing of the data sets on Table X page 144. As mentioned and can be seen from Figure 6 that the nearer that zero is approached on the vertical scale the closer the proximity to a point where there is zero dissimilarity, which means that there is total similarity between each teacher in the cluster. The higher the numerical level on the y axis the nearer to the point where all teachers in the sample can be counted together. Given the relative length of branch criterion mentioned earlier, in the specific example given in Figure 6, the four cluster solution is deemed to merit further investigation.

The nature of the individual clusters of teachers in relation to the total sample may be determined from the binary frequencies ratio as a product of the cluster analysis. The order in which characteristics occur in the list produced in each cluster presented in the tables has been based on this metric. An example of this distribution is shown on Table XI on pages 147/148 and applies to the four cluster solution indicated on the dendrogram Figure 6 page 145.

(Table X - Output data & data sets processed on CLUSTAN 2)

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a) Output data

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1) Binary coefficient - Ward's method - output classifications

2) Dendrograms for each data category below in (b)

3) Binary variable frequencies per cluster

4) Percentage occurrence of binary variables per cluster

5) k linkage lists (nearest neighbours)

6) Binary frequencies ratio [% occurrence in cluster / % occurrence overall]

b) Data sets processed:

A Gifted: flash cards [45 cases]

B Gifted: abstract [23 cases]

C Gifted: experience - boys [22 cases]

D Gifted: experience - girls [23 cases]

E Gifted: experience - boys & girls combined [23 cases]

F Gifted: flash cards & abstract. [23 cases]

G Gifted: flash cards, abstract & experience [23 cases]

H Bright: experience - girls [22 cases]

I Bright: experience - boys [22 cases]

J Bright: experience - boys & girls combined [23 cases]

K Bright: abstract [23 cases]

Figure 8 : Dendrogram: 23 teachers' descriptions of meaning of the word gifted when presented with FLASH CARDS containing this and similar terms.

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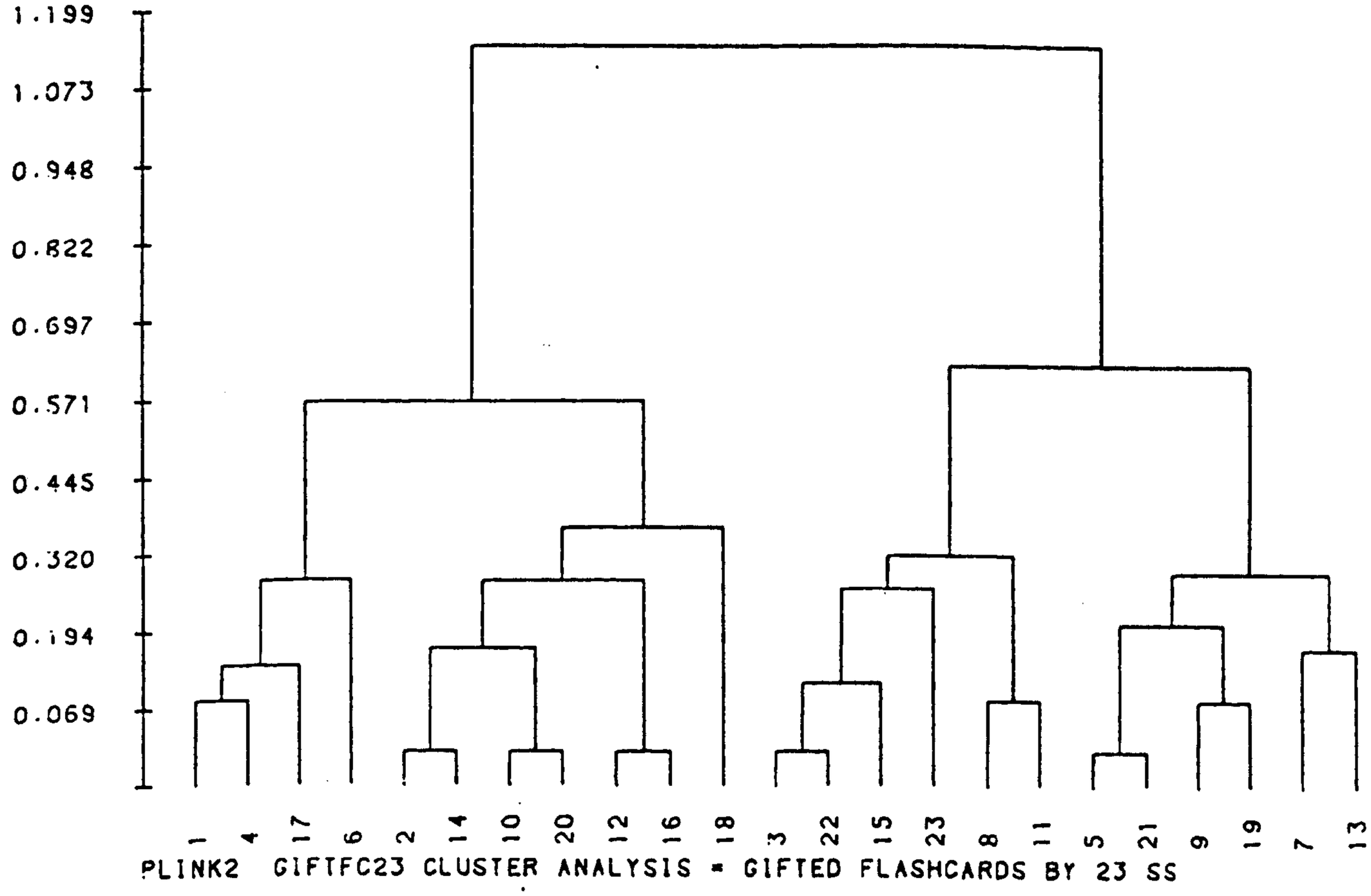
x axis = Teacher respondents to the unstructured interview.
y axis = Coefficient of dissimiliarity. (based on Euclidean ²)



(Four cluster solution joining at coefficient level 0.569:)

Cluster 1 = Case no. on diagram: 1 4 17 6
Teacher Nos. 37; 50; 70; 52:

Cluster 2 = Case no. on diagram: 2 14 10 20 12 16 18
Teacher Nos. 38; 66; 59; 75; 64; 68; 72:

Cluster 3 = Case no. on diagram: 3 22 15 23 8 11
Teacher Nos. 42; 78; 67; 79; 56; 63:

Cluster 4 = Case no. on diagram: 5 21 9 19 7 13
Teacher Nos. 51; 76; 57; 73; 53; 65:

The ratio is the percentage occurrence in the cluster against the percentage occurrence overall; by application, if teachers' attribute for giftedness number 18 bracketed on the Table is taken as an example, its figure of 5.75 indicates that the attribute in question occurs with that level of increased frequency in that cluster against its occurrence in all the clusters, from which one could conclude something from its relative prominence as a characteristic of giftedness to the teachers within that cluster. A ratio of 1.1 occurring in a cluster simply indicates that the chances of that attribute occurring in other clusters in the sample is virtually equal, so that attribute does not differentiate that cluster. Conversely, a ratio of less than 1 indicates that the cluster in question is characterised by an absence of that characteristic compared to its general occurrence across all teachers. When reading the cluster analysis results from Table XI pp 147/148 it should be realised that attributes one to eleven relate to teacher gender plus other background details relating to the classteacher sample, whilst 12 to 23 refer to characteristics of giftedness proposed by the entire sample of the teachers. Needless to say only 12 to 23 were used as a basis for clustering.

An additional feature of this type of analysis is the percentage occurrence of binary variables within each cluster such as that produced from the flash card responses to the word 'gifted'. This percentage indicates the total number of times each of the individual attributes are mentioned in the total interview responses as a proportion of the total number of times that all the attributes are mentioned. Such a metric does not identify individual teachers within a cluster nor allow conclusions to be drawn on the way in which they as groups perceive giftedness in children. It does however have some value in giving an indication of the relative frequency with which the individual attributes of giftedness are mentioned by the entire sample of teachers within the cluster in question.

Table XI - 23 Teachers' flash card responses to the word 'gifted':
An example of statistical tables from CLUSTAN 2

CLUSTER 1 NUMBER OF CASES = 4

CASE NUMBERS
1 4 6 17

BINARY VARIABLE FREQUENCIES

2	2	0	2	1	3	0	0	0	0	0	0	1	0	0	0	0	4	0	3
0	1	1																	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

18	100.0	6	75.0	20	75.0	1	50.0	2	50.0	4	50.0	5	25.0	23	25.0	13	25.0	22	25.0
17	0.0	10	0.0	9	0.0	16	0.0	8	0.0	7	0.0	19	0.0	3	0.0	21	0.0	14	0.0
15	0.0	11	0.0	12	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

(18	5.75)	4	2.88	22	2.88	23	1.92	20	1.57	6	1.44	1	0.77	2	0.64	13	0.52	5	0.52
16	0.00	3	0.00	21	0.00	9	0.00	17	0.00	8	0.00	19	0.00	7	0.00	14	0.00	10	0.00
15	0.00	11	0.00	12	0.00														

CLUSTER 2 NUMBER OF CASES = 7

CASE NUMBERS
2 10 12 14 16 18 20

BINARY VARIABLE FREQUENCIES

5	6	0	1	3	4	0	0	0	0	0	0	3	0	0	1	1	0	2	7
0	0	0																	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

20	100.0	2	85.7	1	71.4	6	57.1	5	42.9	13	42.9	19	28.6	4	14.3	17	14.3	16	14.3
22	0.0	14	0.0	15	0.0	7	0.0	18	0.0	8	0.0	3	0.0	9	0.0	21	0.0	10	0.0
23	0.0	11	0.0	12	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

19	3.29	16	3.29	20	2.09	17	1.64	6	1.10	2	1.10	1	1.10	5	0.90	13	0.90	4	0.82
8	0.00	14	0.00	3	0.00	15	0.00	7	0.00	22	0.00	18	0.00	9	0.00	21	0.00	10	0.00
23	0.00	11	0.00	12	0.00														

Table XI - 23 Teachers' flash card responses to the word 'gifted': An example of statistical tables from CLUSTAN 2 (Cont'd)

CLUSTER 3 NUMBER OF CASES = 6

CASE NUMBERS
3 8 11 15 22 23

BINARY VARIABLE FREQUENCIES

4 6 0 0 4 2 0 0 0 0 0 6 4 0 0 0 1 0 0 1
0 1 1

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	100.0	12	100.0	13	66.7	5	66.7	1	66.7	6	33.3	23	16.7	20	16.7	22	16.7	17	16.7
11	0.0	21	0.0	15	0.0	16	0.0	10	0.0	18	0.0	9	0.0	19	0.0	7	0.0	8	0.0
14	0.0	4	0.0	3	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

12	3.83	22	1.92	17	1.92	~~5~~	1.39	13	1.39	23	1.28	~~2~~	1.28	~~1~~	1.02	~~6~~	0.64	20	0.35
18	0.00	4	0.00	11	0.00	10	0.00	9	0.00	8	0.00	19	0.00	7	0.00	21	0.00	14	0.00
3	0.00	15	0.00	16	0.00														

CLUSTER 4 NUMBER OF CASES = 6

CASE NUMBERS
5 7 9 13 19 21

BINARY VARIABLE FREQUENCIES

4 4 1 1 ~~2~~ 3 0 0 0 0 0 0 3 1 0 0 0 0 0 0
2 0 1

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	66.7	1	66.7	13	50.0	5	50.0	6	50.0	21	33.3	3	16.7	4	16.7	23	16.7	14	16.7
16	0.0	18	0.0	22	0.0	9	0.0	17	0.0	8	0.0	19	0.0	20	0.0	7	0.0	10	0.0
15	0.0	11	0.0	12	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

~~3~~	3.83	14	3.83	21	3.83	23	1.28	13	1.05	~~5~~	1.05	~~1~~	1.02	~~4~~	0.96	~~6~~	0.96	~~2~~	0.85
16	0.00	18	0.00	22	0.00	8	0.00	17	0.00	10	0.00	19	0.00	20	0.00	9	0.00	7	0.00
15	0.00	11	0.00	12	0.00														

For diagnosis of the teachers' views of giftedness in primary schoolchildren these binary frequencies ratios and percentage occurrence of binary variables per cluster produced by the cluster analysis have been separated into data sets for FLASH CARDS, ABSTRACT, and EXPERIENCE. In addition, the description of the attributes to which each ratio refers has been included, together with the relevant dendrogram and are examined cluster by cluster as follows:-

FLASH CARDS - (Teachers' responses to the word 'gifted'.)

---------- [See dendrogram Figure 6 on page 145, Table XI on page 147/148 and Table XII on page 150]

Cluster 1:

These teachers all seem to consider giftedness the same as being talented, not only because of its 100% mention as shown by the percentage occurrence in cluster statistic, but also to the significance that can be attached to its high potential for mention in relation to the other three clusters as indicated by the binary frequencies ratio of 5.75. Such close similarity between the two characteristics in question is thereby placed at the head of their list of attributes. This standpoint would seem confirmed by the level of prominence they give to high levels of potential and performance in mathematics and music, including the choice of outstanding ability in a specific area at a level just below the average for the total data set. There would seem to be some disparity in their view when one takes into consideration the insistence by each teacher in this cluster in response to the word 'talented' on the flash cards, that the prime indicator in recognition of this concept is outstanding potential and performance in one area of expertise. Some difficulty in being precise in their definition of giftedness would seem to be indicated in the item, 'synonymous with other terms used on the flash cards' which is a response of three of the four members of this cluster, at a level which in its frequency ratio is half as likely again to occur in this cluster than in the other clusters.

Table XII - (GIFTFC23) - Flash card responses to 'gifted'.

Cluster analysis: BFR = Binary frequecies ratio (%occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 6 page 145
see computer printout Table XI pp 147/148]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)

BFR	POC	SN	Attribute
CLUSTER 1 - Cases (Teachers): 1,4,17,6.			
5.75	100	7	Same as talented.
2.88	25	11	Potential & performance in mathematics.
1.92	25	12	Potential & performance in music.
1.57	75	9	Synonymous with other terms on the flash cards.
0.52	25	2	Outstanding ability in a specific area.
CLUSTER 2 - Cases (Teachers): 2,10,12,14,16,18,20.			
3.29	28.6	8	Same as exceptional
3.29	14.3	5	High score on IQ tests.
2.09	100	9	Synonymous with other terms used on the flash cards.
1.64	14.3	6	Personal characteristics - frustrated nonconformist.
0.90	42.9	2	Outstanding ability in a specific area.
CLUSTER 3 - Cases (Teachers): 3,8,11,15,22,23.			
3.83	100	1	Outstanding ability in relation to peers.
1.92	16.7	11	Potential & performance in mathematics.
1.92	16.7	6	Personal characteristics - frustrated nonconformist.
1.39	66.7	2	Outstanding ability in a specific area.
1.28	16.7	12	Potential & performance in music.
0.35	16.7	9	Synonymous with other terms on the flash cards.
CLUSTER 4 - Cases (Teachers): 5,7,9,13,19,21.			
3.83	16.7	3	Outstanding ability in several areas.
3.83	33.3	10	Unable to define 'gifted'.
1.28	16.7	12	Potential & performance in music.
1.05	50	2	Outstanding ability in a specific area.

Teacher background for each cluster was examined to see whether any pattern emerged which could be related to their responses, however the summary below for cluster 1 does not seem to produce any significant relationship:

[For key and further detail see Table VI page 120/121]

Teacher	Sex	Training	Experience	School
1 (37)	m	2=1yrs sec. DipEd.	17yrs	Pri/Rur
4 (50)	f	3yrs jun. CertEd.	7yrs	Jun/Urb
17 (70)	m	3+yrs jun. BA/PGC.	3yrs	Jun/Rur
6 (52)	f	3yrs jun. CertEd.	20yrs	Pri/Rur

It can be seen that they differ as a group on every dimension indicated which if it proves to be a trend for the entire sample would have significance for interpretation of teachers views of giftedness as a whole, which will be discussed in chapter five.

Cluster 2:

Given the increased number of cluster members in this group over that of cluster 1, the binary frequency ratio would indicate that the two leading items are at a similar level of popularity to item one in that cluster. These teachers tend to consider exceptionality as an indicator or definitional aspect of giftedness, and this would seem to be confirmed by five members of the group in their response to the word 'exceptional' on the flash cards, which they considered to be similar to the word 'gifted'. Further support for this viewpoint is their inclusion of outstanding ability in a specific area at a level of prominence just below average for all the clusters. However, their concept does not seem sufficiently positive to avoid the need to indicate its synonymity with the other four terms on the flash cards, which included 'talented', 'highly able' and 'bright', and at a level which indicates that it is twice as important to this cluster than to the other clusters, especially as it is mentioned by every member of this

cluster. The item which does not immediately seem to fit this pattern is the need for high scores on IQ tests at a ratio 3.29:1 for this cluster in comparison with the other clusters. It is the only cluster in which this item occurs and its relationship to the data as a whole has already been discussed in the early part of this chapter. The group seem to indicate that such exceptionality in a child could be accompanied by their frustrated nonconformity. Outstanding ability in a specific area is included by the respondents in each cluster, with 42.9% of the members of this cluster including this attribute of giftedness.

A similar examination for the possible influence of teacher background upon the responses was conducted for the members of this cluster, and as for the previous cluster no apparent pattern seemed to be indicated:

[For key and further detail see Table VI page 120/121]

Teacher	Sex	Training			Experience	School
2 (38)	f	3yrs	jun	CertEd.	15yrs.	Jun/Urb.
10 (66)	m	3yrs	jun	Cert/DpMaths.	14yrs.	Jun/Urb.
12 (59)	f	3yrs	sec	CertEd.	16yrs.	Pri/Rur.
14 (75)	f	4yrs	pri	BEd.	3yrs.	Jun/Rur.
16 (64)	m	4yrs	pri	BEd.	6yrs.	Jun/Rur.
18 (68)	f	3yrs	j/m	BEd.	5yrs.	Jun/Rur.
20 (72)	f	2yrs	j/s	CertEd.	18yrs.	Jun/Rur.

Again, there seems to be no commonality between these teachers as a cluster on any parameter, not even the current schools as no two work together in the same school.

Cluster 3:

This group of teachers seem to occupy more certain ground for their view of giftedness when responding to the word 'gifted' in comparison with similar terms on the flash cards by relegating mention of its synonymity with other labels to a low level of comparative frequency at 0,35, it being mentioned by only one member of this cluster. Outstanding ability in relation to peers in comparison to the level of frequency with which the other items on the list of attributes are mentioned establishes its centrality amongst them, being a response of every member of the cluster. This appears to hold not only in relation to cluster 3 but to all the other clusters especially as it relates to a specific area such as mathematics. Mathematics as a specific area of potential and performance occurs in two of the clusters, taking a lower prominence in the cluster in question. Potential & performance in music is mentioned in three of the clusters and seems to be of equal prominence in each. This group of teachers also expect such outstanding ability to be accompanied by frustrated nonconformity.

Teacher background in this cluster seemed to produce no evidence of possible influence on the responses analysed:

[For key and further detail see Table VI page 120/121]

Teacher	Sex	Training	Experience	School
3 (42)	f	2+yrs jun Cert/DpMan.	22yrs.	Jun/Urb.
8 (78)	m	3yrs pri CertEd.	14yrs.	Jun/Rur.
11 (67)	f	3+yrs jun Cert/BEd.	10yrs.	Jun/Urb.
15 (79)	m	2yrs pri CertEd.	25yrs.	Jun/Rur.
22 (56)	f	3yrs jun CertEd.	20yrs.	Jun/Urb.
23 (63)	f	3yrs mid CertEd.	12yrs.	Jun/Urb.

Apart from all the teachers teaching in junior schools and that they were all certificated as professionals, there seems to be little other commonality between them that one could identify as distinguishing features of the cluster.

Cluster 4:

This cluster contains the same number of teachers as the previous cluster and therefore is more directly comparable in ratio levels of importance. It is however the cluster with the greatest apparent dichotomy, considering giftedness in primary schoolchildren to be exemplified by outstanding ability in several areas at a level of 3.83. This is a very distinctive feature as would be the inclusion of potential and performance in music together with the possibility of outstanding ability in a specific area, until at the same high level of 3.83 this group stresses its inability to define gifted. As each of the same teachers went on to positively define the other terms on the flash cards and describe a hypothetical model of giftedness and give examples of such children in the other data sets, such evidence would suggest that they did possess such a concept. Some light could be thrown onto this apparent dilemma by the assertion given by five of the six teachers in response to ABSTRACT section of the interview, that giftedness was in level of potential and performance something higher than any of the other terms. In each of the previous clusters there has been one attribute that has been mentioned by each teacher in the group, in this cluster the highest level of unanimity is 50% for outstanding ability in a specific area.

This final cluster of teachers seems to continue the trend found in the other clusters, of no apparent evidence for the background of the teacher cluster appearing to influence the response ratios:

[For key and further detail see Table VI page 120/121]

Teacher	Sex	Training			Experience	School
5 (51)	f	4yrs	mid	BEd.	4yrs.	Mid/Urb.
7 (76)	f	3yrs	p/m	CertEd.	12yrs.	Jun/Rur.
9 (57)	m	3yrs	jun	CertEd.	16yrs.	Jun/Urb.
13 (73)	f	3yrs	pri	CertEd.	21yrs.	Jun/Rur.
19 (53)	f	4yrs	inf	BEd.	3yrs.	Pri/Rur.
21 (65)	m	4yrs	pri	BEd.	14yrs.	Jun/Urb.

Having compared the teachers within the groups without being able to establish evidence for group identity patterns based on teachers' background the same result was also apparent when looking at the membership of the groups in combination. No evidence seems to be apparent to establish that a particular type of teacher is a member of a specific group reflecting that typology.

ABSTRACT - (Teachers' responses to the invitation to describe the characteristics that they would look for in a 'gifted' child.)

[See dendrogram Figure 7 on page 156, Table XIII on page 157]

This data set is based on teachers responses to the element of the first interview which invited them to outline the characteristics they would expect to be present in a gifted child. On the dendrogram clusters 1 and 4 have the most internal similarity. Cluster 2 has two distinct sub-clusters within it, which would seem to suggest using the six cluster solution to separate them into full clusters, however on examining the binary frequencies ratios one of the sub-clusters with cases 15,17, & 23 is distinguished by its dearth of information only two characteristics being included and both of these at a level

Figure 9 : Dendrogram: 23 teachers' described characteristics of their abstract model of a gifted child.

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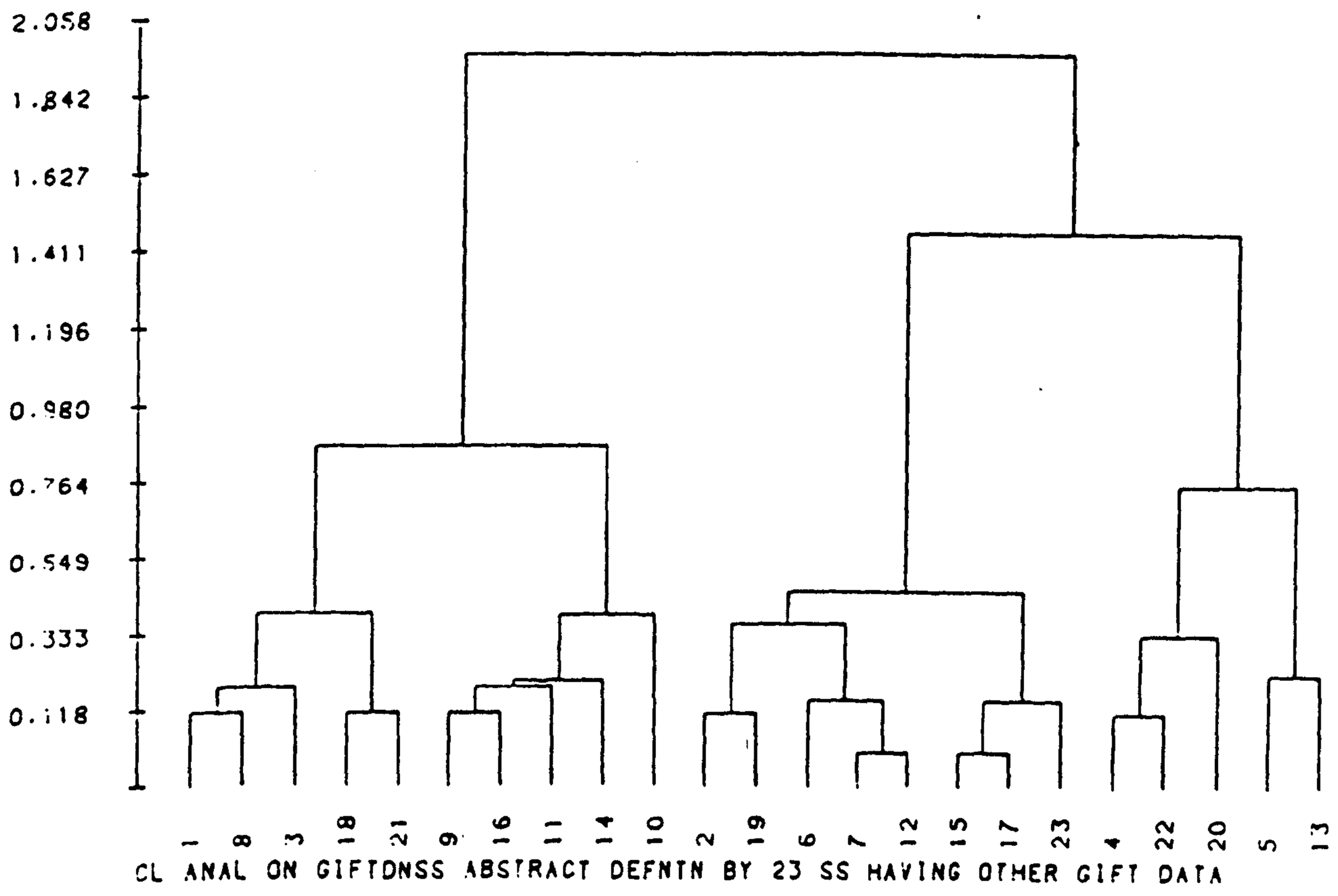
x axis = Teacher respondents to the unstructured interview.
y axis = Coefficients of dissimilarity. (based on Euclidean²)



(Four cluster solution joining at coefficient level 0.756:)

Cluster 1 = Case No. on diagram: 1 3 8 18 21
Teacher Nos. 37 42 56 72 76

Cluster 2 = Case No. on diagram: 2 6 7 12 15 17 19 23
Teacher Nos. 38 52 53 64 67 70 73 79

Cluster 3 = Case No. on diagram: 4 5 13 20 22
Teacher Nos. 50 51 65 75 78

Cluster 4 = Case No. on diagram: 9 10 11 14 16
Teacher Nos. 57 59 63 66 68

Table XIII - (GIFTAB) - Interview responses based on teachers' abstract notion of giftedness

Cluster analysis: BFR = Binary frequecies ratio (%occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 7 page 156
see computer printout Appendix II(a)]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)

BFR	POC	SN	Attribute
CLUSTER 1 - Cases (Teachers): 1,3,8,18,21.			
2.87	100	3	Curiosity, originality, creativity.
2.04	80	8	Personal characteristics - bored & frustrated.
1.53	80	4	Learns quickly with confidence.
1.53	80	2	Outstanding ability in several areas.
1.15	40	1	Outstanding ability in a specific area.
CLUSTER 2 - Cases (Teachers): 2,6,7,12,15,17,19,23.			
1.72	37.5	9	Personal characteristics - independent.
1.20	62.5	4	Learns quickly and with confidence.
0.96	12.5	7	Depth of understanding.
0.36	12.5	3	Curiosity, originality, creativity.
CLUSTER 3 - Cases (Teachers): 4,5,13,20,22.			
4.60	100	5	High attainment.
3.07	40	7	Depth of understanding.
1.15	60	2	Outstanding ability in several areas.
1.15	40	3	Curiosity, originality, creativity.
1.02	40	8	Personal characteristics - bored & frustrated.
0.92	20	9	Personal characteristics - independent.
0.57	20	1	Outstanding ability in a specific area.
CLUSTER 4 - Cases (Teachers): 9,10,11,14,16.			
4.60	20	6	High test scores on basic skills.
2.87	100	1	Outstanding ability in a specific area.
1.92	100	2	Outstanding ability in several areas.
1.93	60	8	Personal characteristics - bored & frustrated.
1.15	60	4	Learns quickly with confidence.
0.92	20	9	Personal characteristics - independent.

below the average for all the clusters. The four cluster solution was therefore deemed more appropriate for the analysis in question.

Cluster 1:

This cluster of teachers consider curiosity, originality and creativity to be a predominant attribute of giftedness in children, their distinctiveness on this being measured by the ratio of 2.87:1 in comparison with the rest of the clusters in this data set. The fact that each teacher in the cluster mentioned this item would seem to add significance to its place at the top of their list, which is compiled in order of binary frequency ratios. In their view such a child is likely to be outstanding in one or more areas, learns quickly and with confidence, is curious, original and creative, but does have a tendency to get bored and frustrated. None of the attributes mentioned are below average in binary frequency ratios for the clusters as a whole. This group also seems to display more unanimity in its views than the other clusters as indicated by the percentage occurrence in cluster results with a POC of not less than 40%. An examination in these clusters of teacher background, similar to that of the FLASH CARDS analysis revealed no evidence of any significant pattern that could typify that cluster and may thereby be significant in relation to the resultant pattern of responses. This examination also revealed that no two teachers in any cluster served in the same school and therefore the ethos or philosophy of such a school could not have influenced them to produce a similar response pattern.

Cluster 2:

For a larger group of teachers than in cluster 1 the four attributes mentioned in this cluster do not appear to indicate a strong commitment to any of them especially those below binary frequency ratio average for the clusters as a whole. Five of the eight teachers in the group seem to favour a child who confidently learns quickly as a characteristic of giftedness. Three of these respondents coupled this with independence as a personal characteristic. One person only

mentioned each of the two attributes, depth of understanding and curiosity, originality, creativity, this last item scoring the lowest binary frequency ratio for any of the clusters.

Cluster 3:

Cluster 1,3, & 4 are more directly comparable in the ratio levels indicated because they share the same number of teachers in each cluster. Bearing this in mind a ratio of 4.60:1 for the attribute high attainment which was also mentioned by everyone in this cluster indicates its level of popularity with this group of teachers in relation to the other clusters, along with the attribute of high test scores on basic skills in cluster 4, it shares the highest ratio of any of the cluster attributes. This level is much higher than the ratio of 2.87:1 given to the attribute curiosity, originality and creativity which headed the teachers' list in cluster 1. High attainment is accompanied by depth of understanding also at a high level of importance. These teachers expect to see outstanding ability in several areas typified through curiosity, originality and creativity, but not as important as the first two attributes. They expect such a child to be independent, accompanied by a tendency to become bored and frustrated.

Cluster 4:

This cluster of teachers expect such children to have the same level of independence as teachers in cluster 3. High test scores on basic skills is set at a very high ratio indicating its uniqueness amongst these teachers as an indicator of giftedness in children as compared to the other clusters. Of perhaps more significance is the linking it with outstanding ability in one or several areas. As distinct from the other clusters the view of the teachers in this group seems unanimous that both types of outstandingness should be included when considering gifted children. They also seem to expect such children to become bored and frustrated, but learning quickly and with confidence, displaying a measure of independence. It is interesting

that this cluster does not couple high attainment with depth of understanding, a fact that will be further considered in chapter five.

EXPERIENCE

---------- [See dendrogram Figure 8 on page 161, Table XIV on page 162 to 163]

This data set is based on teachers' responses to the element in interview one which invited them to describe the characteristics of gifted boys and girls that they had taught or known. In consequence extra-curricular interests, popularity and level of home support are added to the data items provided by the same respondents when responding to the words on the FLASH CARDS and describing their ABSTRACT model of the same type of children. The dendrogram and table indicated combine the responses for both boys and girls. On the dendrogram using the four cluster solution at coefficient level of 0.499, cluster 1 is the most complex in its structure, which is reflected in the responses shown on the binary frequencies ratios. Clusters 3 & 4 are somewhat unusual in their levels of dissimilarity. This is particularly true of cluster four which only possesses two members and merges with cluster 3 at a comparatively high level of dissimilarity. Cluster 2 has two distinct sub-clusters, but as in the case of the ABSTRACT data set there is a similar justification for choosing the four cluster solution for this data set. In every cluster music and mathematics is mentioned which would seem to be a point of some significance which is further considered in chapter five.

Within the total group of 23 teachers, 19 boys were given as examples compared with 12 girls. These descriptions as distinct from the responses in the two previous data sets are of real children and therefore will in some respects be unique to the individual being described. Some teachers despite their definition given earlier felt they had never come into contact with such children. Others were a little more controversial in their statements, for example teacher 72

Figure 10 : Dendrogram: 23 teachers described characteristics of gifted boys & girls that they have encountered.

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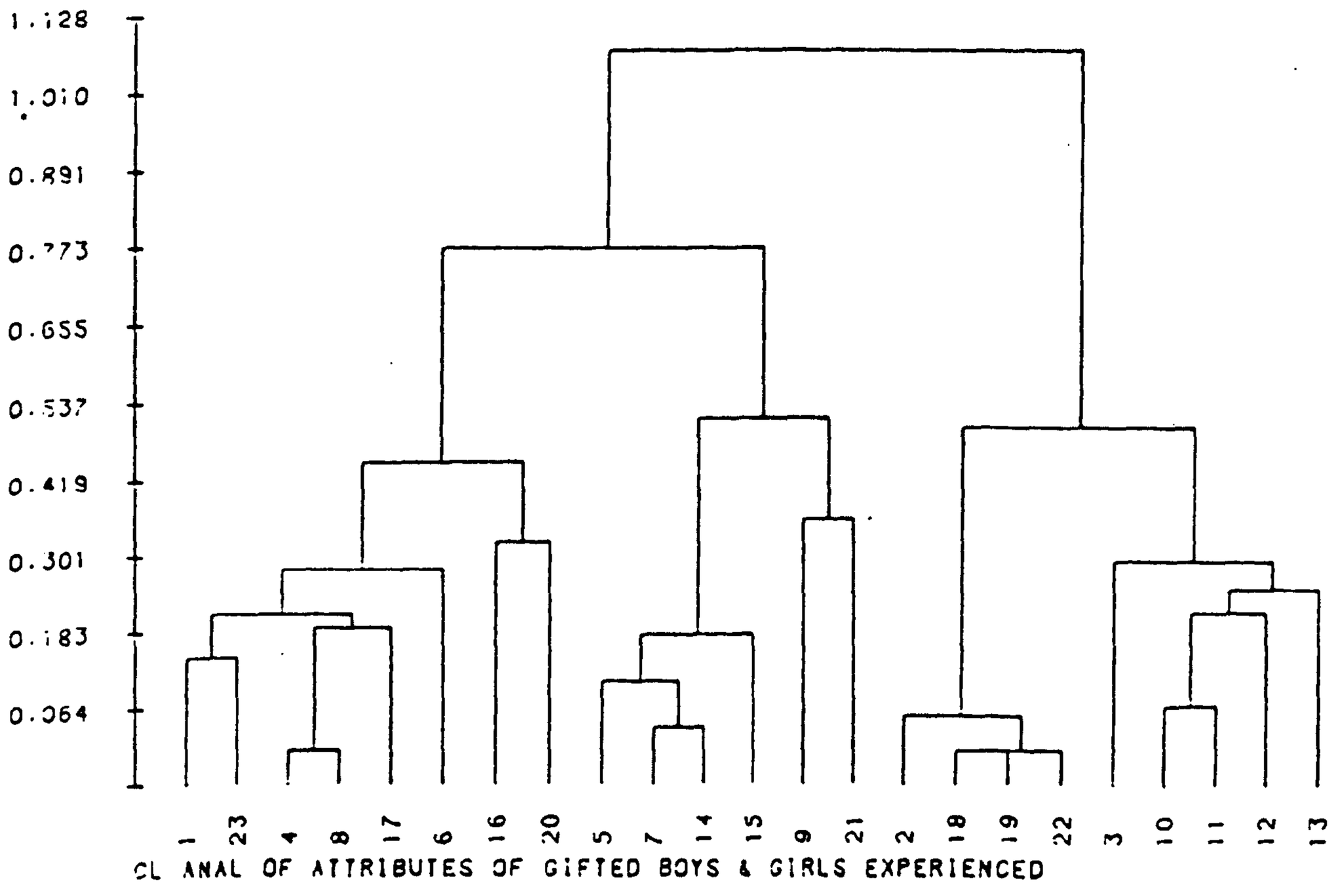
x axis = Teacher respondents to the unstructured interview.
y axis = Coefficient of dissimilarity. (based on Euclidean ²)



(Four cluster solution joining at coefficient level 0.499:)

Cluster 1 = Case No. on diagram: 1 4 6 8 16 17 20 23
Teacher Nos. 37 50 52 56 68 70 75 79

Cluster 2 = Case No. on diagram: 2 3 10 11 12 13 18 19 22
Teacher Nos. 38 42 59 63 64 65 72 73 78

Cluster 3 = Case No. on diagram: 5 7 14 15
Teacher Nos. 51 53 66 67

Cluster 4 = Case No. on diagram: 9 21
Teacher Nos. 57 76

Table XIV - (GFTEXPAL) - 23 teachers' direct experience of 'gifted' boys & girls

Cluster analysis: BFR = Binary frequecies ratio (%occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 8 page 161 see computer printout Appendix II(b)]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)
b = boys g = girls

BFR	POC	SN	Attribute
CLUSTER 1 - Cases (Teachers): 1,4,6,8,16,17,20,23.			
2.88	62.5	b 5	Potential & performance in the use of language.
2.88	12.5	b 1	Outstanding ability in relation to peers.
2.88	50	b 6	Outstanding ability in several areas.
2.88	12.5	g 6	Outstanding ability in several areas.
2.88	12.5	b 4	Potential & performance in music.
2.52	87.5	b13	Home support - passive.
2.16	37.5	b11	Extra-curricular interests - reading.
1.77	100	b 8	Popular & accepted.
1.60	62.5	b 2	Outstanding ability in a specific area.
1.44	12.5	g 9	Unpopular.
1.44	37.5	b10	Extra-curricular interests - music.
1.44	12.5	g13	Home support - passive.
1.44	12.5	g10	Extra-curricular interest - music.
1.44	12.5	g 4	Potential & performance in music.
0.96	25	g 2	Outstanding ability in a specific area.
0.96	37.5	b 3	Potential & performance in mathematics.
0.82	25	g 5	Potential & performance in the use of language.
0.48	12.5	b12	Home support - active.
CLUSTER 2 - Cases (Teachers): 2,3,10,11,12,13,18,19,22.			
2.56	11.1	g 6	Outstanding ability in several areas.
2.56	11.1	b 7	Personal characteristics - disruptive.
2.56	33.3	g 3	Potential & performance in mathematics.
1.83	55.6	g12	Home support - active.
1.70	44.4	g 8	Popular & accepted.
1.46	44.4	g 5	Potential & performance in the use of language.
1.28	22.2	g14	Extra-curricular interest - sport.
1.28	11.1	g10	Extra-curricular interest - music.
1.28	11.1	g11	Extra-curricular interest - reading.
1.28	11.1	g 4	Potential & performance in music.
1.28	33.3	g 2	Outstanding ability in a specific area.
0.85	11.1	g 1	Outstanding ability in relation to peers.
0.32	11.1	b13	Home support - passive.
0.20	11.1	b 8	Popular & accepted.

(Table XIV continued)

Cluster analysis: BFR = Binary frequecies ratio (%occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 8 page 161
see computer printout Appendix II(b)]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)
b = boys g = girls

BFR	POC	SN	Attribute
CLUSTER 3 - Cases (Teachers): 5,7,14,15.			
3.83	100	b12	Home support - active.
2.88	25	b 9	Unpopular.
2.56	100	b 2	Outstanding ability in a specific area.
2.56	100	b 3	Potential & performance in mathematics.
1.44	25	b11	Extra-curricular interests - reading.
1.33	75	b 8	Popular & accepted.
0.96	25	b10	Extra-curricular interests - music.
0.96	25	g 8	Popular & accepted.
0.82	25	g12	Home support - active.
CLUSTER 4 -Cases (Teachers): 9,21.			
7.67	100	g 1	Outstanding ability in relation to peers.
5.75	50	b 9	Unpopular.
5.75	50	g13	Home support - passive.
5.75	50	g11	Extra-curricular interests - reading.
5.75	50	g 9	Unpopular.
5.75	100	g14	Extra-curricular interests - sport.
3.83	100	b10	Extra-curricular interests - music.
2.56	100	b 3	Potential & performance in mathematics.
1.92	50	b12	Home support - active.
1.92	50	g 2	Outstanding ability in a specific area.
1.92	50	g 8	Popular & accepted.
1.64	50	g12	Home support - active.
1.64	50	g 5	Potential & performance in the use of language.
0.88	50	b 8	Popular & accepted.

was two-year trained subsequently with 18 years professional experience in junior urban schools and a secondary school states.

I can't honestly say that I have known that I was teaching a gifted child. I look back with hindsight to one or two children that I have known that there was something there, but I have never been able to make them achieve their potential.

This statement clearly begs many questions, but was broadly typical of the small number of respondents who shared the same viewpoint. Teacher 70's response to the invitation to describe a girl was similarly typical of a the small group who were unable to provide examples of girls,

Plenty of girls work very hard and are clearly able, but I can honestly say that the three gifted children I feel I have ever come into contact with have been boys.

These factors are further considered in chapter five.

Cluster 1:

The first five attributes are all mentioned at a ratio level of 2.88:1, which for the number of teachers in the group is a comparatively high one. They describe children who have outstanding ability in several areas and less commonly in one specific area in relation to their peers, but particularly in the use of language and performance in music. Their extra-curricular activities tend to centre on reading and music. These teachers describe passive home support for both boys & girls. It is interesting to note that the gifted boys are recorded as popular by every teacher in the cluster as indicated by the percentage occurrence in cluster (POC), whilst the gifted girls are cited as unpopular by one teacher and not mentioned as either popular or unpopular by the rest, this would seem to be a reversal of the situation found by Maltby (1985) in her work with primary schoolchildren.

Cluster 2:

With more members in the cluster the 2.56 ratio level is similar to that of cluster 1, as are the other ratios emerging from the analysis for this second cluster. The gifted children described are outstanding in several areas of the curriculum, especially in mathematics and at a lower level of occurrence language and music. Some of the girls particularly display outstanding ability in a specific area, whilst they also tend to be involved with extra-curricular interests such as sport, music and reading. In this cluster the popularity situation is reversed with the boys being disruptive according to one teacher whilst for nearly half the teachers in the cluster the girls are popular and accepted. Interestingly the home support for the girls is classed as active by over half the respondents, whilst that of the boys at a very low level binary frequency ratio for all the clusters set is described in this data set as passive. This is the only one of the four clusters where the teachers do not seem to be unanimous about any single characteristic on the list.

Cluster 3:

A smaller cluster who seem to concentrate more on the boys as examples of gifted children, with this gender being described by seven of the nine characteristics. The binary frequency ratios indicate at a high level active home support which is placed at the top of the cluster list together with the tendency to unpopularity of the boys in question whilst others at a lower level of occurrence are popular and accepted. The academic attributes stress outstanding ability in a specific areas such as mathematics. Extra-curricular interests comprise reading with music at a slightly lower level. Unanimity is achieved for the characteristics of outstanding ability in a specific area such as mathematics accompanied by a supportive home background.

Cluster 4:

This is an unusual cluster in that it has only two members. As mentioned above, examination of the dendrogram indicates that they sufficiently differ from the other cluster to justify their own identity at both the four and five cluster solutions. The ratio of 7.67:1 indicates that the attribute described as outstanding ability in relation to peers occurs at a higher level in this cluster than in any other cluster in the data set. Both teachers mentioned this characteristic and reference to the context of its occurrence in their tapescripts would indicate its prominence in their view. Other attributes such as potential and performance in mathematics, outstanding ability in a specific area plus potential & performance in the use of language are at a much lower level of 2.56 and below. Again in this cluster the boys are unpopular and the girls popular and accepted. Interestingly, extra-curricular interests are strongly reading and sport orientated for the girls whilst the boys are interested in music at a lower level of occurrence.

The three data sets analysed were examined for inter-cluster and inter-data set similarities as well as for the intra-cluster patterns of response already commented upon. A comparison between the data sets revealed no strong relationships between them but the significance of such similarity that was identified is discussed in the following section based on the combined CLUSTAN 2 analysis of all the data sets. This approach to the discussion of the cluster analysed data permits a review of the responses of the teachers in clusters, whilst in Chapter five the results of all the data included in this study for the teachers as a single whole group will be considered.

Teachers considered in clusters

---------- The following comments are based on the dendrogram shown in Figure 9 on page 167, and the Table XV on pages 169/172, which combines all the responses to each different

Figure : Dendrogram: 23 teachers described characteristics of giftedness in primary schoolchildren from flash card, abstract model, and direct experience.

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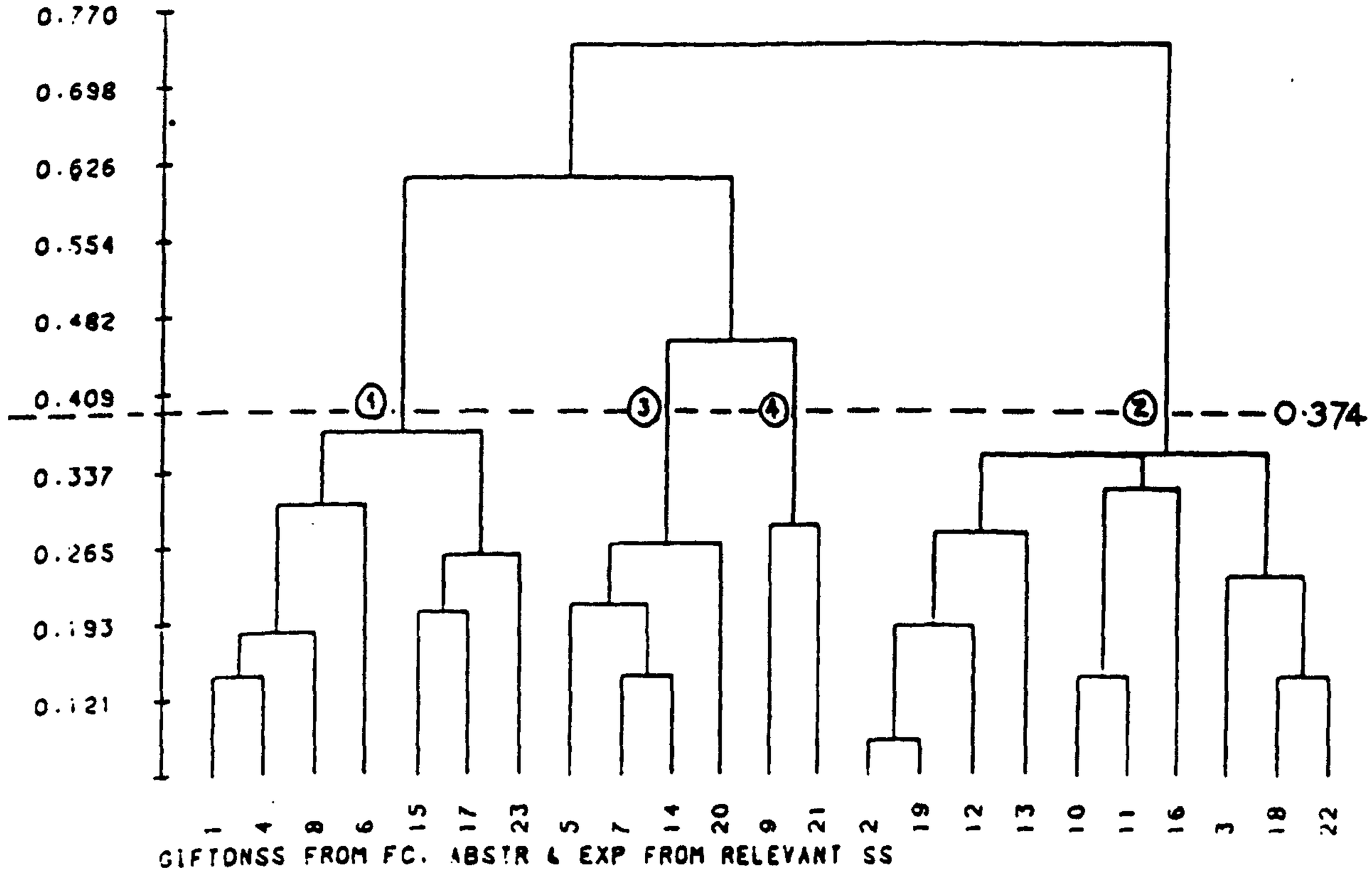
x axis = Teacher respondents to the unstructured interview.
y axis = Coefficient of dissimilarity. (based on Euclidean²)



(Four cluster solution joining at coefficient level 0.374:)

Cluster (1) = Case No. on diagram: 1 4 6 8 15 17 23
Teacher Nos. 37 50 52 56 67 70 79

Cluster (2) = Case No. on diagram: 2 3 10 11 12 13 16 18 19 22
Teacher Nos. 38 42 59 63 64 65 68 72 73 78

Cluster (3) = Case No. on diagram: 5 7 14 20
Teacher Nos. 51 53 66 75

Cluster (4) = Case No. on diagram: 9 21
Teacher Nos. 57 76

element of the interviews. The resultant clusters therefore represent the total outcome of the cluster analysis for 23 teachers responding to interview one. The remaining 22 teachers used in the sample were invited to respond to the concept 'brightest' in each part of the interview with the exception of the flash cards where the total sample of 45 teachers responded to every one of the five words on the flash cards including responses to the word 'gifted'. The total sample response to the flash card word 'gifted' using the same four cluster solution is included in the CLUSTAN 2 output data which is displayed as Appendix IIc. Clearly, as the combined analysis is based on the same data as the individual FLASH CARD, ABSTRACT and EXPERIENCE solutions considered in chapter four there is of necessity some similarity between the membership of the clusters and the prominent attributes included within them. However, in combination they permit a comparison between the attribute mention of each cluster of teachers in their responses to all three elements of the interview.

On the dendrogram figure 9 it will be noted that the membership of each of the four clusters is slightly different to those shown on figures 6,7, & 8 found on pages 145,156, & 161 respectively. This can be accounted for in that any attempt to sort information into clusters will almost invariably result in marginal units of information which can be equally ascribed to either one of two or more clusters. It is therefore necessary to consider both possibilities when seeking the messages the analysis would convey. Interestingly, the EXPERIENCE dendrogram figure 8 seems to have the closest affinity to the combined situation on figure 9, whilst FLASH CARDS figure 6 and ABSTRACT figure 7 deviate substantively. In terms of size of membership the combined dendrogram shown on figure 9 places the clusters in the following order with cluster two being the largest with ten members or 43% of the total sample, cluster one with seven members or 30%, cluster three with four members or 17%, whilst cluster four has only two members or 8% of the 23 teachers sampled. This would seem to indicate that some significance could be attached to the attribute lists particularly of

Table XV - (GIFTALL) - Interview responses of 23 teachers to the concept 'gifted' using FLASH CARDS, ABSTRACT notion, and direct EXPERIENCE examples of boys & girls.

Cluster analysis: BFR = Binary frequencies ratio (% occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 9 page 167 see computer printout Appendix IId]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)
[b = boys; g = girls; f = flash cards; a = abstract; e = experience]

BFR	POC	SN	Attribute
CLUSTER 1 - Cases (Teachers): 1,4,6,8,15,17,23.			
3.29	14.3	eb 4	Potential & performance in music.
3.29	18.6	f11	Potential & performance in mathematics.
3.29	57.1	eb11	Extra - curricular interest - reading.
3.29	57.1	f 7	Same as talented.
2.63	57.1	eb 5	Potential & performance in the use of language.
2.46	85.7	eb13	Home support - passive.
2.19	28.6	f12	Potential & performance in music.
1.97	42.9	a 9	Personal characteristics - independent.
1.83	71.4	eb 2	Outstanding ability in a specific area.
1.77	100	eb 8	Popular & accepted.
1.64	14.3	eg 4	Potential & performance in music.
1.64	42.9	f 1	Outstanding ability in relation to peers.
1.64	28.6	eb 6	Outstanding ability in several areas.
1.64	14.3	eg 9	Unpopular.
1.64	14.3	f 6	Personal characteristics - frustrated nonconformist.
1.64	14.3	eg13	Home support - passive.
1.37	71.4	a 4	Learns quickly with confidence.
1.23	42.9	a 3	Curiosity, originality, creativity.
1.19	57.1	f 9	Synonymous with other terms used on the flash cards.
1.10	14.3	a 7	Depth of understanding.
1.10	42.9	eb 3	Potential & performance in mathematics.
1.10	28.6	eb10	Extra-curricular interests - music.
0.90	42.9	f 2	Outstanding ability in a specific area.
0.82	42.9	a 2	Outstanding ability in several areas.
0.66	14.3	a 5	High attainment.
0.55	14.3	eg 8	Popular & accepted.
0.55	14.3	eb12	Home support - active.
0.47	14.3	eg12	Home support - active.
0.37	14.3	a 8	Personal characteristics - bored, frustrated.

(Table XV continued)
Cluster analysis: BFR = Binary frequencies ratio (% occurrence in
---------- cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 9 page 167
see computer printout Appendix IId]
(Suffix number SN = number of attribute on second sorting of
interview data - see Table VIII pp 136-138)
[b = boys; g = girls; f = flash cards; a = abstract; e = experience]

BFR	POC	SN	Attribute
CLUSTER 2 - Cases (Teachers): 2,3,10,11,12,13,16,18,19,22.			
2.30	30	eg 3	Potential & performance in mathematics.
2.30	20	eg10	Extra-curricular interests - music.
2.30	10	f 5	High score on IQ tests.
2.30	20	f 8	Same as exceptional.
2.30	10	eb 7	Personal characteristics - disruptive.
2.30	10	eg 6	Outstanding ability in several areas.
1.64	50	eg12	Home support - active.
1.64	50	eg 5	Potential & performance in the use of language.
1.53	40	eg 2	Outstanding ability in a specific area.
1.53	40	eg 8	Popular & accepted.
1.44	50	a 1	Outstanding ability in a specific area.
1.15	40	a 3	Curiosity, originality, creativity.
1.15	60	a 2	Outstanding ability in several areas.
1.15	30	f 1	Outstanding ability in relation to peers.
1.15	10	eg11	Extra-curricular interests - reading.
1.15	20	eg14	Extra-curricular interests - sport.
1.15	10	f10	Unable to define 'gifted'.
1.15	10	eg 4	Potential & performance in music.
1.15	10	f 6	Personal characteristics - frustrated nonconformist.
1.05	50	f 9	Synonymous with other terms used on the flash cards.
1.02	40	a 8	Personal characteristics - bored, frustrated.

0.92	20	a 5	High attainment.
0.84	40	f 2	Outstanding ability in a specific area.
0.77	40	a 4	Learns quickly with confidence.
0.77	10	f12	Potential & performance in music.
0.77	10	eg 1	Outstanding ability in relation to peers.
0.57	20	eb13	Home support - passive.
0.57	10	eb 6	Outstanding ability in several areas.
0.46	10	a 9	Personal characteristics - independent.
0.35	20	eb 8	Popular and accepted.

(Table XV continued)
Cluster analysis: BFR = Binary frequencies ratio (% occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 9 page 167
see computer printout Appendix IId]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)
[b = boys; g = girls; f = flash cards; a = abstract; e = experience]

BFR	POC	SN	Attribute
CLUSTER 3 - Cases (Teachers): 5,7,14,20.			
5.75	25	f 3	Outstanding ability in many areas.
5.75	25	eb 1	Outstanding ability in relation to peers.
3.87	50	a 7	Depth of understanding.
3.83	100	eb12	Home support active.
2.88	25	eb 9	Unpopular.
2.56	100	eb 3	Potential & performance in mathematics.
2.56	100	eb 2	Outstanding ability in a specific area.
2.30	50	a 5	High attainment.
1.92	50	eb10	Extra-curricular interests - music.
1.44	25	eb 6	Outstanding ability in several areas.
1.33	75	eb 8	Popular & accepted.
1.28	50	a 8	Personal characteristics - bored, frustrated.
1.15	25	a 9	Personal characteristics - independent.
1.15	25	eb 5	Potential & performance in the use of language.
1.05	50	f 9	Synonymous with other terms on the flash cards.
1.05	50	f 2	Outstanding ability in a specific area.
0.96	25	eg 2	Outstanding ability in a specific area.
0.96	50	a 2	Outstanding ability in several areas.
0.82	25	eg 5	Potential & performance in the use of language.
0.72	25	a 1	Outstanding ability in a specific area.
0.48	25	a 4	Learns quickly with confidence.

(Table XV continued)
Cluster analysis: BFR = Binary frequencies ratio (% occurrence in cluster/ % occurrence overall)
POC = Percentage occurrence in cluster
[Four cluster solution - see dendrogram Figure 9 page 167
see computer printout Appendix IId]
(Suffix number SN = number of attribute on second sorting of interview data - see Table VIII pp 136-138)
[b = boys; g = girls; f = flash cards; a = abstract; e = experience]

BFR	POC	SN	Attribute
CLUSTER 4 - Cases (Teachers): 9,21.			
11.5	50	a 6	High test scores on basic skills.
7.67	100	eg 1	Outstanding ability in relation to peers.
5.75	50	eg13	Home support - passive.
5.75	50	f10	Unable to define 'gifted'.
5.75	100	eg14	Extra-curricular interests - sport.
5.75	50	eg11	Extra-curricular interests - reading.
5.75	50	eg 9	Unpopular.
5.75	50	eb 9	Unpopular.
3.83	100	eb10	Extra-curricular interests - music.
2.88	100	a 1	Outstanding ability in a specific area.
2.56	100	eb 3	Potential & performance in mathematics.
2.56	100	a 8	Personal characteristics - bored, frustrated.
2.09	100	f 2	Outstanding ability in a specific area.
1.92	50	eg 8	Popular & accepted.
1.92	50	eb12	Home support - active.
1.92	100	a 4	Learns quickly with confidence.
1.92	50	eg 2	Outstanding ability in a specific area.
1.64	50	eg 5	Potential & performance in the use of language.
1.64	50	eg12	Home support - active.
1.44	50	a 3	Curiosity, originality, creativity.
0.96	50	a 2	Outstanding ability in several areas.
0.88	50	eb 8	Popular & accepted.

clusters two and four. On the dendrogram cluster two can be identified much more as a discrete cluster which would comprise one cluster of a two cluster solution at a dissimilarity level of 0.626, with the remaining three clusters at the four cluster level forming the second cluster of the two cluster solution. This would indicate some similarity between clusters one, three and four, notwithstanding the distinctive nature of cluster four which merges with cluster three at a comparatively high level of dissimilarity.

In cluster one (30% of the total teacher sample) the attributes listed for the binary frequencies ratio and percentage occurrence in the cluster statistics are shown on Table XV pp 169/172. This group of teachers gives prominence to extra-curricular interest in reading and also considers gifted to be the same as talented, with ratios of 3.29:1 for their occurrence in this cluster in relation to their occurrence overall, and with over half the teachers in the cluster contributing to this view. The same frequency of occurrence is accorded to the synonymity of giftedness with other terms used on the flash cards, which appears to indicate some vagueness in their construct of giftedness. This cluster is also distinguished by the high ratios accorded to potential & performance in music and mathematics, although the percentage occurrence in the cluster was rather low. With reference to the gender issue there are ten attributes accorded to boys against three for the girls. There is unanimity amongst the cluster regarding the popularity and acceptability of the boys. In frequency of occurrence this is followed closely by passive home support. Nearly three quarters of this group of teachers mention the attribute outstanding ability in a specific area, which would seem to support their view of the similarity of giftedness with being talented. They associate with this attribute at the same frequency of occurrence the ability to learn quickly with confidence. To summarize, this group of teachers consider giftedness to be related to outstanding ability in relation to peers within a specific area such as mathematics and/or music, characterized by the ability to learn quickly and with confidence. Their view is tempered

by the uncertainty that the same label could ascribed to talent or any of the other words on the flash cards, such as exceptional and highly able.

Cluster two (43% of the total teacher sample) is the largest of the four cluster in terms of membership and as shown in the discussion of the dendrogram is in many ways distinctive from the other clusters. The group is distinguished from the other clusters by the binary frequency ratios for the extra-curricular interest in music, outstanding ability in several areas and the sameness of giftedness with exceptionality. It is the only cluster to include high score on IQ tests, and that was mentioned by only one member of the group, a situation which was discussed previously in chapter four under the heading flash cards. By frequency of occurrence within the cluster there is an absence of complete unanimity on any of the attributes included, the highest with a percentage occurrence in cluster(POC) of 60% is outstanding ability in several areas. There is however some uncertainty of definition evident in this group also which at a POC of 50% also mention both outstanding ability in a specific area and the synonymity of giftedness with other terms used on the flash cards. Potential & performance in mathematics together with extra-curricular interest in music also warrant a place in this group's list of attributes of giftedness in children. Potential & performance in the use of language rates slightly less in popularity than in cluster one although it is mentioned by more teachers in cluster two. On the gender issue this group of teachers seem to take the converse position to those in cluster one, having 11 attributes accorded to girls, with only four ascribed to boys. To summarize, this group of teachers seem to take a different view of giftedness to the teachers in cluster one, having a a broader approach which accepts outstandingness to peers in either specific or several areas. This would seem to concur with their view of giftedness as the same concept as exceptional, again in areas such as mathematics, music or the use of language. They do however seem to share a measure of uncertainty of their definition of giftedness as their colleagues in cluster one.

In cluster three (17% of the total teacher sample) outstanding ability in many areas in relation to peers heads the list of attributes in order of binary frequency ratios, but in terms of unanimity within this cluster they do not have the same prominence as outstanding ability in a specific area together with potential & performance in mathematics. Judging by the frequency of occurrence in cluster this would seem to be a relatively firm stance for specific outstandingness, but outstanding ability in several areas is also mentioned by half the teachers in the group, and half mention the possibility that giftedness can be equated with the other terms of *talented; exceptional; highly able; and bright*, which were included on the flash cards. The gender situation here seems to be orientated towards the boys who are attached to nine attributes, whilst the girls are attached to only two. Music was mentioned by two of the teachers whilst use of language was mentioned by only one. To summarize, they seem to consider giftedness to include outstanding ability in relation to peers in a specific area such as mathematics, but are not sufficiently certain of their position not to include mention that outstanding ability can also be evident in several areas, in fact the term gifted may be synonymous with other terms on the flash cards.

The fourth cluster in this analysis, which combines all three elements of the interview, is exceptional in having only two members comprising 8% of the total sample of teachers, who are sufficiently different from the other clusters to warrant having their own cluster. They are also discussed in relation to the EXPERIENCE element of the analysis on page 172 where they again occur as a two-member cluster in cluster four. For the FLASH CARDS element of the interview analysed in chapter four both these teachers occur in cluster four together with four other teachers comprising 26% of the total sample of teachers. In the ABSTRACT element analysed in chapter four they are separated with number 9 being in cluster four whilst number 21 is in cluster 1. They would seem therefore marginal to clusters one and four. The discussion of the dendrogram figure 9 indicated a similarity that could be established between cluster one, three, and four. The background

profile of these two teachers repeated below (see Table VI page 120 for further details) indicates that they teach in the same type of school but in different types of locations, apart from this the tapescripts would confirm that they have little in common. Teacher 9 is also a Deputy Headteacher:

Teacher	Sex	Training	Experience	Current school
9 (57)	m	3yrs primary B.Ed.	11yrs	Junior/urban
21 (65)	f	3yrs Junior Cert.Ed.	6yrs	Junior/rural

This cluster is characterized by the attribute outstanding ability in relation to peers, on both the binary frequency ratio of 7.67:1 and the unanimity, plus at a lower BFR level, outstanding ability in a specific area which occurs three times on the list. Again, mathematics and music are cited as two such ability areas, with use of language occurring in a much lower position on the list. One teacher feels unable to define 'gifted'. This small group also gives some prominence to extra-curricular interest in sport. This group also allocate more attributes to girls than to boys, with nine to the former and only five to the latter. Based solely on this frequency of occurrence the gender issue remains inconclusive.

The main attributes that would seem to emerge with some degree of prominence in every cluster in the analysis are the three types of outstandingness that can be identified viz. in relation to peers; in specific areas; and in several areas. Areas in which such outstandingness is evidenced are mathematics, music, and use of language following as a third area. Examination of the total response profiles of individual teachers indicated that there was some degree of overlap between the these three categories of outstandingness especially in relation to peers, and the specific areas in which this attribute was evident. Although the dominant response frequency of these attributes is clearly evident, some caution should be exercised in

interpreting this as the complete model of giftedness possessed by all the teachers, especially when considering those who equated giftedness with other terms on the flash cards and those who in their detailed responses to the terms in question did not identify outstandingness as an attribute.

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CHAPTER FIVE - DISCUSSION OF CONCLUSIONS & SUGGESTIONS FOR FURTHER RESEARCH

"Love is not a single measurable entity but a construct which is derived from measurement of other, directly observable variables."

Marija Norusis (1985)

Notwithstanding the number of ways in which this statement can be interpreted, the tenor of this quotation has many similarities with the notion of giftedness, as may be seen from the following discussion of the data collected in the search for classteachers' constructs of this attribute in relation to primary schoolchildren. Love is to many, one of the most confusing words in the English language because of its enigmatic nature and the choice of categories into which it can be placed according to the context in which the word is applied. In practice it often appears to be irrational, spasmodic, and dependent on situations external to the originator. It is something very unique to the individual and, notwithstanding the dependence of its interpretation on external evidence and the context in which it is used, its full meaning resides within the person from whom it originates. The extent to which this meaning can be extracted by a third party would seem to depend largely on the adequacy for this purpose of the originator's observable communication skills, which in the context of the present study are primarily those of working vocabulary and associated body language.

The evidence for a similar construct of giftedness in children possessed by the primary classteacher seems to be provided on three levels from the data collected, viz. similarities and differences

between teachers as groups, as indicated in chapter four, based on the described characteristics from their interview responses; the identification of general profile characteristics of the gifted child as seen by teachers in the sample as a whole; and the level of confidence they place in such a construct in relation to similar terms such as 'bright'. It would however seem pertinent before embarking on the discussion of these issues to give some consideration to the general conclusions that seem to be indicated from the quality of the teachers' overall response to the interview procedure. The following conclusions are based on comments made by the respondents in the pre-interview and after the conclusion of both interviews, plus their performance during the formal proceedings which are not only evident on the tape recordings but are recorded in the field notebook.

As previously indicated, teachers on their own admission were unaccustomed to reflecting on the ways in which they could communicate their meanings of the abstract terms presented by, for example the flash cards, or in producing a non-directed exposition of their own thoughts regarding the characteristics of a hypothetical model of giftedness in children. In consequence many of the total responses for at least part of the interviews were somewhat concrete in nature and superficial in treatment. The variety of items in the interview procedure was therefore necessary to provide several different prompts and opportunities to encourage the individual teachers to reveal their concept of giftedness on the basis that any one response was unlikely to be a valid indication of what they really thought. An example of this limitation is found in 37% of the responses to the interview question addressing the teachers' direct experience of gifted boys and girls encountered, where they seemed to have little difficulty in describing the characteristics of such children in considerable detail, and in some cases with considerable enthusiasm and animation! The detail provided was not only valuable to the present study but it perhaps also indicates within the respondents a pragmatism that finds it difficult to define a concept but comparatively easy to give a real child example of that attribute.

Clearly, any example of a specific child is unique, not only in nature but in the context in which he or she was observed by the teacher, and whilst such an example can indicate certain aspects of the teacher's concept of giftedness, the attributes of the child in question may not necessarily encapsulate the totality of that teacher's concept. In most cases consideration of the totality of the individual teacher's responses to all the interview items seemed to give the best indication available of his or her concept of giftedness.

Entries in the field notebook record the oft repeated comment, "I have never been asked to think about this before!", with the usual addition that they had not been requested by others to think about the nature of any issue in such depth. This situation appeared to hold for the majority i.e.(82%) of the teachers in the sample. As professionals, when given the opportunity they are capable of reflection on any issue at the depth required by its context and purpose, however their comments seem to indicate that they are constantly faced by the daily need for quick pragmatic solutions that can be applied to the current contingency, until that approach becomes the modus operandi for most situations. Of the total sample of teachers 58% specifically recognised that this was the situation in which they found themselves. This would also help to explain the general preference, indicated by 78% of the teachers in the pre-interview, for the checklist type of questionnaire requiring tick responses only, and which could be put on one side to be completed when the earliest opportunity arose. It was indicated by 18% of the teachers in the sample that they did not consider the school environment conducive to the reflection they would prefer to apply when completing such a checklist.

The following comments on the responses to question three of the unstructured interview which invited teachers to describe the characteristics that they would look for in choosing a gifted child, provides an example of the above situation:

1. In 53% of the responses there is considerable repetition, which on occasion appears to emphasise strong feelings and on others appears to be done unconsciously. The latter comment relates particularly to some of the longer responses.

2. 20% of the respondents seemed to be insistent on basing their response almost entirely on a the description of a specific child, which unconsciously anticipated question four and thereby precluded the opportunity to compare responses based on their hypothetical model and direct experience of children who were gifted in their terms.

3. Of the total sample, 15% of the respondents seemed to indicate their indecision in relation to the issue in question by proffering opposite viewpoints or stating at the conclusion of their response that they feel the contrary to their stated position might also be true.

4. Some difficulty was experienced by the interviewer with 29% of the respondents when trying to encourage them to provide a complete response to the question despite what they later acknowledged to be lengthy marginal digression. This was in some cases indicated by the question to the interviewer, "Where was I?". Whilst it is readily acknowledged that apparent digressive responses can sometimes on analysis contribute the main key to the understanding of a person's construct system, subsequent processing of the data would seem to indicate that none of the 13 responses in question would fall into this category.

The second conclusion, preliminary to the main discussion, which could be drawn from the information volunteered by the teachers is the lack of background knowledge they seem to have, firstly, of the children who had been in their charge when the data was collected, for nearly half of the school year, and then of the hobbies and leisure interests of those whom they have specifically identified as gifted and purport to know relatively well. 69% of the teachers in the sample recognised this situation and suggested that size of classes and pressures of the school day were contributory reasons for this apparent gap in the teacher's pupil profile. Clearly, it is commonly accepted

that there is a limit to what teachers can be expected to know about the children for whom they are responsible. Notwithstanding this limit it has always been a declared strength of the English primary school system that based on the amount of time spent each day with the children and the comparative informality of the primary classroom, the classteacher knows most of his or her children comparatively well at an early stage in the new school year.

Some 22% of the teachers volunteered the following comment outside the formal interviews on this situation, suggesting that in their experience those children who are drawn to the teacher's attention by distinguishing themselves in some way either through behaviour or level of performance be it high or low, are those who become known first, whilst some of those who remain in that middle minimum-teacher-contact group may have a profile that the teacher recognises as comprising little more than attainment in basic skills such as use of language and mathematics. These same teachers expressed a concern that whilst they suspected that some of these children might be gifted they produced no performance evidence within the parameters recognised by such teachers on which to base such an assumption. Robb (1980) has for some years since his early work on the Brentwood experiment been concerned with the recognition of those children who could be described as gifted but for social and other reasons deliberately underachieve in the normal school situation, often adopting a very low profile. Such children were also encountered by the writer of this study whilst involved in the SCCEP project, an example of which is given in chapter one (see pages 24/25). It would therefore seem to indicate that the sample of teachers participating in this present study have largely based their conception of giftedness in children on those who have produced the performance evidence sought.

This would seem to concur, as with Maltby's (1985) findings of the primary teachers encountered in her study, with the lack of formal information on the gifted child obtained from the literature or courses,

combined with the comparatively low priority given to the recognition and provision for such children in the classroom. In the present study only one teacher in the sample had been involved in a course related specifically to the gifted and able children, whilst only those most recently trained had received passing mention of such children as part of a special needs programme, most of the time during those courses being spent on the needs of the physically disadvantaged and slow learners. This would seem to have implications for INSET and new teacher probationary programmes which will be discussed later in this chapter.

Nevertheless it is perhaps significant in this context that overall assessment of the child's strengths and needs, for the design of suitable educational provision, as indicated in chapter two is often based solely on a profile comprising his or her school experience which would constitute less than 35% of that child's waking life. All the teachers in the sample were able to provide some background information on the children in question, but 42% were unable to make other than superficial comments on the home and leisure interests.

Conversely 36% of respondents seemed to possess a great deal of information external to the school for each child identified. It is perhaps significant that most of such children had parents who were in close touch with the school through their role as voluntary ancillary helpers or were active members of the school's parent-teacher association. Additional to this situation and particularly where parents did not fall into either of the above categories, the children in question had distinguished themselves in some way within the school or locality, usually through such media as music or sport, although in one case the child in question was the junior chess champion of the local schools' league, and in another case the child was conducting his own business venture with help and advice from parents, teachers and other children.

Two teachers only out of the total sample referred to high performance on standardized tests or to high IQ, and these were both flash card responses to the word 'gifted'. The context in which IQ was used is given in the following statement,

> *"I think gifted is a very difficult word because often the children do have a gift in perhaps one area of the curriculum... but they often have a high IQ, but often their potential isn't realised because quite a lot of them have emotional and disturbed feelings, perhaps because they are frustrated."*

This teacher did not mention IQ implicitly or explicitly in any of the other four interview questions on giftedness. The general tenor of the discussion of the literature in chapter two would suggest that the total responses of this sample of English primary teachers differs in this respect from their transatlantic colleagues teaching the same age range, who notwithstanding their growing preference for subjective assessment procedures but rather because of their legislative and support systems are very much more concerned with testing for traditional intelligence indicators. Robert Hoge (1988) reviewing the transatlantic scene in relation to issues in the definition and measurement of the giftedness construct suggests,

> "...serious deficiencies exist with respect to validation of selection instruments and procedures used in the gifted area; in part these deficiencies arise from a failure at construct definition."

Most of his current research as indicated in chapter two is concerned with multi-dimensional instruments for the recognition of the gifted and in particular teacher constructs of such children.

Another background issue that could be considered at this stage prior to the main discussion is that of dominant gender which appeared in teachers examples of gifted boys and girls. As already

stated on page 161. 19 boys were given as examples compared with 12 girls. All the teachers used in the sample for this section of the interview were invited to give an example from each sex. Many were able to comply but as is obvious by the results some teachers were unable to give girls as an example of what they considered to be giftedness. The following example tapescripts seem to indicate that girls on the whole are seen as hardworking conformists, and for this sample of teachers they are not quite so likely to provide that extra spark that they associate with giftedness in children.

[The prefix number identifies the teacher by tapescript.]

29.[female teacher] Girls are, on the whole more industrious...

Girls will sit down and get on with their work...

56.[female teacher] I have had several academically bright girls, but none that I would call gifted.

65.[male teacher] ...it is harder to find girls who are outstandingly brilliant. Perhaps I am mistaken but girls seem to gravitate towards the norm, perhaps for cultural reasons. It always seems to me that there are more boys requiring remedial attention, and there are more boys who are high fliers!!.

15.[male teacher] Plenty of girls who work very hard are clearly able, but I can honestly say that the three most able children I have ever come into contact with have been boys.

These statements are a selection from 14 which appear to be quite specific in their assertion that boys are more easily recognised as gifted than girls. However no similar statements were given by the teacher-respondents to indicate that giftedness was more easily recognised in girls than in boys. It would seem necessary to bear in mind that such identification is related to the nature of the individual teacher's concept of giftedness, especially in relation to the parameters such a concept encapsulates. This would seem to be particularly true of the following teacher's view supported by her

responses to the flash cards and abstract model of giftedness, that she is particularly looking for what she terms 'intelligence potential':

19.[female teacher] I cited the boy with exceptional talent... and I can give you many examples of very hardworking, well achieving, conforming girls, but I can't give you an example of a girl that I feel has the same intelligence potential as that boy...

As an identical number of male and female teachers seemed to feel the same about this gender issue, a case could be made that the sex of the teacher seems to have little influence on whether they tend to cite examples of gifted boys or girls. It should however be stated at this point that, based on the frequency of mention in the cluster analysis, the situation regarding the gender issue could be seen to be inconclusive.

Teachers in the sample considered as one group

The main attributes emerging from the cluster analysis (see pp176/177) would seem to support similar findings resulting from an examination of the base data drawn from the tapescripts for the entire sample of respondents. These results are summarized on Table XVI on page 187. The order in which this list is organized is random being based on the first examination of the raw data. The first item on the list is worthy of attention is the attribute, 'outstanding ability in relation to peers' which does not appear in responses to the abstract notion of giftedness, and barely rates a mention from teachers' direct experience of such children. The flash card responses produce the highest frequency of mention for this attribute. This situation needs to be related to the fact that the teachers had already responded to the abstract and experience elements of the interview before they encountered the flash cards, where faced with a number of similar terms to 'gifted' they would need to think more carefully about the distinctions between such terms. Outstanding ability in a specific

Table XVI: Percentage occurrence of common characteristics of the gifted drawn from classteachers responses to Abstract, Experience and Flash Card elements of the personal interview.

Key: Abs. = ABSTRACT (Classteachers response to the invitation to describe their abstract notion of giftedness through the evidence they would look for in the children they teach.)

Exp. = EXPERIENCE (Classteachers examples of giftedness in boys & girls they have taught or known.)

F.C. = FLASH CARDS (Classteachers definition of the word 'gifted' when presented with that and four similar terms on flash cards.)

GIFTED	Abs. %	Exp. %	F.C. %
1.Oustanding ability in relation to peers	00.0	04.5	33.3
2.Outstanding ability in a specific area	17.8	17.8	40.0
3.Outstanding ability in many areas	26.7	06.7	13.3
4.High score on IQ and basic skills tests	02.2	00.0	02.2
5.Personal characteristics - frustrated unconformist	20.0	01.1	04.4
6.Unable to define gifted	11.1	08.9	08.9
7.Potential & performance in mathematics	00.0	15.6	11.1
8.Potential & performance in music	00.0	04.5	13.3
9.Creative ability	04.4	04.4	06.6

area as an attribute, although mentioned in both abstract and experience elements of the interview, is also more frequently mentioned in responses to the flash card. The third type of outstandingness mentioned is that of outstanding ability in many areas which has its highest responses in the abstract element and its lowest resulting from teachers' definitions based on direct experience of such children. Neither mathematics nor music seem to figure in teachers' abstract notion of giftedness, but do develop some prominence in direct experience and final interview responses to flash cards.

The prominence of the attribute outstandingness is worthy of further examination as to its nature in various forms and categories in which it arises in the analysis of the data. The following comments are based on 23 teachers' responses to giftedness supplemented by the responses of 42 of the 45 teachers who were invited to respond to the word 'gifted' on the flash cards.

I - flash card responses to the notion of giftedness

This attribute category was based on teachers' use of the word during the tape-recorded interviews and the researcher's interpretation from the context of what was said, supported by field notes on intonation and body language. By the number of responses of this type, it was the most frequent characteristic chosen by respondents to define their understanding of giftedness based on their professional experience of such children, in some cases based on an abstract ideal, and in others developed and modified by direct contact. Three types of response can be recognised as embodying this concept:- *[italics refer to the tapescript/teacher number and supporting extract]*

Firstly, those who made a general reference to outstandingness in relation to peers found in 21 of 45 possible responses. These teachers are thinking in terms of an overall ability evidenced in both the attitude of children to mainstream tasks and extra-curricular

activities taking place in school, and the quality of the work produced. Their evidence appeared to be entirely school-based as none of the teachers in this category made any reference to children's experience outside the school. In 23 cases teachers referred directly or implied that this characteristic is based on suspected rare potential deduced from what would normally be regarded as non-performance indicators such as the child's volunteered comments, and approach to the task in hand, related to an individual level of creativity and talent. A potential and performance which some teachers in their experience felt was not extended because of the constraints of the standard provision of learning experiences in the 'normal' school.

[42...I suspect they have a giftedness that is not being tapped..; 19...exceptional talents which may not be extended in the normal school...].

Typically, teachers had different ways of expressing the generality of outstandingness,

[63..something special that you have not seen before...stands out from the crowd..; 56..that extra spark, that something that makes him unique... 26..stands out way above the rest, both in the quality of their work, their attitude, and the way in which they do things at school..; 18...they have something that nobody else seems to have..; 12...gifted...stick out as someone far in advance of anyone you have experienced in that age group].

Other supporting evidence for this category included a positive attitude to learning plus the ability and desire to work independently:

[13...able to pursue an interest or things that they enjoy without having to be instructed ...and know what they are doing....].

Some teachers considered that giftedness can only be recognised by what children do or produce, plus in this concept category, outstanding performance,

[14...to be gifted you must be able to be recognised as such..; 32...it was more than being gifted, she was using her gifts..; 78...if he doesn't try to use it (his gift) then you have no way of knowing...].

In this category teachers often used the word 'exceptional' as a synonym for outstandingness.

[68..Gifted and exceptional go together really...they say that a child is much better than average..; 64..I think that gifted and exceptional are the two uppermost of the five words...].

(This teacher placed gifted and exceptional as something far above the other three terms on the flash cards, in relation to potential and achievement.). Other teachers added brilliance to exceptional, but did not clarify the meaning they attached to this new term.

[67...if you are gifted you are brilliant at something..I don't think I have ever come across anyone who was...exceptionally brilliant].

Secondly, from 24 responses, teachers indicated that **outstandingness as a characteristic of giftedness can be confined to any specific area of competence**, or a group of related areas, without being specific as to the area in question.

[79..particular ability or abilities that made him outstanding among his peers... leaning towards mathematics, music or chess..; 51...gifted usually applies to one particular thing..; 78..has been given something particular which he tries to use..; 67..children do have a gift in perhaps one area of the curriculum..; 57..gifted in a particular area rather than across the board..; 30..someone who is absolutely brilliant at a particular thing..; 29..something where you are gifted in specific areas ie mathematically, linguist..].

A significant group of respondents as already indicated identified particular areas of outstandingness, mathematics being the most popular.

[52..has a gift in...mathematical understanding..; 29..specifically gifted.. ie you are quicker thinking mathematically..; 20..one child usually stands out as being much better mathematically...I would think that is a gift as distinct from a talent..; 18..something quite exceptional.. who just seem to pick something up.. it could be maths, it could be computer work..].

Music was also recognised as an area of outstanding ability which can be used to classify giftedness.

[19..It can be a gift in music or creativity of any kind, but something that is exceptional, over and above the best the average school can produce..; 18.. who can play the violin at the age of 3..; 29..a budding Mozart..; 70..I would say she is gifted in music..].

Both these areas are considered as a separate issue later in this chapter.

Other areas to which teachers referred included creative activities.

[52..has a gift...in creative writing..; 76..I tend to use that word a lot with art..].

and physical education.

[75..a special areas where a child seems to be far above the general standard...example in physical education..].

Thirdly, a much smaller group comprising six responses took the converse view that outstandingness in relation to defining the gifted could be across a much wider spectrum of interests and activities.

[32..this child was exceptional at everything..; 28..I regard gifted as such exceptional children...usually all-rounders..; 27..someone who is extremely able in all areas rather than in one area..].

Outstandingness by implication was particularly evident in the following response:

[26..a gifted child would do everything well, whereas an exceptional child might only do well in certain things..].

Conclusions that could be drawn from this section of the evidence combined with reference to the tapescripts are listed below:

Children can be recognised as gifted by their degree of outstandingness in relation to their peers.

Some 32 respondents indicated that at minimum they need outstanding pupil-performance indicators to assess giftedness potential.

Twenty four of the tapescripts particularly support the contention that there is an element of favouring 'conformists' in this abstract form of categorising gifted children.

The overwhelming popularity of mathematics as an area of teacher-reference for outstandingness, as evidenced in each section of the

flash card analysis, followed closely by music with use of language trailing behind.

II - Responses to the abstract notion of giftedness

Outstandingness as an attribute in this group of responses is drawn from the analysis of 22 teachers' reactions to the invitation to describe the characteristics of a gifted child that they would look for in their present school or any other school. Everyone producing a spontaneous response to a question is liable to repetition or to use the same reference term in a different situation. Where this has happened in the responses all references to this attribute have been considered. There are also some similarities between the approach to this question and that of the flash cards, as both in a different way required verbalisation of the abstract. As this question preceded that of the flash card terms, its responses are likely to be the more spontaneous.

Of the 19 responses to this concept, a significant number of teachers continue to measure ability by attainment in the school,

> *[78..someone who was outstanding and clearly superior to the good run of child..], [75..achievement-wise, you would recognise through achievement higher than the rest of the peer group...].[50...A truly gifted child I would take to mean that they were gifted in every respect. I suppose it has got to be in terms of high attainment...].*

This could have implications for the lack of recognition of giftedness in children who are underachieving according to the school's norms for success. For this group of teachers it also tends to be a natural rather than an acquired attribute,

> *[50...what they ever do has got to be done really well; they are*

gifted at doing it; it is something that comes naturally to them...]

One of the accompanying outcomes from this is the apparent ease with which success is achieved.

[42..they sail through all their work... they never seem to find difficulties in anything...].

This teacher was one of the many who considered outstandingness to have a general application to all their school work.

[42..the ones who are very good at everything...in this I am including maths, language, social/environmental studies, music, art...].

It is significant to note this teacher's list does not include games, sport, science, design/technology, in the list of what in their terms is 'work', yet they form a regular part of the curriculum of the school in which this respondent teaches.

Twelve respondents separated the 'academically' gifted, implying outstandingness across the spectrum of 'academic' activities, from 'creative' activities such as music.

[57..Generally, I would look for all-round ability...if we are talking about the academically gifted child... there are others of course, there are musically gifted children, who may not necessarily be academically gifted - there are a number of areas of giftedness...].

Primary teachers' views of music are related to its role and practice in the primary school, where it is predominantly a performing art, and as such may be considered by some to be non-academic. One teacher considered that outstandingness as a characteristic of giftedness could be measured by performance on standardised tests of basic skills.

[57..here we use the Richmond test of Basic Skills...when we find a child who does exceptionally well through the eleven tests, then we begin to look further...].

Movement from the general to the specific was also evident in this category, with teachers recognising giftedness almost to the point of confinement into specific areas.

[76..there are two areas where I could say gifted, but a specific areas is maths, where I get quite a few boys who are gifted..],[78..someone who had something rather special, on another plane, a brilliant pianist, or a very talented sports person who was 3,4,5,6, or even a lifetime in front of his contemporaries..],[66..I am thinking more in terms of maths or sciences, but you can have gifted children in terms of physical activities such as sports..].

This group of responses cites one of the rare references to sciences which is considered in more detail later in the chapter.

III - Teacher volunteered examples of gifted boys and girls drawn from their direct experience.

These comments on the attribute 'outstandingness' are based on the analysis of the responses of 29 teachers. Understandably, their assessment of such children seemed far more dependent on observation and experience of boys and girls within the school, than on knowledge or observation of children during that large proportion of their waking life they spend outside it, on spontaneous and self-organised extra-curricular activities. In addition to labelling abstract conception models, teachers in this section are now describing real individual children, with all that mix of personality and aptitude that makes them unique. The gender issue in relation to the present study has already

been discussed earlier in this chapter, and some of the teachers' comments will supplement this, therefore to make it easier to distinguish between the different comments boys and girls are treated separately.

Boys:

Some ten responses defined outstandingness in terms of academic ability within a specified area, as with the previous two sections, most of the areas recognised were within mathematics, language and the performing arts, with the exception of physical pursuits, which were not mentioned in the context of this category. Science also was barely evident and design technology not mentioned at all.

[37.'His name was Guy, he was 12...He was very gifted, he learned the piano and the violin, and he could sing, his sight reading was exceptionally good...]

(This teacher had the opportunity to know this child well as his housemaster in a preparatory school. Subsequent conversation at a later date revealed that the accomplishments of this child were much greater than the extract would indicate.). Mathematics was the most frequent choice as an area of outstandingness, with six of the ten responses.

[51...I would say that he is gifted in mathematics. He managed to complete the school's entire maths scheme in the first year. Everything I set him he could cope with, and beyond...He had an incredibly quick mental ability for any number work. While other children were doing tables he was sorting out things like 12 to the power of five, in his head, and getting it right in a matter of seconds..], [66...His was a flair for mathematics that went far

beyond the type of mathematics work we do in a junior school. He would cope with anything that we threw at him on investigational maths. It was instances like that where he was using original thinking rather than conforming to what he thought were my requirements...].

Occasionally the mode of expression becomes quite colourful, however the general meaning seems to be the same,

[67..He was very good mathematically...The very basic work that we used to start off the rest of the class, was really fairly irrelevant to him, because his grasp and understanding was so quick, we could miss out great chunks of things and he would still be roaring away...'].

There were those whose strength was in the use of language, some of whom did not provide evidence of high achievement in mathematics,

[50..As a first year (Junior) he was very creative. His writing was fantastic... but his maths was nowhere like it. It was just the language...by the fourth year he was doing some really fantastic bits of work...]

Girls:

The attribute outstandingness when related to the girls is subdivided into that which is evidenced in a specific area and that which is applied to many areas. Seven respondents formed the basis for the comments on this section, with only four teachers considering giftedness to be recognised by outstandingness in relation to peers in several areas. There are many similarities in the comments made by teachers about the gifted girls with whom they have come into contact.

An example of these is the female teacher, who recognising Gavna as outstanding amongst her peers states.

[38...she thought very quickly, she could tackle the work given to the rest of the class and finish before the other children. She could solve mathematical puzzles or problems on her own using what she had learned previously, without using a lot of stages that you would normally go through with the other children.].

Mathematics by frequency of mention was the most prominent area in which outstandingness was recognised in these children as the following indicates,

[57. In mathematics she was very good and very precise, having few problems in using our maths scheme. She was way ahead of her age group, although of course we have books with which we can continue beyond the age levels.].

Use of language through creative writing or poetry was also cited as a medium for the recognition of outstandingness in children as the following teacher's description of Natalie whom she recognised as outstanding would indicate,

[63.She is quite individual, doing things in her own way and is very creative particularly in writing... The way that she can bring things to life, very simple things, create detail and use that across all sorts of writing..

A male teacher having recognised Samantha as outstanding states:

[68. Her maths was appalling and her way of working was very poor, but her language skills were excellent and could she write poetry. She was one of the best children I have ever seen writing poetry.].

This particular quotation from the tapescript is a case where the intonation and body language add much to the emphasis and meaning of

these words as an indication of how this teacher saw outstandingness in this child. Interestingly, use of language as described above is mentioned no less than 12 times in the EXPERIENCE section for girls, although not necessarily in relation to outstandingness.

The 26% of the teachers who construed giftedness in children as being outstanding in several areas seemed less confident of their definition of giftedness overall when their responses to other elements of the interview are compared. As an example a male teacher describes Susan, a pupil taught previously in the same school,

> *[30.I always thought she was very able. It was largely judged, I think, on her history essays - I have never seen such capable work done on this subject. She had an immediate grasp of everything that you talked about. She was generally outstanding all round, a very hard worker, very capable in maths as well as use of language, but it was that spark in that particular subject which you could see, mainly from her written work, because she was a very quiet girl...].*

Another teacher with 25 years teaching experience recalls Heather who was once a pupil in his class,

> *[42. She was really outstanding at any part of the junior curriculum - maths, language. I can remember setting her on the secondary maths syllabus because she was far beyond the junior syllabus. She was very good at language... She was very good at music...].*

The question could be raised how these responses to giftedness as a concept, especially the prominence of the attribute outstanding differ from responses to other words on the flash cards. This question has been partly answered in the discussion surrounding Table

VIII on pages 136/138 where the other terms excepting 'bright' are considered. However Table XVII on page 201 would seem to indicate that notwithstanding the teachers apparent uncertainty in their definitions of giftedness which occurred in the discussion on Table XV on pages 169/172 they here seem to produce a much clearer distinction between the concepts 'gifted' and 'bright'. Apart from the difference in the items on the two lists this is evident in the prominence of the attribute outstandingness for the 'gifted' responses compared with the accentuation on working hard, success and attainment in academic subjects in the 'bright' responses.

The quotations from the tapescripts are used in the consideration of each of the three interview elements above to support the contention that the majority of teachers used in the sample see giftedness in children as evidenced by general or specific outstandingness in relation to their peers. In most cases they comprise a very small part of the information provided by the tapescripts to indicate the total profile of a gifted child which could indicate much that is relevant to the teacher's concept of giftedness. A summary of the above discussion could be encapsulated in an example of a total profile of a real child provided in one of the tapescripts. The writer of this study is aware of the limitations that can accrue from the unique nature of one child and any bias the teacher may have in describing that child, however having considered the separate attributes of a child in some isolation it would seem that a holistic approach to the child could be justified.

Joanna at age 10 years was taught some years previously in a small rural primary school by the classteacher who describes her: *[59. She had been in this school throughout her junior career.*

> *She took the exams and qualified to get into the High School where she went straight into the second year. She was very much an individual worker although socially she mixed extremely well.*

Table XVII - Response categories and percentage occurrence in total sample of characteristics related to the words 'gifted' & 'bright' when presented as one of a group of similar terms on a series of flash cards.

FLASH CARDS -'GIFTED' - [45 teachers]

	% Occurrence
1.Oustanding ability in relation to peers	33.3
2.Outstanding ability in a specific area	40.0
3.Outstanding ability in many areas	13.3
4.Unrealised potential	04.4
5.High score on IQ tests	02.2
6.Personal characteristics - frustrated unconformist	04.4
7.Same as talented	13.3
8.Same as exceptional	06.7
9.Synonymous with other terms used on flash cards	33.3
10.Unable to define gifted	08.9
11.Potential & performance in mathematics	11.1
12.Potential & performance in music	13.3
13.Creative ability	06.6
[classteachers with no response to flash cards	06.6]

FLASH CARDS - 'BRIGHT' - [45 teachers]

1.academically gifted	02.2
2.works hard and succeeds in most things	28.8
3.less than exceptional	06.6
4.less than talented	08.8
5.less than gifted	08.8
6.quick thinking	08.8
7.relates to a particular subject	06.6
8.relates to attainment	22.2
9.above average	17.7
10.relates to academic subjects	13.3
11.did not answer the question	04.4

but I think it was accepted by all the class that she had definite abilities that they couldn't begin to approach. She had a very adult attitude to approaching any new concepts. Methods of doing work did not follow children's simple steps, she would take a short cut. She would discuss with me if she thought any mathematical problem was pointless in any case because she thought that it could be short-cut later on. All her work was very good. She worked exceptionally well by herself, she revelled in extremely advanced mathematical concepts and ways of working, and in fact seemed to want more and more! From talking to her it was obvious that she would have been happy doing maths from morning to night. (relationships to other children) She was very popular, being in the fortunate position of being not gifted in all subjects but being very highly talented in all subjects so that she was popular. She did have a very mature outlook on life and this particular year she was in was a very talented year. (parents and home background) Father was very supportive, but mother was supportive to the extent of being 'pushing'. I can't say that they over-estimated Joanna because she could be pushed to any level in mathematics. (sports & leisure interests) She was exceptionally capable at all sports. She was outstanding at gymnastics and also at every team sport we played.].

This example contains personal characteristics of Joanna, some of which are related to social acceptance, which also occurred in responses to the flash cards (see Table XV pages 169/172) and to a

lesser extent when teachers were addressing the abstract notion of giftedness by describing what they would look for in a gifted child. As a part of teachers' schema for giftedness they do merit consideration here. To some, a view of the gifted child has developed based on the more popular image of the little professor as seen by children and others. What is usually depicted is a boy who is rather thin and small in stature for his age, bespectacled, untidy, and sometimes with a faraway look in his eyes, who is tolerated by his contemporaries rather than popular, often providing the butt for their pranks. He is traditionally good at language , mathematics and knows a lot about books. The evidence from the sample of teachers used in the present study would seem to indicate the opposite. Physical characteristics were rarely volunteered by the teachers, but personal traits such as independence were mentioned in responses to all three elements of the interview. With respect to popularity with contemporaries slightly more responses suggested and/or gave examples of children who were popular than those who were unpopular. The situation is similar for independence as a personal characteristic, however where quoted this characteristic was never associated with unpopularity.

Children were described by 20% of the teachers in the sample as bored, and frustrated nonconformists, though notwithstanding these characteristics respondents had already recognised them as gifted in their eyes. The frustration was viewed by some teachers as being caused by the level of the work they were set being inadequate. Such situations could develop into real disruption as evidenced by the following extracts.

[13. He didn't socialise very well. he had a terrible temper.],

[14. He was extremely popular... he was like an irritation - a pearl in an oyster shell...], [10. The brightest boy I have ever taught was an absolute pain! He was disruptive mainly I think because he didn't feel that the work was taxing enough, and I had

to readjust for him quite considerably.], [65. His work was categorized by extreme untidiness, mess, lack of pride in his work. The boy did extremely silly things in the school, he was a continual pest. I must admit that he did respond when he found a member of staff who did appreciate his interest, and didn't treat him as some babyish whizz-kid who would grow out of it...].

Although in a minority teachers numbers 10 and 65 show an insight into the problem that was less common in the teacher sample than was expected. However, responses in general from the total sample of teachers studied would indicate that the respondents do not conform to Torrance's (1965) assertion that there is a tendency for teachers,

> ...to recognise as gifted the child who is attractive, well behaved, ambitious and conforming and fail to see the potentialities of creative children who may be less mannerly, attractive, well-behaving and conforming.

The findings of the present study however, do bear some slight relationship to Hagen's (1980) set of 15 pupil characteristics relevant to gifted potential which he synthesised from the available literature. They included cognitive characteristics involving the use of quantitative expressions and quantitative reasoning, plus academic skills such as absorption in intellectual tasks. The comparison is limited by the lack of detail regarding thinking skills provided by the teachers used in the present study. The emphasis on outstandingness, notwithstanding the subdivision into the areas discussed above, still begs many questions.

Joanna was declared by her teacher to be outstanding in mathematics and sport but with an inference of being highly able in relation to her peers in most areas of the school curriculum. A reappraisal of this teacher's total interview responses provided by the tapescripts and field notes leads the writer of this study to the view

that this teacher's concept of giftedness in relation to this child is almost entirely based on a school profile, and particularly in the area of mathematics.

The apparent popularity of mathematics, use of language and music as areas in which such outstandingness is recognised would seem worthy of further comment. One should be reminded at this stage that the following comments apply to the nine and ten year old children in the 24 primary schools used in the research sample. At the time the data was collected most of the schools in the sample followed the general curriculum content pattern that was used in most schools in the County, which broadly consisted of mathematics, use of language, music, movement and something in many cases called topic or project work which included art, science, and the humanities in combination. In terms of time allocated to each of these curriculum areas, most time tended to be spent on the 'core' areas of mathematics and use of language. Reasons for this situation are embedded in the classteacher's accountability to the parents, school governors, the Local Education Authority (LEA), and by extension to the DES whose guidance has in the past emphasised the importance of these subjects to the point where they are the best supported subjects in terms of literature, workpacks, schemes of work, and INSET activities both school-based and centrally-based. Following the ethos developed in primary schools around these two subjects based on their centrality to all children's work, as basic communication and expressive skills they are also the most systematically, individually assessed and recorded subjects in the curriculum. It would therefore not seem surprising that classteachers are likely to know their charges better from their level of performance in these areas, based on that necessary contact time required by regular recording of individual progress, than for any other area in the primary curriculum.

Associated with this situation is the prominence of giftedness in mathematics amongst young children as indicated by Anita Straker

(1981) in comparison with giftedness in other areas. The most documented cases tend to be those who have withdrawn from the school system of education such as Ruth Lawrence who obtained her first degree in mathematics at the age of 13 years and is now researching and lecturing at Oxford University. The Times Higher Education Supplement of June 17 1988 cites Andragon DeMello from the USA who recently obtained his Bachelor's Degree in mathematics at the age of 11 years. Both fathers gave up careers to nurture the gift they and others perceived in their children. Andragon went to college at the age of 8 years. Previously he was always in trouble in the elementary school for teaching other children things they were not yet supposed to learn. At university people would come up to him and ask if he was someone's little brother. The desirability of such accelerated experience for our children is an issue for a separate debate elsewhere, but these two are some of the many examples of giftedness in mathematics in primary aged children.

With respect to music, 62% of the teachers in the sample recognised it as an area in which giftedness could occur, but apart from one teacher in the whole sample who is quoted above, they did not feel that the same could also be true of sport. Music holds a special place in most primary schools as an area in which all children are involved often as both a school and community activity. It also provides an opportunity in many cases for children to start to develop their performing skills both as individuals and in groups especially where parental and community expectations are involved. It would seem significant that teachers in the interviews accentuated the performance rather than the potential aspect in the responses which offered music as an area of giftedness. A review of the tapescript responses in this area would indicate that there is a sense, with some notable exceptions already given previously in tape extracts, in which the concept of giftedness held by teachers citing music is based, for this dimension of their construct, on the level of skill acquisition related to performance. In terms of detailed criteria for performance, most of the responses were vague, offering little more than a statement that

the child is or would be expected to be good at playing a particular instrument. Other respondents specified the level as one that was outstanding amongst peers and others, but without supportive detail. This situation, with some support from responses to mathematics and use of language, could be interpreted as a notion of giftedness which places the speed and acquisition of a skill far above the level that could be expected from peers, but with a nature that is incompletely understood by such teachers and is therefore difficult to define. This would seem to confirm that such teachers need to recognise giftedness through children's performance, finding potential much more difficult to perceive. However, because of its performing nature, children who distinguish themselves in music are much more likely to have such performance and potential recognised by their classteachers than those who distinguish themselves in less prominent but equally practical areas such as science and technology.

Since this data was collected the subject preference within English and Welsh primary schools is changing with the introduction into the classroom in September 1989 of the new National Curriculum. The main changes that the implementation of such a curriculum will require are twofold. On the one hand it makes the classteacher more accountable for assessing and recording the progress of the individual child across a much wider group of subjects, monitored by other local schools in consortium, with the results more widely disseminated than at present. On the other hand science over the past few years has now been firmly established in many primary schools and is to become the third 'core' curriculum area alongside English and mathematics. The wider advantages and disadvantages of these curriculum changes are issues for debate elsewhere, but along with the guidance on special needs proposed for the Education Reform Act being prepared for statute, classteachers should become more aware of the needs of all the children in their charge across a greater number of individual profile elements. With such a sweeping change taking place the findings of a similar exploratory study to the present one, once the new curriculum is established, will be needed to update our understanding and compare

the findings of the present study regarding teachers' constructs of giftedness based on the children they teach. It is possible that knowledge based on a wider profile of the individual child than that used by teachers in the present sample, would not only produce more areas of the curriculum in which giftedness as defined by the respondents could be recognised, but would also develop a more multi-dimensional construct of such children. This might be particularly true in relationship to the role science can play as a medium for the recognition of giftedness in terms of the higher order thinking skills integral to design and creativity in applications of scientific principles.

From the previous discussion in the present study, the main findings of the enquiry can be summarized as follows:

1. From the results of the analysis of the responses of the teachers used in the sample no single construct of giftedness in primary schoolchildren has been identified for the group as a whole.(See pp 135-140, 148-176). Additional interview data based on more time for reflection on the part of the teacher and more opportunity for the interviewer to put clarification questions, plus classroom observation of teacher interaction with children may have produced fuller responses and a clearer pattern of conceptual understanding. Such measures however would not have satisfied the schools' permitted parameters for this enquiry. The constructs held by the teachers therefore were unique in nature to that individual.

2. Such constructs were based more on first hand knowledge of

children they had known or taught than on literature and research findings available.(See p122) As has already been indicated only one teacher was attending an INSET course related to gifted and able children whilst the remainder had never been formally presented with their nature and needs, even the most recently qualified admitted that this issue had only been given a passing mention during their professional training.(See pp122,183) This would seem particularly significant in view of the individuality of their concept of giftedness indicated in 1. above. The existence of a greater availability of structured in-service provision for teachers in the USA and Canada responsible for gifted children, tends to produce more of a norm-referenced or recognised group concept of such children, notwithstanding some individual differences in such a concept.

3. The majority of teachers in the sample studied volunteered that high ability children were low on their list of priorities, and for this reason they had never really given their nature and needs much serious consideration.(See p123) Notwithstanding that most of the teachers appeared to be comparatively inexperienced in spontaneously verbalising their concepts,(See pp124-130) this would seem to partly account for the uncertainty and vagueness of teachers' responses, which often contained insurance clauses such as the opposite may be true, or that giftedness may be the same as one or more of the similar terms presented on the flash cards.(cf.Table XVII p201). This stood out in contrast to the detailed definitions proffered by some of the teachers

when describing slow learners, and which were in all but one case based on definitions in the County's policy document for such children. In consequence of this indetermination, the concepts of giftedness emerging from the data collected are often equally vague and lacking in precision. As indicated in the data a few respondents admitted that they were quite unable to define giftedness.

4. For this sample of primary teachers their concept of giftedness in children appears to be primarily based on the school profile of the child(pp189,195) and in many cases on what teachers term school subjects.(cf.Tables VII pp132-133, and VIII pp136-138) Comparatively little seems to be known about what children do in the other 75% of their waking life, such as hobbies and other activities. Where extra-school information has contributed it has been in fields in which performance before a group has been involved such as music, sport and chess.

5. A majority of 74% of the teachers in the sample, whether responding to abstract notion, experience questions or flash cards, framed their concept of giftedness primarily around children's performance rather than potential.(cf.Tables VII pp132-133, VIII pp136-138 together with cluster analysis results pp135-140 and 148-176) Teachers' expectations of such performance therefore were raised to a level that they considered gifted once children had produced results either in speed of mental processing in relation to peers such as in mathematics, or in the level of

skill acquisition. Some 64% of the teachers in the sample had made some mention of the recognition of potential for giftedness either in their responses to the notion of gifted or cited examples of such children. Two thirds of this group of respondents based their evidence for such suspected potential on their own professional instinct. No one method or type of evidence for measuring this potential can be ascertained from the study sample, but teachers looked for a variety of signs such as the oft repeated phrase that it was they way children talk to you and what they have to say. Less than 5% of the total sample suggested such potential be recognised through standardized testing for IQ or basic skills. No respondent suggested that outside support services should be used to this end.

6. The data produced by 68% of the sample would clearly indicate that these teachers have a concept of giftedness in schoolchildren that is based on outstanding ability in relation to peers.(cf.Tables VII pp132-133, VIII pp136-138 and XVI p187, plus the cluster analysis results pp 135-140, 148-176) Such outstandingness is more likely to be in one specific area of the curriculum, such as mathematics, music or use of language. Gifted children are perceived as being much less likely to be outstanding in many areas of the curriculum. This outstandingness is performance related as commented in 5. above. Few teachers were very specific on how outstanding one has to be before being described as gifted, the majority of the responses on this issue being vague and qualitative. Volunteered comments

after the interview would suggest that many of these teachers did not possess any clear reference structure against which to compare such children. This issue needs further consideration if such children are not simply to be tolerated and at worst ignored. However, it can be demonstrated that the attribute outstandingness when referred to as the major attribute of giftedness, to the majority of these teachers is at a level of potential and attainment in both intellectual and creative areas of endeavour, that is far above that which their peers could be expected to attain, even though that level is not precisely defined.

7.It would seem consistent with the move away in this country from the use of the term 'gifted' to describe children of high ability (see Kerry 1981, Maltby 1985, Denton and Postlethwaite 1985, plus pp36,15-17) that 78% of the teachers used in the sample said that they rarely used the word 'gifted' in school when describing children, although most of them accepted that they possessed a concept that could be called by that name.(See p123) Interestingly, they declined to use the word professionally because of elitist connotations and because of their uncertainty in recognising such children. In daily practice they therefore substituted such terms as 'highly able'. Yet when responding to the terms on the flash cards they produced a clear distinction between 'highly able' and 'gifted' considering the former to be a concept encapsulating a much lower level of potential and performance in intellectual and creative pursuits. Giftedness by most respondents was considered to be at a much higher level than

any of the other terms on the cards. 64% of the teachers also mentioned differences in the nature of the similar terms, which assists in defining the parameters of their concept of giftedness. Talented was seen as the closest synonym for gifted, as teachers related it to outstanding potential and performance in a single area of endeavour, but most respondents added the distinction that this would be restricted to a pursuit that required a high level of creativity. Exceptionality seemed to be a term that some related to personal characteristics such as exceptionally pleasant and cooperative. The major distinction drawn between that and the other terms on the cards was that exceptionality meant being different from the norm and could be related to either positive or negative qualities, but was not specifically related to potential or performance. The term 'bright' has already been mentioned in this chapter and relates to levels of attainment above the average but not at the levels of gifted, talented, or highly able.

This apparent distinction made by the teachers in their understanding of the different terms on the flash cards, especially in relation to giftedness, might have important implications for the policy makers and in-service training providers. There has been an unwritten policy in this country to avoid the word 'gifted', as indicated in the discussion of this issue in chapters one and two. This evasion of the term has been in an attempt to keep all interested parties happy and avoid any connotation of 'elitism', and many groups, organisations and research projects ostensibly concerned with this category of child have endeavoured to achieve this end by using such titles as 'Able'. Earlier workers such as Ogilvie (1973) faced this dilemma head on by using the term and giving an operational definition to clarify it, based on discussion with teachers as well as other sources of information.

It is noteworthy in this context that teacher organisations such as the National Association for Curriculum Enrichment and Extension which arose out of the Schools' Council programme group concerned with the 'gifted', and whose stated aims include support for the classteacher dealing with such children does not have an official operational definition of 'giftedness'. The present study's finding on the flash card responses would indicate that there is a twofold need, one avenue to be pursued is the continuation of work currently pressed forward by workers such as Hoge (1988), towards identifying the differences in the terms often used synonymously by different groups when describing giftedness and working towards a generally accepted working definition. This theme is further discussed below. The second, and perhaps more immediate, need is for organisers of the much needed in-service courses and those responsible for contributions to special needs courses in initial training, to address the term 'gifted' and related terms in a more specific manner and avoid the approach which presents teachers and students with a sea of vagueness devoid of navigational aids. Such teachers as those in the sample used in the present study attending such a course are likely to increase their confusion and uncertainty when attempting to recognise such children rather eradicate it.

Other findings from the study previously discussed in chapters four and five, include giftedness in boys being more easily recognised than that in girls. The apparent minimal effect background in terms of training and types/length of teaching experience seems to have on group membership of teachers subscribing to the same attributes. The anticipated and experienced personal characteristics and background of such children caters equally for the disruptive, frustrated, unconformist, which tended particularly to typify the boys cited as examples, and the pleasant, cooperative and popular child who was good at most things and usually gifted at one, indicating that teachers' constructs are not restricted to the conformist. Such children tend to have passively or actively supportive homes, although in most cases information on this aspect was meagre.

As indicated in chapter one, research into practising primary classteachers' constructs of giftedness would seem to be a fundamental starting point to the assessment of the needs of and provision for the identification of such children. This present study has attempted to explore such a construct and has in no way been directly concerned with its application to such children. A natural extension to studying the nature of teacher constructs would seem to be the need for a UK examination of the predictive validity of teacher judgement measures building on the work of Denton & Postlethwaite (1985). It has been previously recognised in the present study that there is a need for a multi-dimensional approach to the identification issue, in which teacher constructs play an important part, based as far as possible on agreed operational definitions as Hoge (1988) indicates,

> There is an urgent need for further research that would examine the basic requirement for coordination between the definition of agreed constructs of giftedness used in multi-dimensional identification procedures and their application to children.

There was a definite feeling, by the 68% of the classteachers comprising the sample used for this study, that they should be more aware of practical research in this field, to enable them to modify their own views from the dissemination of such information and in the light of their daily experience in the classroom. Notwithstanding the gradually developing national interest in the needs of highly able children, evidenced in the appointment, by more Local Education Authorities, of inspectors and advisory teachers with a specific responsibility in this area, and the work of organizations primarily for teachers, such as the National Association for Curriculum Enrichment and Extension, there is still a vital communication gap to be filled between the practising classteacher and the researcher, before the children involved will really begin to benefit from the full professionalism both have to offer. The achievement of this important objective needs to be seen to be the task of both types of professionals, directly and through the support systems of the

education service, otherwise both will continue to be the poorer, and to some extent will be failing in their responsibility to the children they claim, directly or indirectly, to serve.

The above comments indicate a twofold concern on the part of these teachers. Firstly, one of communication of the results of research and their implications for classroom practice and secondly of greater participation in the prioritization of classroom based research needs. The medium for the creation of this partnership between the practising teacher and the research fraternity in the field of giftedness and provision for children of high ability is a threefold one. Firstly, more research needs to be done on the place of education for teaching such able children in initial teacher education courses in colleges and universities. With the current, national, justified concern for meeting the needs of the slow-learners and physically disadvantaged/'statemented' children now established in the primary classroom, any inclusion of the needs of the gifted under special needs in initial training courses usually means, in the experience of the writer of this study, that it has but passing mention, and does little to raise the awareness of the students to the challenges of a different kind such children are likely to present. Questions need to be addressed whether such course elements should be independent of part of the special needs course and how far it should be school-based. The findings of such research are likely to be different for four-year Bachelor of Education initial training courses than for the much shorter one-year Postgraduate Certificate of Education (PGCE).

The research needs of the second area of provision are particularly evident as a supplement to the extremely short period of the PGCE course in which to professionally prepare a primary classteacher with an acquaintance with each part of the total curriculum, classroom strategies, and a theory of teaching and learning. LEAs are being encouraged to re-appraise the role and organisation of

the probationary period for newly qualified teachers in schools. Discussions are being held locally to consider the possibilities of extending this period and and to organise it on a much more structured basis with appropriate support and classroom-release activities. As an objective of such a period is its function as a bridge between professional training and practice, it could also provide an opportunity for a consideration of the gifted. Research is needed into how classroom identification and provision for such children can or should be included during this period.

The third area of provision is that of in-service training for experienced teachers. For the teaching force already in post there is a need for research into the nature and effectiveness of the developing, although at present fragmented, provision of INSET courses concerned with the needs of this group of children. Such enquiry is needed into the ideal structure and content of such courses based on appropriate review of teacher's needs, the nature of current provision, and the guidance provided by existing research. Compared with the research projects conducted in this country's schools concerning children in other areas of special needs, there is a dearth of UK based research on matters concerning the school provision for the able child, who in many respects is just as much a special needs category. Chapter two indicates that the most recently published UK projects beginning to address this aspect of the needs of the gifted is the work done by Maltby (1985) in primary schools and Denton & Postlethwaite (1985) in secondary schools. By contrast, transatlantic exemplars of such in-service training based on their research are already in existence and are reported by workers such as Hoge & Cudmore (1985) referred to on page 73, but as with a number of strategies developed in the USA and Canada they have limited transferability to the UK scene. The needs of current and future INSET must also be related to the nature and efficiency of local authority teacher support teams and systems. To date no such academically organised research into this area of appraisal has come to light, apart from individual LEA initiatives. At present there does not exist any DES supported

national system such as that sponsored by them for science under the title Initiatives in Primary Science: an Evaluation (IPSE), and yet some such LEA advisory and inspector support teachers have been in post sufficiently long to warrant a research appraisal of their effectiveness to this end.

The results of the present study would indicate that one of its major limitations is the endeavour to examine the nature and extent of teachers' concepts of giftedness based entirely on their verbal responses during two interviews. This strategy was adopted for the reasons indicated in chapter three. The major outcome of this enquiry indicates that many of the teachers are unclear about what they mean by 'gifted', producing variations on the theme of 'outstanding ability'; yet the apparent lack of precision and reflectivity in their views, the application of their thoughts as indicated by the 'experience' examples differed from their espoused theories produced in their responses to 'abstract' and 'flash cards'. There is therefore a need for a more multi-dimensional enquiry to examine this apparent dichotomy which includes research based on primary classroom observation of the teacher in action, particularly pupil-teacher interaction. Such research would differ from that already done by Maltby (1985) by being much more teacher-orientated in its pursuit of increasing still further our understanding of teacher constructs of the gifted.

In conclusion, results of the present study, which reveal practising classteachers' move away from a terminology of 'giftedness' (see p212) to one of high ability in relation to peers, predominantly within a a specific area of activity and largely evidenced through school-based achievements, would indicate a need for further development of the teachers' reference structure on high abilities in children. This would seem particularly true in relation to the uncertainty with which such concepts were held by the teachers in this study. Moves to develop such a structure are a particularly necessary prerequisite for any progression towards the informed development of

any national or local policy for the education of such children, notwithstanding that much work has and is being done on the nature of these children and the provision for their needs. The hitherto comparatively neglected preparation of the teaching force in this respect now needs to be addressed, especially in view of the increasing importance of the position such primary classteachers occupy at the point of delivery for any provision. The case has already been stated that apart from, or in addition to, the imposition of alternative means of provision (such as withdrawal from classrooms or education in special schools for the highly able), the effectiveness of any identification and provision strategies to be implemented in the schools, will heavily depend on the classteacher's own ideas of what is at stake.

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LIST OF APPENDICES

Nene College Northampton

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Director:
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Deputy Director:
J P A Frain MA M Tech PhD M I Ex

date our ref GVI/84/1/Res your ref

Dear

During the normal busy term in every primary classteacher's life, a substantial proportion of time is spent on marking and evaluating the attainment potential of the pupils in our charge. Under the supervision of Dr.Peter Tomlinson of the University of Leeds, I am researching into some of the ways in which pupils and teachers respond to objective and subjective methods of assessment.

The project involves an interview with the classteacher of the 9 to 10 year olds, at a time that is most convenient to you, some short standardized tests for the pupils of that class, and a brief observation period, the whole of which has been carefully designed to be 'painless' and not time consuming. I appreciate that every term is a busy one, but I would be grateful if your school could cooperate inthis venture, on the strict understanding that any data collected and people involved will be treated with the utmost confidentiality at all times.

Should you need further information before an answer can be given I would be delighted to call upon you and explain the purposes of the project more fully. Should you desire to contact me by telephone, my college extension is 244 and my home number is Kettering 710546.

Yours faithfully

(G.V.Ilsley)
Principal lecturer

Appendix II a) - CLUSTAN 2 output data: Responses to ABSTRACT notion of giftedness.

CLUSTER 1 NUMBER OF CASES = 5

CASE NUMBERS
1 3 8 18 21

BINARY VARIABLE FREQUENCIES

4	4	0	1	2	3	0	0	0	0	0	2	4	5	4	0	0	0	4	0

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

14	100.0	2	80.0	1	80.0	19	80.0	15	80.0	13	80.0	6	60.0	5	40.0	12	40.0	4	20.0
16	0.0	18	0.0	7	0.0	9	0.0	17	0.0	8	0.0	20	0.0	3	0.0	11	0.0	10	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

14	2.87	19	2.04	15	1.53	13	1.53	1	1.23	12	1.15	4	1.15	6	1.15	2	1.02	5	0.84
16	0.00	18	0.00	11	0.00	20	0.00	17	0.00	7	0.00	8	0.00	9	0.00	3	0.00	10	0.00

CLUSTER 2 NUMBER OF CASES = 8

CASE NUMBERS
2 6 7 12 15 17 19 23

BINARY VARIABLE FREQUENCIES

5	6	0	2	3	5	0	0	0	0	0	0	0	1	5	0	0	1	0	3

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	75.0	1	62.5	6	62.5	15	62.5	5	37.5	20	37.5	4	25.0	14	12.5	18	12.5	9	0.0
13	0.0	8	0.0	16	0.0	19	0.0	17	0.0	3	0.0	7	0.0	12	0.0	11	0.0	10	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

20	1.72	4	1.44	6	1.20	15	1.20	2	0.96	1	0.96	18	0.96	5	0.78	14	0.36	8	0.00
7	0.00	3	0.00	9	0.00	16	0.00	17	0.00	11	0.00	19	0.00	12	0.00	13	0.00	10	0.00

Appendix II a) (Continued) - CLUSTAN 2 output data: Responses to ABSTRACT notion of giftedness.

CLUSTER 3 NUMBER OF CASES = 5

CASE NUMBERS
4 5 13 20 22

BINARY VARIABLE FREQUENCIES

3	4	1	0	3	2	0	0	0	0	0	1	3	2	0	5	0	2	2	1

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

16	100.0	2	80.0	1	60.0	13	60.0	5	60.0	19	40.0	14	40.0	18	40.0	6	40.0	20	20.0
12	20.0	3	20.0	15	0.0	9	0.0	17	0.0	8	0.0	7	0.0	4	0.0	11	0.0	10	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

3	4.60	16	4.60	18	3.07	5	1.25	13	1.15	14	1.15	19	1.02	2	1.02	20	0.92	1	0.92
6	0.77	12	0.57	7	0.00	11	0.00	17	0.00	9	0.00	4	0.00	8	0.00	15	0.00	10	0.00

CLUSTER 4 NUMBER OF CASES = 5

CASE NUMBERS
9 10 11 14 16

BINARY VARIABLE FREQUENCIES

3	4	0	1	3	2	0	0	0	0	0	5	5	0	3	0	1	0	3	1

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

13	100.0	12	100.0	2	80.0	5	60.0	1	60.0	19	60.0	15	60.0	6	40.0	20	20.0	4	20.0
17	20.0	18	0.0	11	0.0	9	0.0	16	0.0	3	0.0	7	0.0	14	0.0	8	0.0	10	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

17	4.60	12	2.87	13	1.92	19	1.53	5	1.25	15	1.15	4	1.15	2	1.02	20	0.92	1	0.92
6	0.77	18	0.00	11	0.00	9	0.00	16	0.00	8	0.00	3	0.00	14	0.00	7	0.00	10	0.00

Appendix II b) - CLUSTAN 2 output data: EXPERIENCE examples of 'gifted' boys & girls.

CLUSTER 1 NUMBER OF CASES = 8

CASE NUMBERS
1 4 6 8 16 17 20 23

BINARY VARIABLE FREQUENCIES

5	6	0	2	2	6	0	0	0	0	0	1	5	3	1	5	4	0	8	0
3	3	1	7	0	2	0	1	2	0	1	0	0	1	1	0	0	1	0	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

19	100.0	24	87.5	6	75.0	2	75.0	1	62.5	16	62.5	13	62.5	17	50.0	22	37.5	14	37.5
21	37.5	4	25.0	29	25.0	26	25.0	5	75.0	15	12.5	12	12.5	23	12.5	28	12.5	34	12.5
31	12.5	38	12.5	35	12.5	32	0.0	11	0.0	37	0.0	10	0.0	8	0.0	30	0.0	25	0.0
7	0.0	33	0.0	9	0.0	36	0.0	27	0.0	18	0.0	39	0.0	3	0.0	20	0.0		

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

16	2.88	12	2.88	17	2.88	31	2.86	15	2.88	24	2.52	22	2.16	19	1.77	13	1.60	34	1.44
21	1.44	3	1.44	35	1.44	28	1.44	4	1.44	4	1.44	26	0.96	1	0.96	14	0.96	2	0.96
29	0.92	5	0.52	23	0.48	11	0.00	3	0.00	33	0.00	25	0.00	37	0.00	9	0.00	32	0.00
27	0.00	8	0.00	39	0.00	36	0.00	13	0.00	10	0.00	30	0.00	7	0.00	20	0.00		

CLUSTER 2 NUMBER OF CASES = 9

CASE NUMBERS
2 3 10 11 12 13 18 19 22

BINARY VARIABLE FREQUENCIES

6	8	0	1	5	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0
0	0	0	1	1	3	3	1	4	1	0	0	4	0	1	1	5	0	2	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	88.9	1	66.7	5	55.6	37	55.6	6	44.4	33	44.4	29	44.4	27	33.3	24	33.3	39	22.2
4	11.1	19	11.1	25	11.1	24	11.1	26	11.1	35	11.1	28	11.1	18	11.1	30	11.1	32	0.0
14	0.0	12	0.0	17	0.0	11	0.0	9	0.0	21	0.0	8	0.0	22	0.0	31	0.0	23	0.0
7	0.0	34	0.0	16	0.0	15	0.0	3	0.0	38	0.0	13	0.0	10	0.0	20	0.0		

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

30	2.56	19	2.56	27	2.56	37	1.83	33	1.70	29	1.46	39	1.28	35	1.28	36	1.28	28	1.28
26	1.28	5	1.16	2	1.14	1	1.02	6	0.85	25	0.85	4	0.64	24	0.32	19	0.20	31	0.00
8	0.00	17	0.00	21	0.00	9	0.00	22	0.00	3	0.00	23	0.00	10	0.00	16	0.00	32	0.00
15	0.00	34	0.00	14	0.00	7	0.00	13	0.00	38	0.00	12	0.00	11	0.00	20	0.00		

Appendix II b) (Continued) - CLUSTAN 2 output data: EXPERIENCE examples of gifted boys & girls.

CLUSTER 3 NUMBER OF CASES = 4

CASE NUMBERS
5 7 14 15

BINARY VARIABLE FREQUENCIES

3	2	1	1	3	1	0	0	0	0	0	0	4	4	0	0	0	0	3	1
1	1	4	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

23	100.0	13	100.0	14	100.0	5	75.0	1	75.0	19	75.0	2	50.0	6	25.0	4	25.0	3	25.0
20	75.0	22	75.0	33	75.0	21	25.0	37	25.0	15	0.0	26	0.0	16	0.0	28	0.0	17	0.0
11	0.0	18	0.0	39	0.0	9	0.0	27	0.0	8	0.0	29	0.0	30	0.0	31	0.0	10	0.0
32	0.0	34	0.0	35	0.0	36	0.0	7	0.0	38	0.0	24	0.0	12	0.0	25	0.0		

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

3	5.75	23	3.83	29	2.88	13	2.56	14	2.56	5	1.57	22	1.44	4	1.44	19	1.33	1	1.15
21	0.96	33	0.96	37	0.82	2	0.64	4	0.48	27	0.00	16	0.00	15	0.00	17	0.00	29	0.00
18	0.00	34	0.00	9	0.00	26	0.00	8	0.00	28	0.00	7	0.00	30	0.00	31	0.00	32	0.00
11	0.00	36	0.00	35	0.00	10	0.00	39	0.00	38	0.00	24	0.00	12	0.00	25	0.00		

CLUSTER 4 NUMBER OF CASES = 2

CASE NUMBERS
9 21

BINARY VARIABLE FREQUENCIES

1	2	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	1	1
2	0	1	0	2	1	0	0	1	0	0	0	1	1	0	1	1	1	2	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

39	100.0	14	100.0	2	100.0	25	100.0	21	100.0	5	50.0	6	50.0	20	50.0	23	50.0	38	50.0
37	50.0	36	50.0	33	50.0	1	50.0	29	50.0	26	50.0	19	50.0	34	50.0	27	0.0	31	0.0
18	0.0	12	0.0	17	0.0	4	0.0	28	0.0	16	0.0	15	0.0	30	0.0	7	0.0	8	0.0
32	0.0	22	0.0	13	0.0	35	0.0	11	0.0	10	0.0	3	0.0	9	0.0	24	0.0		

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

25	7.67	20	5.75	38	5.75	36	5.75	34	5.75	39	5.75	21	3.83	14	2.56	23	1.92	26	1.92
33	1.92	37	1.64	29	1.64	2	1.28	5	1.05	6	0.96	19	0.88	1	0.77	32	0.00	28	0.00
30	0.00	7	0.00	18	0.00	16	0.00	27	0.00	3	0.00	12	0.00	22	0.00	31	0.00	15	0.00
11	0.00	4	0.00	17	0.00	35	0.00	9	0.00	13	0.00	8	0.00	10	0.00	24	0.00		

Appendix II c) - CLUSTAN 2 output data - Teachers' FLASH CARD responses to the word 'gifted'. (45 cases)

CLUSTER 3 NUMBER OF CASES = 12

CASE NUMBERS
4 6 8 14 15 25 27 31 37 41 43 44

BINARY VARIABLE FREQUENCIES

8 8 3 1 7 5 0 0 0 0 0 4 11 0 1 0 0 0 0 1
3 0 0

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

13	91.7	2	66.7	1	66.7	5	58.3	6	41.7	12	33.3	3	25.0	21	25.0	15	8.3	20	8.3
4	8.3	18	0.0	8	0.0	23	0.0	17	0.0	9	0.0	11	0.0	19	0.0	14	0.0	22	0.0
7	0.0	10	0.0	16	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

21	2.81	13	2.29	15	1.87	3	1.87	1	1.11	5	1.05	12	1.00	2	0.94	6	0.94	4	0.54
20	0.25	18	0.00	22	0.00	7	0.00	11	0.00	10	0.00	19	0.00	14	0.00	9	0.00	8	0.00
23	0.00	16	0.00	17	0.00														

CLUSTER 4 NUMBER OF CASES = 4

CASE NUMBERS
11 12 20 45

BINARY VARIABLE FREQUENCIES

3 3 0 1 1 3 0 0 0 0 0 3 2 0 0 0 0 0 0 0
0 3 4

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

23	100.0	2	75.0	12	75.0	6	75.0	1	75.0	22	75.0	13	50.0	5	25.0	4	25.0	3	0.0
17	0.0	10	0.0	11	0.0	16	0.0	7	0.0	18	0.0	19	0.0	20	0.0	9	0.0	21	0.0
14	0.0	8	0.0	15	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

23	7.50	22	6.75	12	2.25	6	1.69	4	1.61	13	1.25	1	1.25	2	1.05	5	0.45	9	0.00
17	0.00	10	0.00	11	0.00	16	0.00	8	0.00	18	0.00	19	0.00	20	0.00	21	0.00	3	0.00
7	0.00	14	0.00	15	0.00														

Appendix II c) - CLUSTAN 2 output data - Teachers' FLASH CARD responses to the word 'gifted'. (45 cases)
(Continued)

CLUSTER 1 NUMBER OF CASES = 13

CASE NUMBERS
1 10 21 23 24 26 32 34 36 38 39 40 42

BINARY VARIABLE FREQUENCIES

7	10	1	2	7	6	0	0	0	0	0	0	5	0	1	1	1	3	3	13
0	0	1																	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

20	100.0	2	76.9	5	53.8	1	53.8	6	46.2	13	38.5	18	23.1	19	23.1	4	15.4	3	7.7
23	7.7	16	7.7	17	7.7	15	7.7	21	0.0	9	0.0	8	0.0	7	0.0	22	0.0	14	0.0
10	0.0	11	0.0	12	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

19	3.46	16	3.46	20	3.00	18	1.73	15	1.73	17	1.73	2	1.08	6	1.04	4	0.99	5	0.97
13	0.96	1	0.90	3	0.58	23	0.58	7	0.00	14	0.00	8	0.00	22	0.00	21	0.00	10	0.00
9	0.00	11	0.00	12	0.00														

CLUSTER 2 NUMBER OF CASES = 16

CASE NUMBERS
2 3 5 7 9 13 16 17 18 19 22 28 29 30 33 35

BINARY VARIABLE FREQUENCIES

9	11	2	3	10	6	0	0	0	0	0	8	0	6	0	0	1	3	0	1
1	2	1																	

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	68.8	5	62.5	1	56.3	12	50.0	6	37.5	14	37.5	4	18.8	18	18.8	3	12.5	22	12.5
23	6.3	20	6.3	21	6.3	17	6.3	9	0.0	10	0.0	13	0.0	19	0.0	8	0.0	11	0.0
16	0.0	7	0.0	15	0.0														

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

14	2.81	17	1.50	17	1.41	18	1.41	4	1.21	22	1.13	5	1.13	2	0.97	1	0.94	3	0.94
6	0.84	21	0.70	23	0.47	20	0.19	8	0.00	7	0.00	19	0.00	9	0.00	11	0.00	10	0.00
15	0.00	16	0.00	13	0.00														

Appendix II d) - CLUSTAN 2 output: ABSTRACT, EXPERIENCE and FLASH CARD responses for the word 'gifted'.(23 cases)

CLUSTER 1 NUMBER OF CASES = 7

CASE NUMBERS
1 4 6 8 15 17 23

BINARY VARIABLE FREQUENCIES

4	5	0	2	3	4	0	0	0	0	0	3	3	0	0	0	1	4	0	4
0	2	2	0	3	3	5	1	0	1	1	3	0	5	3	1	4	2	0	7
0	2	4	1	4	0	0	0	1	0	0	0	0	1	1	0	0	1	1	0

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

40	100.0	45	85.7	27	71.4	2	71.4	34	71.4	6	57.1	37	57.1	1	57.1	43	57.1	18	57.1
20	57.1	25	42.9	5	42.9	32	42.9	13	42.9	35	42.9	12	42.9	26	42.9	23	28.6	22	28.6
38	28.6	42	28.6	4	28.6	17	14.3	30	14.3	58	14.3	28	14.3	55	14.3	54	14.3	31	14.3
36	14.3	44	14.3	59	14.3	49	14.3	15	0.0	47	0.0	14	0.0	51	0.0	19	0.0	33	0.0
24	0.0	16	0.0	3	0.0	46	0.0	11	0.0	48	0.0	10	0.0	50	0.0	39	0.0	52	0.0
53	0.0	29	0.0	56	0.0	9	0.0	21	0.0	57	0.0	41	0.0	60	0.0	8	0.0	7	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

36	3.29	22	3.29	43	3.29	18	3.29	37	2.63	45	2.46	23	2.19	32	1.97	34	1.83	40	1.77
49	1.64	4	1.64	12	1.64	38	1.64	55	1.64	17	1.64	59	1.64	27	1.37	26	1.23	20	1.19
6	1.10	30	1.10	35	1.10	42	1.10	2	0.91	5	0.90	13	0.90	1	0.88	25	0.82	28	0.66
54	0.55	44	0.55	58	0.47	31	0.37	46	0.00	50	0.00	16	0.00	15	0.00	48	0.00	11	0.00
52	0.00	10	0.00	33	0.00	39	0.00	47	0.00	56	0.00	29	0.00	57	0.00	51	0.00	24	0.00
53	0.00	9	0.00	3	0.00	14	0.00	7	0.00	19	0.00	60	0.00	9	0.00	21	0.00	41	0.00

'Appendix II d) (Continued) - CLUSTAN 2 output data: ABSTRACT, EXPERIENCE and FLASH CARD responses to the word 'gifted'.

CLUSTER 2 NUMBER OF CASES = 10

CASE NUMBERS

2 3 10 11 12 13 16 18 19 22

BINARY VARIABLE FREQUENCIES

7	9	0	1	5	5	0	0	0	0	0	3	4	0	0	1	1	0	2	5
1	0	1	5	4	4	4	2	0	0	4	1	0	0	0	0	0	1	1	2
0	0	0	0	2	1	4	3	1	5	1	1	0	4	0	2	1	5	0	2

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

2	90.0	1	70.0	25	60.0	20	50.0	50	50.0	58	50.0	24	50.0	5	50.0	6	50.0	31	40.0
13	40.0	26	40.0	54	40.0	47	40.0	27	40.0	12	30.0	48	30.0	45	20.0	28	20.0	19	20.0
40	20.0	56	20.0	60	20.0	17	10.0	16	10.0	21	10.0	23	10.0	57	10.0	39	10.0	52	10.0
32	10.0	51	10.0	4	10.0	49	10.0	38	10.0	46	10.0	36	0.0	14	0.0	37	0.0	29	0.0
43	0.0	44	0.0	10	0.0	18	0.0	11	0.0	15	0.0	9	0.0	7	0.0	3	0.0	8	0.0
53	0.0	22	0.0	55	0.0	41	0.0	42	0.0	33	0.0	59	0.0	34	0.0	35	0.0	30	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

48	2.30	56	2.30	16	2.30	19	2.30	39	2.30	52	2.30	51	2.30	58	1.64	50	1.64	47	1.53
54	1.53	24	1.44	26	1.15	25	1.15	12	1.15	2	1.15	57	1.15	60	1.15	21	1.15	49	1.15
17	1.15	1	1.07	20	1.05	5	1.05	31	1.02	6	0.96	28	0.92	13	0.84	27	0.77	23	0.77
46	0.77	45	0.57	39	0.57	4	0.57	32	0.46	40	0.35	11	0.00	7	0.00	18	0.00	36	0.00
9	0.00	14	0.00	29	0.00	59	0.00	3	0.00	35	0.00	10	0.00	42	0.00	8	0.00	43	0.00
53	0.00	44	0.00	55	0.00	34	0.00	22	0.00	33	0.00	37	0.00	15	0.00	41	0.00	30	0.00

Appendix II d) (Continued) - CLUSTAN 2 output data: ABSTRACT, EXPERIENCE and FLASH CARD responses to the word 'gifted'.

CLUSTER 3 NUMBER OF CASES = 4

CASE NUMBERS
5 7 14 20

BINARY VARIABLE FREQUENCIES

3	2	1	1	2	2	0	0	0	0	0	0	2	1	0	0	0	0	0	2
0	0	0	1	2	0	1	2	0	2	2	1	1	4	4	0	1	1	0	3
1	2	0	4	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

44	100.0	35	100.0	34	100.0	1	75.0	40	75.0	2	50.0	6	50.0	5	50.0	30	50.0	31	50.0
20	50.0	42	50.0	13	50.0	28	50.0	25	50.0	14	25.0	33	25.0	37	25.0	38	25.0	50	25.0
47	25.0	32	25.0	24	25.0	3	25.0	41	25.0	27	25.0	4	25.0	39	0.0	51	0.0	55	0.0
29	0.0	48	0.0	9	0.0	53	0.0	12	0.0	57	0.0	26	0.0	15	0.0	11	0.0	43	0.0
16	0.0	23	0.0	45	0.0	22	0.0	46	0.0	58	0.0	21	0.0	49	0.0	59	0.0	52	0.0
10	0.0	54	0.0	36	0.0	56	0.0	18	0.0	17	0.0	19	0.0	60	0.0	8	0.0	7	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

3	5.75	14	5.75	33	5.75	30	3.83	44	3.83	41	2.88	35	2.56	34	2.56	28	2.30	42	1.92
38	1.44	4	1.44	40	1.33	31	1.28	32	1.15	37	1.15	1	1.15	20	1.05	5	1.05	13	1.05
47	0.96	6	0.96	25	0.96	50	0.82	24	0.72	7	0.64	27	0.48	39	0.00	43	0.00	19	0.00
29	0.00	9	0.00	26	0.00	45	0.00	23	0.00	49	0.00	22	0.00	9	0.00	51	0.00	7	0.00
52	0.00	21	0.00	54	0.00	46	0.00	56	0.00	48	0.00	58	0.00	15	0.00	18	0.00	17	0.00
53	0.00	17	0.00	55	0.00	11	0.00	57	0.00	36	0.00	59	0.00	60	0.00	16	0.00	10	0.00

Appendix II d) (Continued) - CLUSTER 2 output data: ABSTRACT, EXPERIENCE and FLASH CARD responses to the word 'gifted' (23 cases)

CLUSTER 4 NUMBER OF CASES = 2

CASE NUMBERS
9 21

BINARY VARIABLE FREQUENCIES

1	2	0	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0
1	0	0	2	1	1	2	0	1	0	2	0	0	0	2	0	0	0	0	1
1	2	0	1	0	2	1	0	0	1	0	0	0	1	1	0	1	1	1	2

PERCENTAGE OCCURRENCE FOR BINARY VARIABLES

13	100.0	31	100.0	27	100.0	2	100.0	35	100.0	46	100.0	60	100.0	42	100.0	24	100.0	5	50.0
6	50.0	1	50.0	59	50.0	58	50.0	57	50.0	54	50.0	47	50.0	44	50.0	29	50.0	21	50.0
41	50.0	40	50.0	55	50.0	25	50.0	26	50.0	50	50.0	15	0.0	23	0.0	45	0.0	48	0.0
10	0.0	11	0.0	52	0.0	28	0.0	37	0.0	38	0.0	39	0.0	22	0.0	20	0.0	4	0.0
19	0.0	43	0.0	9	0.0	18	0.0	3	0.0	8	0.0	49	0.0	32	0.0	51	0.0	33	0.0
17	0.0	53	0.0	34	0.0	16	0.0	56	0.0	14	0.0	12	0.0	7	0.0	36	0.0	30	0.0

BINARY FREQUENCIES RATIO - (PERCENTAGE OCCURRENCE IN CLUSTER/PERCENTAGE OCCURRENCE OVERALL)

29	11.50	44	7.47	59	5.75	21	5.75	60	5.75	57	5.75	55	5.75	41	5.75	42	3.83	24	2.88
35	2.56	31	2.56	13	2.09	54	1.92	44	1.92	27	1.92	47	1.92	50	1.64	58	1.64	26	1.44
2	1.28	5	1.05	4	0.96	25	0.96	40	0.88	1	0.77	10	0.00	4	0.00	12	0.00	28	0.00
9	0.00	22	0.00	14	0.00	20	0.00	48	0.00	19	0.00	52	0.00	32	0.00	56	0.00	33	0.00
23	0.00	34	0.00	45	0.00	1*	0.00	11	0.00	36	0.00	49	0.00	37	0.00	51	0.00	38	0.00
53	0.00	59	0.00	8	0.00	17	0.00	7	0.00	16	0.00	3	0.00	15	0.00	43	0.00	30	0.00

Appendix III - SELECTED QUOTATIONS FROM TEACHERS' RESPONSES TO FLASH CARDS

This selection of extracts from the tapescripts is intended to illustrate something of the variety of responses to the individual flash cards. *[The figure in brackets indicates the tapescript number of the individual classteacher.]*

Appendix III(a) - Responses to 'G I F T E D'

(16).'Gifted - probably a child who is actually, for their age group and position they are in class... way above anything you have come across before. I haven't actually come across a great many in my teaching career. I think of gifted also in one sense, but I think maybe our definition of it would alter if we could look at the whole child. I'm not just talking about the school career, but also their outside activities as well.'

(21).'I would think of a gifted child as probably having a very good brain. Whether they use it or not is a different thing. They may use it to their advantage or they may not. They may use it in different ways....not necessarily in all areas. I wouldn't necessarily say they were gifted at everything that they did. It could be in a specific area. It doesn't mean to say that they would actually use it but, again, I would expect it to stand out as being noticeable. If I didn't notice a child that had got this I would feel that I had slipped up somewhere.'

(13).'Gifted is easily distracted, shows a talent in certain areas rather than others, able to pursue an interest or things that they enjoy without having to be instructed or helped or told, and know what they are doing perhaps in a particular sphere'

(19).'I think I have always thought of a gifted child in terms that are generally used by the profession meaning children with exceptional talents of one kind or another which may not necessarily be able to be extended in the normal school, however good. It isn't limited to intelligence. It can be a gift in music or creativity of any kind, but something that is exceptional - over and above even the best that the average school can produce - a rare thing.'

(18).'A gifted child is one of those who, in all the years I have been teaching, I have only ever met the one, and this child is almost as if the child had been reborn, and the child had the gifts they had in a previous life. It could be maths, it could be computer work, it could be anything, but they have something that nobody else seems to have. That's my idea of a gifted child.'

(15).'Gifted is a word that I am unsure about, and I think it has a range of emotive overtones, or undertones maybe! I suppose it is a bit like the word genius. If it wasn't for the connotations that go with the word, I would probably say, "He is gifted.".

Appendix III(b) - Responses to 'T A L E N T E D'

(65).'Talented. I think that talented is one of those words where you instantly think of musical instruments. You think of a particular skill, a talent. Somehow it is not a word you use with humdrum subjects such as English and maths. We don't really talk about anybody who is talented at English... maybe a really good story writer could be talented. We tend to move into a certain subject area when we talk of talented. Talented in arts, music, maybe even physical exercises of some sort.'

(27).'Talented has the connotation of more potential than exceptional. A lot of people could be talented at certain things but they may not be able to use and develop their talent. Talented is, if you like, a rare thing. Exceptional indicates that you have achieved something exceptional whilst talented hasn't reached it's potential.'

(38).'Talented, I regard as perhaps being one subject or skill. I am thinking perhaps of the talented artist who has a great deal of talent in that one area, but perhaps not in any other areas. Talented in maths, talented in science, talented in English, creative skill in English perhaps!'

(14).'Talented I would apply to much more specific parts of a child's achievements and general development. I think if a child shows talent they show it for a particular skill or ability...'

(11).'Talented! I think most children are talented in some way or another. There's something they can do better than anybody else in the group.....'

(30).'..... Talented may smack more of the potential than exceptional at something, whereas gifted I may use as something already there. I might use talented as if someone who has never played chess in their life, and I teach them the rules and they then play a couple of games, and I think, 'That's pretty good. There's obviously talent there to do well!' whereas I think I would use gifted to describe someone who was already there...'

(26).'Talented I would think would apply to one thing. You can have someone who shows great talent at gymnastics. I think of it more as non-academic, perhaps - talented at art! I don't normally apply talented to academic subjects.....'

(51)'I think that gifted is something very different to talented. They show talent, they show potential. Perhaps many areas, perhaps one specific area. Talented might mean that they could go on to do something in one specific area. You can talk about someone being talented in the violin, and perhaps that is the person who is going to play in an orchestra. Gifted usually applies to one specific thing. Perhaps they have the kind of brain that can scientifically understand things, and hopefully they will go on to specialise.'

Appendix III(c) - Responses to 'E X C E P T I O N A L'

(79).'Exceptional. ... Perhaps an exceptional child is more talented and gifted than a talented or gifted child. It is just higher up the scale. I would probably say that, if a child was exceptional, I would expect it to be gifted in a much larger area, whereas a talented child might be talented in one or perhaps two areas.'

(19).'Exceptional, I think, is somebody who is better than above average or able, who is very, very talented. Not quite so good as gifted but possibly could still be exceptional in one area, not necessarily across the board.....'

(64).'...To say that a child is exceptional at something, means that the child must be gifted, to be said to be exceptional at any particular area or overall....'

(56).'Exceptional, I would say, in written work, is a child who would want to produce a lot, would use good vocabulary...be a wide reader, have a good range of reading books themselves; be quick to learn; be quick to pick up new situations, and be able to extract what they want from that work without having been told to do so.'

(53).'Exceptional? I'm not sure, I still have to meet one!!'

(52).'I would say exceptional means that the child shows ability above most children in the same age group, generally throughout the whole curriculum, and performs extremely well without having to be encouraged a great deal...'

(16).'Exceptional, I think, shows that there is one particular skill that they are very, very good at.'

(20).'Exceptional I would only apply to very, very few children I have met. Children who are so obviously, in general, in almost everything, higher academically or in academic achievement; general knowledge - much better than the rest of the class. The sort of child, we have had one or two through the school, who have been moved forward a year. I haven't met many exceptional children.'

(37).'Exceptional, would be somebody who was very good across the whole curriculum. Whereas talented and gifted would be in particular subject areas...'

Appendix III(d) - Responses to 'H I G H L Y A B L E'

(65).'Highly Able. Again we think of school subjects. We think of lines of sums ticked right, neat writing, legible English, perhaps some kind of interest in a particular subject, some specialist area of authority that the child may have developed. Something that is related to school subjects mainly though, not hobbies and out of school activities.'

(19).'I find (the term) difficult. The word able is usually associated with intelligence, and so I would translate that into somebody of high intelligence, not necessarily associated with high achievement. A high potential perhaps! The other terms on the cards would reflect in terms of achievement, whereas highly able might indicate that the potential is there, but achievement may not be.'

(38).'Highly able, I regard as someone who is well able to do the things given to them, but not always using their ability, so they not always attain such good levels, but if analysed they have the ability to do it. Perhaps in a test, but not in class.'

(13).'Able to follow instructions well. Has the ability to think for themselves, but can carry out instructions or pick things up fairly easily and put them into practice.....'

(17).'A highly able child who, day after day turns out work of a high quality, and you come to expect that, that child needs very little back-up from you, most of the time! When you can see that a highly able child has grasped a concept, say in maths, then you know that you can stretch that child, and you know that, that child can go and work on his own for longer periods, and you would expect that child then to continue to respond to encouragement from you. You should be able to stretch that child further than most other children in the class.'

(42).'Highly able? Again, not necessarily gifted, but very able as compared with other children in that age group. I think I would put gifted, talented and exceptional at the top...'

(37).'I would have thought somebody who can do things that have been taught to him, rather than having found out for himself.'

(51).'Highly able? All round development in all areas.'

(52).'Highly able. There are quite a few highly able children in the class. They are children that can perform well, and who are very attentive, and learn fairly easily, and will probably be in a GCE stream later on, and will do well, but they are not necessarily university material.'

(53).'... I believe you can be highly able in any sort of talent that you have, like an art talent.....'

Appendix III(e) - Responses to 'B R I G H T'

(79).'Bright. I have always considered a child who is bright is always academically gifted, and able to pass exams. I can think of many children who would not perhaps perform particularly well in an examination situation, and whose NFER grades may be average or slightly above average, but I might consider them to be bright children because of their response, and their general attitude towards life, and their classwork in particular. Perhaps their oral responses are better than their written responses. Brightness and academic achievement, to me, don't necessarily correspond, and you may perhaps have one without the other. I have taught many intelligent children who I wouldn't regard as bright. I regard personality as coming into this.'

(76).'Bright - sharp, interested, keen to contribute, lively, intelligent. ...it doesn't really mean exceptional.'

(72).'A bright child is eager and wanting to be taught. I think a bright child is someone who is able to cope easily with all the facts, and all that you are giving them.'

(68).'Bright is used for children who are above average but not exceptional. The average bright child is the good child who can do everything, but who does not show a terrific amount of flair.'

(67).'Bright, I think can be interpreted in lots of ways. Somebody who is above average....fairly bright, not that special!'

(57).'Bright, describes children who, up to many years ago, would have been called grammar school material.... In the classroom the child who is doing very well and is working to the best of their ability most of the time.'

(59).'Bright, I think, comes across first in a child's character, how you talk to the child, and how that child communicates. That is the way that I, as a teacher, would determine a child who is bright, because of the way that they view things, the way that they speak!. They seem to have an understanding of that particular one area, or it may be more than one, above and beyond the average run of children.'

(37).'Bright, may not be talented or gifted, but there is something there. They may have a certain amount of curiosity.'

(63).'Bright is a term you tend to use! I would use bright not necessarily of a gifted child, but of a child who knew what was going on around it, and was aware of things. Somehow I tend to think there is almost a look - the child does not have a vacant look that many children have - almost a bright-eyed look....'