

An examination of the nature of high ability  
and of provision for highly able children.

Carrie Jane Winstanley

Institute of Education  
University of London

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## Abstract

At first glance, it seems that gifted and talented children have no need for advocates, being generously endowed with ability and needing only reasonable schooling to translate this into academic success, with all the advantages that it brings. However, it is simplistic to equate high ability with high achievement. High ability is a contentious issue. The highly able are not a homogeneous group; many able people have learning problems and disabilities, as well as becoming disillusioned and consequently disaffected as a result of unchallenging and limiting school provision.

Because of the complexities of high ability, it is difficult to create a definition of the able child. I discuss the gifted education literature tackling the nature of high ability and school-based provision. This work is predominantly written from psychological perspectives and I analyse the underpinning premises, reconsidering them from a philosophical angle, allowing for clarification of commonly used but rarely examined ideas.

Having established the nature of highly able children, I make a morally defensible argument for supporting them through educational provision. Examining ideas of equality, elitism and excellence, I show that able children are entitled to educational activities that match their abilities and that this is a vital investment in personal well-being with potential subsidiary social and economic benefits.

Typical approaches to provision are evaluated, such as acceleration, enrichment and extension, together with an examination of the alternative approach of critical thinking skills programmes. In particular, philosophy with children is evaluated and found to be a useful approach for the highly able.

Without resorting to elitist or exclusive standpoints, I suggest that pupils need resources and tasks aimed more accurately at meeting their needs.

Declaration:

I declare that the work presented in this thesis is all my own work.

A handwritten signature in black ink, appearing to be 'C. J. Smith' or similar, written in a cursive style.



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Part One:

Who are the highly able?

## Chapter 1 Introduction

### 1.0 General introduction

I set out to provide a fresh look at the field of high ability and gifted education in this thesis, and this introduction outlines the arguments in each chapter. In the main, I draw on the disciplines of psychology and philosophy, as well as presenting illustration and insight from my own practitioner experience at nursery, primary and secondary school levels, and delivering teacher education both to trainees and practising teachers. This introduction explains the overall shape of the work, showing how the wide-ranging ideas come together to answer the key question: 'How best should we provide for the highly able?'

Nearly all academic research into high ability falls within the discipline of psychology and I completed a Master of Philosophy in high ability, cognition, language development and psychology in 1990. I considered embarking on a doctorate at that point, but felt that the issues underpinning the psychological constructs and assumptions I would have to employ lacked rigorous examination and ignored the complex ethical arguments in which gifted education is unwillingly immersed. I was unsure how to proceed, but was entirely convinced that I was dissatisfied with the theoretical structures in which I would have to work. To this end, I decided to work in schools to build up an evidence base to confirm my suspicion that research-based viewpoints on high ability were not telling the whole story. Questioning wrong-headed assumptions brought me eventually to philosophy, which requires careful examination of terms and concepts and allowed me to challenge the suppositions underpinning ideas in gifted education literature.

The thesis as a whole presents a coherent contribution to discussions that strike at the very heart of debates on gifted education and tackles head-on difficult ideas often side-stepped in research. I could have approached the task in a variety of ways, but have chosen to look for solutions to the needs of the able within the current structures of the UK education system. I have not made suggestions for abandoning the current national curriculum or existing schools as such ideas, while exciting and liberating, are not relevant to teachers working in schools. The work is divided into three parts, each dealing with a different aspect of the main theme, which concerns the search for the best response to meeting the needs of the able.

### 1.1 Breakdown of chapters

The first part is made up of three chapters:

- Part One
- 1 Introduction
- 2 High ability
- 3 Intelligence

These sketch the area under discussion and then focus on defining the target group. Having established an understanding of high ability with an underpinning concept of intelligence, the second part presents an ethical argument in favour of provision for the target group. This part of the thesis is one chapter long:

- Part Two
- 4 What it is fair to do for highly able children

Once the argument has been made to provide for the able, the final part of the thesis examines the nature of such provision. Three chapters move from general to more specific concerns, as follows:



- 5      Part Three  
Provision for highly able children
- 6      Critical thinking skills programmes
- 7      Philosophy with children

Finally, there is a conclusion in which the main ideas are summarised and I reiterate the notion that highly able pupils merit specific provision to keep them challenged and engaged in their education, even where this may require additional resources.

## 1.2 The interdisciplinary nature of this thesis

In striving to present argument with clear practical application, I have found it necessary to draw on more than one field of study. Deciding what to do to help the highly able raises a wide range of questions that cannot be addressed through a single discipline. The questions contrast starkly and the different disciplines bring their own particular answers that need to be evaluated, then synthesised with other aspects, and applied to practical contexts.

Psychology provides a certain amount of hard empirical evidence about the nature of ability and the highly able, which must be considered, even if it is found that some of the underpinning notions are questionable. Of course, psychology is a wide-ranging field in itself and there is disagreement between psychologists and their different interpretations of empirical evidence. For this thesis, I have focused on key research into high ability, and have emphasised the way this is disseminated to practitioners. Reducing psychological jargon and making ideas applicable to classroom contexts sometimes results in a kind of watering down of ideas, and this is reflected in the confusion that arises from over-simplification. Criticism then, is less of psychological ideas than of their interpretation and presentation in the practical context. This is appropriate

because practising teachers are far more likely to have access to classroom-based texts than to academic psychological journals.

Other aspects of psychology, concerning for example, motivation and personality studies, have been mentioned, but are not the focus of this thesis. This is because I have prioritised more basic aspects; questions that teachers repeatedly raise at In-Service sessions and through networks generally concerning the nature of high ability. I present some of the empirical evidence and psychological understandings, but question some of these ideas through conceptual analysis, which is a key tool in the discipline of philosophy.

Like psychology, philosophy covers a wide range of varied ideas and concepts of which I harness two areas, philosophy of mind and political philosophy. Psychological studies of the way we think are based on certain assumptions about the nature of the mind that are called into question through philosophy of mind. Philosophy of mind questions the starting points for psychological investigations of thinking and is therefore useful in providing a clearer idea of what we mean when we talk about high ability. Questions raised in philosophy of mind are complex and are explored as far as necessary for the purposes of this thesis.

Similarly, the ethical questions raised in political philosophy highlight questions of value, a different aspect of philosophy. These ethical questions bring attention to the complexity of the provision for the highly able, rather than purporting to present simple solutions to long term problems. By clarifying aspects of the political argument, it is possible to demonstrate how children are being let down through flawed reasoning and to show that the highly able are legitimately deserving of provision.



In the thesis, this use of psychology and philosophy is always considered in the context of real educational situations, ranging from the micro-level of the classroom to national and international policy. I consider it vital to emphasise the practice aspect of high ability because of my experience of working in the field. Practitioners need practical solutions, not more empty rhetoric. In another context, it might have been appropriate to pursue a narrower question within a single discipline, such as an empirical study in psychology, or a more straightforward conceptual analysis of a single aspect of ability. Here, however, I wanted to produce something of practical value, rigorously underpinned through careful examination of the central tenets of high ability. It has been important to keep a clear focus on the ultimate aim of this work, which is to answer the question of what it is fair to do for the highly able child.

So, to summarise, this thesis is interdisciplinary, drawing on ideas from psychology, philosophy of mind, political philosophy and pedagogy. I do not claim to present an exhaustive account of each area, but instead I use these fields to help create a potentially practical answer to the complex question of provision for the able child in school.

### 1.3 Summaries of chapters

My task now is to sketch the lines of reasoning of the whole thesis, introducing the key ideas and arguments of each chapter. In Chapter 2, I consider the complex area of defining the able child. Initially, I review the range of definitions of high ability found in the dominant psychological literature, exploring whether the profusion of suggestions is useful, or whether it results ultimately in an overall lack of meaning (2.1). I make use of some philosophical ideas in an attempt to clarify the confusing language found in the literature and to review common uses of key terms (2.2). In section 2.3, the government's interpretation of definitions is reviewed, with a note about why this is important.



Some general points can be made about different approaches to defining the able and these can affect any type of definition. Global perspectives demonstrate that while social context influences how we refer to the able, some aspects of high ability seem to cross cultures (2.4.1). Mention is made of the moral dimension in this discussion, as it concerns pressures placed on the able as well as the effects of education on the self-image of the highly able and on their behaviour (2.4.2). Questions are also raised about the variation in values society places on different abilities and also about the origins of abilities (2.4.3 and 2.4.4).

Having outlined these broad issues, the next section (2.5) is devoted to the critical exposition of commonly used definitions of high ability. The most important aspect is the long-standing argument about whether 'giftedness' can be described as a single concept or whether multiple dimensions are needed to explain the notion (2.5.1). Other sections summarise different ways of looking at high ability, including the concept of genius and other related factors such as creativity and motivation.

Section 2.6 is devoted to 'potential' as this is relevant to so much of this discussion. Definitions often rely on children's performance, but sometimes this belies actual potential. Here, the underachieving pupil is let down by their lack of conventional achievement and I consider it necessary to examine how these pupils can be identified and helped (2.6.3). How, though, can potential be measured, and which kind of definition could take potential into account? These questions, and others, are considered, and the section ends with an account of the provision-led definition, which allows abilities to flourish, showing some understanding of potential and providing flexibility for teachers (2.6.4).

I then present my own definition of high ability (2.7.0), in which I focus on the intellectual aspects of ability and suggest that the highly able child is someone who has significantly greater aptitude for some aspect of intellectual learning than would be considered typical for their age and background. Aptitude for learning is demonstrated through some form of achievement, conventional or unconventional, including notable isolated incidences that serve as evidence of special ability but are otherwise difficult to categorise. Such a definition of high ability allows underachieving pupils to be recognised.

By the end of the second chapter I will have clearly demonstrated that it is simplistic to equate high ability with high achievement and that people with learning problems, disabilities and cultural difference have been disadvantaged by conventional models of gift and talent based on accomplishments alone. Having criticised a variety of different definitions, highlighting contradictions and confusions, my own focus on intellectual high ability is presented together with some potential criticisms and rebuttals (2.7.1).

In order to support my definition of high ability, I need to explore the meanings of 'intelligence' and this is undertaken in Chapter 3. Firstly, I consider the everyday uses of the term (3.1) and show that most people equate the word with activities of an intellectual nature. I then explore aspects of the psychological literature with reference to this concept, demonstrating the emotive and controversial aspects of the field (3.2). Many ideas surrounding intelligence stem from conceptions brought to the fore in the early part of the twentieth century and since harnessed for negative purposes. The hangover from this has sometimes eclipsed the ideas themselves and I argue that the negative reaction to ideas of generalisable aspects of intelligence originate, in part, from the response



to strategies such as the divisive 'Eleven-plus' examination and the hijacking of intelligence testing data for racist purposes.

Once divested of these factors, it is possible to look more clearly at the claims that accompany the concept of intelligence and judge them on their true merits. Four claims are examined. In section 3.3, the idea of intelligence as a capacity is considered and it is decided that this is acceptable in combination with dispositional aspects and that neither capacity nor disposition will account for intelligence alone. The second claim is that intelligence is both fixed and innate (3.4). These ideas are found to be neither verifiable nor falsifiable, and are ultimately irrelevant to the definition as it relates to this thesis. Thirdly, the concept of intelligence as a singular entity is examined and it is shown that there are generalisable aspects to intelligence, but these are not necessarily synonymous with the traditional concept of 'g' (3.5). The last claim concerns the measurability of intelligence (3.6) and it is concluded that even if some elements of intelligence could be quantified, a single numerical score (such as IQ) would never be adequate as an explanation, or even description, of intelligence.

I then present a brief stipulative account of intelligence that allows for a general notion of intellectual activity, but rejects traditional accounts of 'g'. I link these ideas about intelligence to the definition of high ability presented in Chapter 2. This marks the end of Part One.

Part Two consists of only one chapter and this concerns an ethical justification of provision for highly able children. I introduce global aspects of the debate, as well as more specific UK issues (4.1). Whatever the country or social context, there are tensions between educational provision for the many and for the few. Since the highly able are likely to be a small group, strong arguments have to be made for any additional



resources. There are many competing forces for educational funding and it seems obvious that less able children and those with problems should be the first in a line of potential beneficiaries, with the more able at the back of the queue.

I then consider arguments for and against provision for the highly able. Common arguments against provision suggest that it is elitist, and so I examine the concept of elitism. This exploration reveals that elitism is a complex concept and therefore cannot be dismissed as always negative, but can also refer just to high quality (4.2.1). The second argument is that provision for the able will increase the gap between rich and poor, which I accept as possible and a potential negative outcome. This is, however, an issue beyond the scope of schooling (4.2.2). The remaining contentions are that provision for the able offends against three different types of equality (4.2.3 – 4.2.5), but I show that these equality arguments are often blurry. Aiming for equality of resources is rejected as impractical, considering the range of costs of different subjects. Equality of outcome is likely to be inappropriate for the highly able, as it would not be possible to assure such equality while still stretching the target group. Equality of opportunity is a rather woolly notion with a range of different interpretations, making it too complex to support without detailed qualification of what is understood by this type of equality. These common arguments against provision for the able are therefore unconvincing.

The five arguments often expressed in favour of provision for the able are explored in section 4.3. Firstly, the notion of providing for the able in order to pursue excellence because of its intrinsic value is dismissed as being elitist in the most negative sense of the concept (4.3.1). Only tenuous conclusions can be drawn from the second claim that activities for the highly able will result in benefits for society through more and better economic and social goods (4.3.2). The third contention is an empirical

issue concerning the effect of the able on other pupils, that requires further investigation (4.3.3). The next claim, that all pupils are entitled to an education beyond the bare minimum, is relevant of course to all pupils, not just the able, but it is unclear what should be put in and left out of this basic education, making it difficult to decide what counts as extra and what should be mandatory (4.3.4). The last of the claims is considered the most reasonable, suggesting that pupils are entitled to an education based on their needs (4.3.5). It is, however, still rather unclear exactly what that could mean as the notion of needs is often disputed, particularly in the field of gifted education where high ability can sometimes be considered as a special educational need.

My own contribution to the equality debate is the idea of providing equality of quality of learning, or equality of challenge, which is applicable to all children. Whilst there is a statutory requirement to attend school, there is a moral obligation for schools to ensure that pupils are not wasting their time. They need to be engaged in their learning and this can only happen when tasks are challenging. For most pupils, the curriculum can satisfy this need for challenge, but the able pupil is often left bored and unstimulated. Pupils must move at their own intellectual pace, or as near to this as is practically possible, regardless of whether that pace is 'normal' for their age. This can be ensured, or at least we can try to ensure this, through careful consideration of the quality of teaching they receive and the level of challenge with which they are presented.

Following some exploration of potential difficulties with my argument, I present a conclusion to Part Two of the thesis.

Having established that able pupils are entitled to some form of provision, Part Three is concerned with the nature of this provision. It begins with a review of what is typically found in schools (Chapter 5), with an emphasis



on adopting an inclusive approach providing for able underachievers (5.1). The main strategies found in research and practice are forms of differentiation, known as acceleration, extension, and enrichment. Acceleration (5.2.2), or 'grade skipping' through the school is when a pupil is allowed to move ahead of peers by a year or more. This should be considered carefully, of course, as there are obvious consequences. For example, those who miss a year or more at primary school are often forced to repeat the process in Year 6, unable to move to secondary school until they turn eleven, despite having successfully covered all curriculum requirements. Skipping ahead through secondary school can result in intellectual readiness for university-level studies, but lack of maturity for coping with social aspects.

The second common approach is enrichment (5.2.3). This can include the introduction of wider applications for ordinary areas of study, such as allowing able mathematicians and physicists to explore ideas in astronomy (which is not normally taught in school) or giving excellent historians the opportunity to undertake their own project in the community. Enrichment can also be the introduction of ideas and subject areas that fall completely outside of the National Curriculum, such as an introduction to medical ethics, or unusual languages like Sanskrit. This has the advantage of not interfering with the curriculum to be covered in later years and of broadening the child's experience and learning. It can, however, breed resentment if apparently exciting activities are restricted to a small number of the school population. The school community must decide how to handle any distinction made between specific tasks for the highly able and extra-curricular clubs and activities open to all.

Extension (5.2.4) is when able pupils are given significantly more complex tasks than their peers, when pupils can be completing work usually covered by children perhaps several years older. In acceleration, the pupil



covers all subjects, attending all classes together with pupils from a higher year group, but in extension, pupils will stay with their age group for most classes and mix with older pupils in very few topic areas, or in only one subject. Where enrichment focuses on breadth of learning, extension aims for depth in a single subject. Being pushed ahead in the curriculum can provide problems in terms of materials and schemes of work, not just for the current teacher coping with pupils at different stages of work, but also for the next teacher, who finds that pupils have completed all published materials for the year, requiring time-consuming individually designed tasks. Schools need a flexible approach to avoid pupils repeating material or teachers having to undertake excessive individual work planning. However, the problem of uneven development is more easily dealt with by this approach than by acceleration, and allowing for movement between sets (even across year groups) can really help to ensure pupils are appropriately challenged.

In summarising the strategies (5.3), it is concluded that highly able pupils benefit from spending time both with age peers as well as with pupils who are their intellectual equals, reinforcing the case for diversity and different activities within schooling, rather than completely segregated provision. Self-contained activities run as clubs or as part of ordinary classes would be a helpful tool in provision for the able, particularly where they serve as effective enrichment activities. Since programmes of critical thinking skills could possibly fill this requirement they are examined in the following chapter, as a potential practical solution to the needs of the able.

Chapter 6 provides an examination of the teaching of critical thinking skills through specifically designed programmes, such as Reuven Feuerstein's 'Instrumental Enrichment' and Edward de Bono's 'Cognitive Research Trust'. I introduce the concept of critical thinking skills as a potential solution in meeting the needs of the highly able (6.1). The programmes

are then contextualised through a consideration of current trends in the thinking skills 'movement', with particular reference to the 1999 Department for Education and Employment (DfEE) report 'From thinking skills to thinking classrooms' in which programmes were reviewed (6.2). Unpicking the range of programmes demonstrates the variety of different approaches and shows how some are based on rather shaky theoretical foundations.

There is some confusion over the concept of thinking as a skill and in section 6.3 I consider these difficulties, moving in 6.4, to specific claims made about the development of thinking being like other forms of skill learning. The first of these suggests that thinking is made up of components (6.4.0). I consider this to have some value, although it is insufficient to explain all aspects of thinking. In 6.4.1, I examine the idea of thinking being developed like other forms of skill learning, through observation and modelling, with practice and feedback. Whilst noting that these methods of learning are not the most obvious when linked to thinking and improving thinking, I do consider that they can have some use. Section 6.4.2 deals with the suggestion that there is transfer of learning, which is perhaps the most contentious of the claims. I reject the dichotomy between either general skills or subject-based knowledge and suggest a thin notion of transferability in which related subjects are shown to have shared intellectual aspects.

I then consider some of the thinking skills programmes, to illustrate points already made. Using the distinctions made in the DfEE report, I critically consider examples of the different approaches to teaching thinking: general, subject specific and infusion, which respectively provide stand-alone skills packages, subject-based tasks and cross curricular activities (6.5.0-6.5.3). In these discussions, I touch upon ideas presented by Edward de Bono, Reuven Feuerstein, Philip Adey and Matthew Lipman. I



consider the pros and cons of different approaches, but also note that it can sometimes be difficult to classify the programmes with any clarity. There are also some new programmes, such as World Class Tests and Accelerated Learning, published or made popular since the publication of the DfEE report. These are briefly considered in section 6.5.4.

In conclusion (6.6), I suggest that the most promising programme for the highly able child is likely to be Philosophy with Children (PwC) and so this is the focus of Chapter 7. The first task in this chapter is to explain how Philosophy with Children has developed and this requires an introduction to the work of Lipman. His series of philosophical novels for children and his establishment of international training programmes for teachers started a worldwide movement (7.1). As his ideas and influence have grown, critical objections have been raised to the concept of children studying philosophy. I review the major objections and show that, even if they may be accurate depictions of problems with philosophy for most children, they are not relevant objections for the highly able.

In section 7.2, I show how the common view that PwC is no more than standard classroom discussion work is an inaccurate assessment, showing a lack of understanding of the key aspect of building a community of enquiry in the classroom, through which children work together on themes of their own carefully considered choice. The second objection (7.3) concerns the notion that children cannot cope with abstraction. Whilst this could be true for many children, I have shown this to be false for highly able children, through earlier arguments about high ability in which I am actually defining the highly able through their sophisticated intellectual processes.



In section 7.4, I concede that the empirical evidence to support PwC is inadequate, but make suggestions for further research and also point out that lack of evidence is not the same as lack of efficacy. It is frequently claimed that PwC is not 'real philosophy' (7.5), but this seems merely to be an issue of naming and labelling of activities. Even within the field of professional philosophy there are disagreements about what exactly constitutes the discipline, with some people refusing to accept applied or practical aspects as equal in status to more 'pure' forms. I suggest that PwC is more like philosophy than any other recognisable discipline, but wonder whether it is really of much importance whether the children's work bears significant resemblance to the adult equivalent.

The last objection is that children lack the concentration and focus necessary for philosophy and are not sufficiently interested in the research and enquiry needed to pursue philosophical questions (7.6). This is clearly not the case for the highly able, except for some underachievers, who have only shown their focus in erratic and sometimes unconvincing ways. For highly able underachievers, teachers are recommended to give them the benefit of the doubt, rather than writing off the potentially interested student.

I devote a section to the particular case of philosophy and highly able children (7.7). I do not, however, present PwC as a panacea, or as the only appropriate provision for the able child, but I do consider it a viable option with enough flexibility and challenge to meet many of the requirements for a workable, practical response to the issue of provision for the able.

My overall conclusion summarises the main points made in each part of the thesis. In Part One I will have shown what I understand by high ability and supported this by an exploration of the notion of intelligence. Part Two deals with ethical issues supporting provision for the able, and Part Three explores the practical considerations associated with high ability. I conclude that it is indeed necessary to provide appropriately for the able pupil, even if this will require extra resources.

## Chapter 2    High Ability

### 2.0    Introduction

Appendix I paints a picture of the pupils with which this thesis is concerned and is of use in bringing to life the ideas of the thesis. This chapter explores the landscape of high ability, which is both controversial and complex. Practitioners and policy makers use a wide range of different definitions of high ability. In order to guide practice effectively, we need a unified account of high ability, or at least more clarity in the debate. In this chapter I will survey the definitions most commonly found in literature and policy documents, showing where they are problematic. I will also present my own understanding of high ability. A fuller account of this depends on examining the notions of intelligence which I do in Chapter 3, having clearly established the nature of high ability. Meanwhile, in the current chapter, the word ‘intelligence’ is used in the dictionary definition sense: ‘the capacity for understanding, ability to perceive and comprehend meaning’ (Collins Dictionary, p798).

I am not engaging here with technical aspects of psychological testing; IQ and other tests are considered in the following chapter. Many of the ideas in this chapter come from psychological sources that dominate the field of gifted education, but are also commonly harnessed by teachers and coordinators of provision. This chapter explains why I have adopted the term ‘high ability’ and presents more detailed information on characteristics used for identification. As this is an interdisciplinary thesis, I have focused on the definitions most likely to be accessed and used by teachers, rather than more strictly psychological and technical information.

How we talk about children does matter. Obviously, how we treat them is more important, but there is a relationship between these two aspects of education. The aim of this chapter is to explore the way in which highly



able children are categorised, identified and discussed. This is shown to be problematic, with little consensus in the material written for practitioners and some disagreement in key areas amongst researchers.

It might (even) be said that, as in other fields, the more that is known, the more issues are raised and controversies are fuelled.[...] Many different decisions regarding identification, education and counselling, for example, depend on the often only implicit conception and definition of giftedness. Therefore clarification of underlying constructs is essential for both program and research design.  
Monks et al, 2000:839 and 843

Relevant literature is largely concerned with children, although significant longitudinal surveys have yielded interesting results, and there is a growing number of studies about young people<sup>i</sup> and adults with 'genius' status, some whom are autistic savants and similar. (See a later section – p. 62 - on 'after the fact definitions' for reasons why the focus is sometimes on adults.) Although genius may seem removed from classroom issues, interesting studies could inform general pedagogic practice and shed light on whether some children learn in ways so removed from the average child that separate provision is unavoidable.

The first task is to review the enormous range of definitions in the literature.

## 2.1 Definitions

Practitioners need a clear definition of high ability to cater effectively for individual needs, but the area is a minefield, with disagreement, and countless different labels, titles and definitions to be evaluated. Ultimately, it may be impossible to find a definitive way of describing the able. Most writers develop a working definition, skating over underlying issues. This is a reasonable, practical approach when the audience consists of parents

and/or teachers anxious for advice and tips for coping with demanding able children. A more rigorous theoretical approach is needed for research, however.

The myriad of definitions is alarming. David George finds that the heterogeneity of high ability means that 'vagueness is a logical necessity', identifying 213 different definitions (1993:9). Joan Freeman identifies 'more than 100', even within the relatively narrow foci of psychological constructs and academic success. Including further areas such as 'social talents and potential business acumen' would create a more complete picture thereby increasing the number of definitions (1995:4). Broader definitions have since appeared in UK accounts, and the search continues for yet more categories. A more inclusive definition is to be welcomed if it increases access to good provision for more children, but this is not guaranteed. Confusion arising from a proliferation of descriptions may well be counter-productive.

Examining definitions is useful as a clarification exercise in understanding bias and subjectivity. Values are betrayed by the language used. Porter identifies:

...a startling array of definitions of what otherwise might have seemed a common-sense concept. This diversity of definitions arises from differences in the ideology and assumptions of their proponents.  
1999:32

Most researchers in this field agree that conceptual difficulties are inevitable (e.g. Freeman, George, *ibid* and McAlpine in Porter *op cit*:14) and empirical research presents problems as it can be controversial, contradictory and confusing. For example, inconclusive studies on sleep patterns of the highly able suggest that the able could need either more or



less sleep than average. Teachers, therefore, tend to rely on intuitive identification, such as recognising ‘a spark in the eye’, ‘that switched-on look’ or ‘a face lighting up’, all of which have been offered to me as part of the teacher’s battery of identification tactics.

In recent years, a profusion of relevant books has been published. Most nod in recognition to the difficulty of defining the able, but do not engage effectively with the issue. Sometimes there is a tacit acceptance that the readership will know exactly what is meant by the terms, without any need for explanation. Definitions usually fall into the categories identified below (Porter, 1999:13-34) together with my additional categories (in italics). References in brackets are for the relevant sections in this chapter.

a single capacity	(2.5.1)
multiple capacities	(2.5.1)
information processing theory	(rarely mentioned in literature now)
qualitative differences	(2.5.3)
creativity definitions	(2.5.3)
after-the-fact definitions	(2.6)
giftedness versus talent	(2.2)
other cultural views	(2.4.1)
<i>achievement/underachievement</i>	(2.6.2 and 2.6.3)
<i>provision-led definitions</i>	(2.6.4)

Within all of these models, some kind of definition of intelligence is usually implied. For example:

...intelligence as a construct - that is, an abstract idea that has been invented to explain outward behaviours - whose definition will differ across cultures and which is not so much a characteristic of the individual as a result of experience or learning.

Porter, op cit:16, partly citing Khatena, 1992



This definition does not really give us a clear idea of what is meant by intelligence at all. There could be a number of notions that could replace the word 'intelligence' in the above definition; try 'anger', 'compassion', 'disgust' or 'humour'. In the next chapter I will engage with questions on the nature of intelligence and mention this here to highlight its importance.

With so many definitions and such confusion within definitions, perhaps it would be preferable to do without any kind of definition. Theorists have suggested that giftedness is a dynamic concept and as such cannot be defined without taking account of its development and growth. It could be viewed as 'relationships' and 'communication and expression of feeling' (Leyden, 1998:3).

Freeman (1998) supports this Vygotskian perspective in her Dynamic Theory of Giftedness (DTG) encouraging children to operate in their Zone of Proximal Development, recognising individual starting points and overcoming difficulties to go on to success.<sup>ii</sup> These theories, or 'Dynamic Assessment Procedures', measure changing abilities in place of a snapshot, one-off IQ score.

In sum,

Arguments about precise definitions and the identification of such children have been active for nearly a century, and will doubtless continue. Research shows that the able are not a homogeneous group, whether in terms of learning style, creativity, speed of development, personality or social behaviour.

1998:1 and 2

[Thus] the gifted are clearly a very heterogeneous set of persons and it is this multidimensional heterogeneity which may preclude a comprehensive theory. The absence of such a theory, however, does not prevent us from deepening our insights and understandings of the phenomena nor

intensifying efforts to identify talent potential and nurture talented performance.  
Monks et al, 2000:841-2

Definitions of high ability are nebulous and disparate. Questions at the end of Porter's chapter exhort the reader to create their own definition reflecting their personal view and context and this raises questions concerning the existence of giftedness, the usefulness of definitions, and consequently how to ensure fair provision. Discussion is difficult without widely agreed terms of reference. We therefore do need to find ways of talking about the able. But which words should we use?

## 2.2 The meaning of words

It is not just philosophically important to be clear about the meanings of words. As noted in the previous chapter, teachers affect how children think about their strengths and weaknesses, partly through the labels they assign. Labels can be 'accurate or misleading, negative or positive, a burden or welcome recognition (Fisher, 1981:49). Interestingly, many of the terms describing the highly able are insulting rather than flattering. Who wants to be a boffin, nerd, geek, egg-head, swot or brain box? Perhaps this is indicative of our culture's view of the more able person in general. Some of the terms, such as 'precocious', are really quite innocuous, but have been loaded with unwelcome and undesirable meaning. Dictionaries define precocious as 'being ahead in development' (Collins), but teachers describe dreadful performing children, thrust forward by pushy parents, for dinner party turns or showing off encyclopaedic knowledge. This also holds true for 'prodigy'.<sup>iii</sup>

Then there are 'the ables'. Researchers use preceding words to create subtle distinctions such as 'more', 'very', 'severely' and 'profoundly', but it is not clear whether these are objective or even useful. More contentious is 'gifted', adopted by UK policy makers and so commonly used 'it would



be verging on the deviant to avoid it' (Freeman, 1998:1).<sup>iv</sup> The field is generally known as 'gifted education', but common words 'gifted' and 'talented' are understood in a variety of ways. Often, one of the words refers to a specific ability in one area (generally music, drama, art or sport) and the other word for all-round general abilities. Teachers rarely agree on which is which and even research fails to provide a definitive answer. Some definitions consider 'gift' to be raw ability, with 'talent' the developed power, while others suggest the reverse. Here are just a few of the differences found in the literature:

- Talent is seen to reflect a remarkable ability which, however, falls short of the superlative level characterised by true giftedness. Braggett, 1998 and Morelock, 1996, in Porter, 1999:31-33;
- Giftedness - innate capacities or advanced development potential, and talent - developed abilities or performances. The term can only be applied to behaviours, not to people. Gagné, 1991;
- The words are synonymous, and can be used interchangeably. Tannenbaum, 1983;
- Giftedness: exceptional competence in one or more domains of ability; talent: exceptional performance in one or more domains of human activity. Genetically determined gifts form the infrastructure for talent development, while personal factors...environmental constituents...and systematic learning and training serve as catalysts for the expression of talent. Gagné 1985, 1993 in Schoon, 2000:214;
- *Giftedness* and *talent* are terms which have been variously defined over the years and a variety of conceptions have emerged related to these diverse definitions. Monks et al, 2000:842;
- Giftedness is a 'fuzzy concept'. Eysenck and Barrett, 1993;
- The precise definition of giftedness remains a question with no universally accepted answer. Renzulli, 1982.

Language also reveals the values held by society. For example, the German and French words for gifted, associate the concept with elitism. This 'belief that gifted education is elitist, ... has been a 'limiting factor in

developing gifted / talented programs' in Germany, whilst in France no state support is offered for the same reasons (Williams and Mitchell, 1989:129-130).<sup>v</sup>

In this thesis, I have favoured the use of the term 'highly able' for the majority of able pupils and 'exceptionally able' for the particularly outstanding pupil. When using 'gifted and talented' I am referring to the government strategy, or to specific aspects of literature.

### 2.3 The Department for Education and Skills (DfES) and the Qualifications and Curriculum Authority (QCA)

The Excellence in Cities (EiC) project is funded by the DfES and encompasses a Gifted and Talented strategy.<sup>vi</sup> Along with the QCA, the DfES is a government department with influence and substantial funding, so surely they will be clear about defining targeted pupils. In guidance on identifying the 'gifted and talented', the word 'able' is used without any prior explanation. There is no use at all of the word 'gifted', despite it being part of the title of the strategy.

Schools can determine the proportion within the cohort of pupils with academic ability (defined as ability in one or more subjects in the statutory school curriculum other than art, music and PE), pupils with talent (defined as those with ability in art, music, PE, or in any sport or creative art) and 'all-rounders'. However, those with academic ability, including 'all-rounders', should form at least two-thirds of the cohort in each year group.

DfES, March 2003

The document continues in a similar vein, with practical advice, but no clear definitions, underpinning theory, or reasoning. Current policy suggests that the top five to ten per cent of pupils should be classified as 'gifted and talented', but at termly Standing DfES conferences, this is always hotly contested, with useful debate arising, although seldom any



happily agreed conclusions.<sup>vii</sup> Ofsted reports echo the concern over identifying the able, noting:

The identification of gifted and talented pupils has presented difficulties for schools. To date, the methods of identification have been rudimentary and have not yet solved the problem of recognising latent high ability, particularly among pupils who are underachieving generally.  
Ofsted, 2001:3

The first 'issue of attention' on the Ofsted list is to 'improve methods for identifying gifted and talented pupils', but no strategies for improving teacher understanding are presented and confusion seems set to continue.

For example, one of the projects designed to meet the needs of the able is the development of QCA sponsored materials for the able (World Class Tests). Even with targeted material, there is confusion over who the activities are for and at a review meeting (2002, at the QCA offices, London), no conclusion could be reached about whether the materials were for already identified gifted mathematicians, or for informal assessment of children potentially appropriate for the gifted and talented strategy.

The UK strategy has been named 'gifted and talented' without any good reason and even to avoid debate. It would help practitioners to have access to an objective review of the literature and theory to support the use of language and labels advocated by government departments responsible for making policy and building strategy.

#### 2.4.0 General aspects of definitions

Having highlighted the proliferation of definitions of high ability (2.1), I need to order the different conceptions and explain which are most

appropriate and why. Here, in sections 2.4.0-2.4.4, I introduce a range of general factors and commonly raised complexities that impact on all definitions, encompassing key issues that exercise theorists. In the following section, 2.5, I present some different ways of conceiving high ability, exploring factors widespread in gifted education literature. The four general aspects explored in this section are 'global issues', 'the moral dimension', 'values' and 'the origins of ability'.

#### 2.4.1 Global perspectives

The responsibility to make use of gifts to help others is built into the notion of high ability in some cultures, contrasting with others that focus on an individualistic, personal interpretation, where abilities are used to further careers, increasing status and personal wealth.<sup>viii</sup> Some societies such as Sweden and some Australian states are strongly egalitarian, countries such as Africa and some Arab states have fundamental equality issues to tackle, whilst, for example the UK and the USA are competitive and individualistic. Clearly, these political aspects affect the way in which talent is perceived, understood and harnessed. (Differences between countries are explored further in Chapter 5, demonstrating the effect of value systems and underpinning political and social contexts on provision.)

Global literature about highly able pupils is shared through books, journals, conferences and the internet and so it is important to understand exactly which pupils are being discussed. By looking at similarities and differences across cultures, we can learn about alternatives that help improve current practice. Rudnitski observes this existence of multiple perspectives and wonders about cohesion of policy:

What is socially valued varies from culture to culture, so even if it were possible to have homogeneous societies, the definitions of giftedness would have to be fluid to change over time. [...] New models that reflect the needs of a global,



information society and economy are needed.  
2000:674 and 678

In reviewing the UK strategy on Gifted and Talented Pupils, it is disappointing to note a lack of reference to international research. The global literature may not have all the answers, but we could avoid making mistakes by reviewing ideas already carefully considered in other, similar societies.

Social construction obviously affects understanding of high ability, as reflected in the different conceptions.

#### 2.4.2 The moral dimension

A definition of high ability in itself does not need a moral dimension to be coherent. However, since education does not take place in a value-less vacuum, the context of family, schools and society must be taken into account, together with implications for the moral dimension of high ability. Commonly used words 'gift' and 'gifted' remain imbued with religious connotations:

Exceptional performances have always fascinated mankind, but it was only when the theoretical concepts which resulted from empirical psychological investigation were available, that one could replace the theological and metaphysical explanations which have been hitherto pressed into service.  
Ziegler and Heller, 2000:319

Overtones of 'God-given endowments' flavour the language of 'gift', with its implication of 'goodness', a sense of responsibility and even purpose or vocation.<sup>ix</sup> People in general and children in particular can be repeatedly reminded how lucky they are to have a 'gift' and told of their duty to make full use of this special potential. Grave disappointment and frustration can also result, as 'gift' is often accompanied by unbearable

pressure. A non-religious interpretation of the word 'gift' is that of a special innate ability, but even without the religious sense, there is feeling of responsibility that comes along with the ability.

Teachers have views on pupils' levels of desert and merit, based on their efforts to realise given potential and maximise their 'gifts'. I have heard teachers describing children as 'undeserving' because their performance-potential gap was wide, assumed to be an indication of laziness, when it was often due to a learning difficulty. It is a misconception that all able pupils will manage effectively without help, encouragement or support. Highly able pupils concerned about impending examinations are often told not to worry, as they are lucky enough to be gifted, implying that they effortlessly cruise through school-work. This is unfair. Worse still, some pupils' hard earned results are dismissed with an off-hand response - 'We wouldn't expect any less from a gifted pupil like you'. When students make tasks seem easy, teachers can forget how much work is needed for a successful outcome. There must be a delicate balance between appreciation, encouragement, constructive criticism and praise.

I do not know how many teachers in the UK hold strong religious beliefs or the extent to which this affects their concept of giftedness, but when working in a school with a religious foundation I found the concept of potential fulfilment unambiguously linked with notions of God, who guides choice and sets expectation of achievement linked to gifts. God's endowments were recognised in the mission statement and pupils were reminded of God's expectations at least daily in assembly, and more frequently through the class teacher and parents.

Even where overt religious belief does not guide pedagogy and expectation, there is a palpable sense of duty and responsibility accompanying the perception of given or innate talent. A wide range of



career choices is available to pupils with the corresponding breadth of abilities who are expected to make a socially responsible choice. The able young person who pursues a career in theatre rather than become a medical professional is often fighting against the wishes of their family (of course this can work in reverse, but this is far less common). There are many who choose to reject relative stability in order to continue to stimulate themselves with the challenge they yearn for, after years of a relatively unstimulating school career. Cases also exist where family background is disadvantageous in terms of children's career choice.<sup>x</sup> The onus is on parents and other adults to help pupils make well-considered choices. While they may legitimately persuade children away from the obvious difficulties of competitive and insecure career paths, they should not ignore children's interests and abilities (Freeman, 2001).

Even within school, pupils with high abilities are expected to be selfless in using skills to represent their alma mater. Significant pressure is applied to children whose footballing or singing abilities may help swell the trophy cabinet. In these days of prospectuses and local newspaper features, the all-round able pupil may find themselves on websites, display boards and a regular feature of the newsletter, especially if they are conventionally physically attractive, or fulfil the required ethnic minority quota.

What about gifted people who will not respond to the moral obligations of their gift? At school this can mean general disruption or just withdrawal, which may or may not lead to long-term underachievement and disaffection. Wider problems result from children choosing to isolate themselves from society. Researchers are at pains to explain that, despite popular belief, the emotional state of highly able people is no different from the population in general (Freeman, 1991; Leyden, 1998; Eyre, 1997). However, some people choose to live outside the law or to defy convention in ways that can be either harmful or harmless.<sup>xi</sup> Extreme

examples of this can be seen through able people in history. When asked to name a gifted leader, with charisma and strength, most are happy to agree with suggestions such as Mahatma Gandhi and Martin Luther King, but balk at the inclusion of Adolf Hitler and Joseph Stalin. Although in discussion they may agree that such leaders managed to inspire citizens of their countries, the consensus is that their gifts are diminished through abhorrence of their morally reprehensible acts. Complex issues of politics, economics, culture and belief systems are implied in these examples, but the basic issue remains, that for many people, giftedness must be to do with goodness.

In a fascinating chapter entitled 'Giftedness: The Ultimate Instrument for Good and Evil', Tannenbaum explores the relationship between giftedness and morality. He reviews the impact of 'a rogues' gallery of great minds' such as Joseph Mengele and Joseph Stalin and more controversially considers the effect of T.S. Eliot's anti-Semitism and Pablo Picasso's misogyny on their legacies. He concludes with:

...a sincere plea to persist with dedication and imagination in making moral education an integral part of enrichment for the gifted in the hope that it will enhance their learning experiences and encourage them to serve society with guidance from its highest ideas.  
2000:463

Teachers have a role to play in pointing out potential consequences of deviant behaviour for pupils not following expected and accepted routes in their journey toward taking their place as an adult in society. There is however, a limit to teachers' influences and they have to accept pupils' choices, even if they do not fulfil their own hopes. Pupils must be allowed to exercise their autonomy, but teachers may find it hard to 'let go' if they feel pupils are squandering special, rare talents.



Research has shown that able pupils have a well-developed moral sense, making a wider than average gap between understanding and action hard to explain and accept (Andreani and Paganin, 1992). Reasons for such behaviour could include children wilfully disregarding the wishes and expectations of parents, siblings, friends and society, through disappointment at having been somehow let down. The education system is one area frequently cited by able pupils as being a grave disappointment (Freeman, 2001). Years of dull tasks and time spent waiting for peers to catch up eventually take their toll. Children can feel misunderstood and some use their abilities to 'repay' the system. For others, the move away from convention is far less deliberate. Frustration and boredom in school can lead to a search for stimulation outside the rules and structures, often resulting in absence and the formation of bad habits. Able disaffected pupils may fall behind with schoolwork through missed lessons and incomplete tasks, eventually finding themselves outside the structures that should be able to help them.

In the UK, 'Personal, Social and Health Education' programmes have been bolstered by the inclusion of 'Citizenship Studies' in the National Curriculum in which pupils' contributions to their local, national and global contexts are emphasised. Since able pupils may have a lot to contribute, yet more may be expected of them. An example is Celia, just completing her first term of Year 11 and complaining of missing lessons due to her other commitments. As an able singer, she was involved in school and community carol services as well as collecting presents for hospital children, and organising the soup run rota. She was in the pantomime and running a chess club with the local feeder primary school and had taken over a charity baking marathon when a friend fell ill. Teachers felt she could comfortably miss classes as she was ahead of her peers, but she said the pressure was too much. This is not unusual for the able; guilt has been widely documented as a problem (McAdams, cited in Pasupathi and

Staudinger, op cit:263; Freeman, 1998, 2001). Normally obliging, polite and calm, Celia had become frustrated and angry:

You tell me what I should give up. Apparently homeless people, the elderly, sick children and Mencap are all dependent on me at the moment. What about my GCSEs? What about my social life? You tell me, who should I let down?

Taped counselling session, Dec 1999

There is a disparity between moral cognitive understanding and moral behaviour in the highly able child who may have an advanced understanding of aspects of a situation, but lack general maturity (Pagnin and Andreani, 2000).<sup>xii</sup> This can be helped through a combination of rational moral reasoning alongside helping pupils with their social and emotional maturity.

Group discussion focuses on rational justification of values.[...] Intellectually gifted children and adolescents are mainly open to this kind of intervention, as they can better recognise the value of a good reasoning context. Nevertheless, social and emotional aspects also have to be considered: developing good basic relationships, identifying with adult role models, being exposed to language, discourses and values giving meaning to life.  
ibid:481

Issues of high ability should not be considered in a vacuum. The moral dimension is important in terms of identifying the able and planning appropriate provision.

### 2.4.3 The value of different abilities

If an aptitude is trivial this does not stop it being an aptitude, it just makes it less valuable or socially useful. For example, in many scenarios, it is more valuable to have high ability in writing instructions than to have high ability in whistling. Of course there are occasions when having high



whistling ability is useful; signalling to someone in the dark without calling out, entertaining friends, practising embouchure for flute playing or registering crowd displeasure at a rally or rock concert. Nevertheless, these examples do not make the ability to whistle a generally more valuable attribute or skill, than the ability to write fluently. Moreover, it would be (practically) impossible to function in schools if we accepted every skill as equal in importance.

Traditional hierarchies of academic subjects suggest that some are more important than others. In school, this usually means that theoretical abilities are viewed as more valuable than practical skills, with this theoretical-practical dichotomy also seen in the contrast of status between vocational and grammar-style education. Such ideas have been challenged in recent years, with multiple intelligence theories changing how curriculum subjects are viewed and by a growing emphasis on valuing all pupils for what they can achieve. The value of an ability is framed in part by the social context and also through the complexity of the task. According to some, if only a few people are capable of a task, it becomes more valuable, although this can only be a reflection of the task when equal opportunity to pursue its accomplishment is allowed.

In this thesis, I am considering intellectual high ability in particular, not because this is more important than ability in other areas such as music, art, drama and sport. These other subjects are, of course, vital, but are not the focus here. Reasons for my choice are explored later in section 2.7.0.

#### 2.4.4 The origins of abilities

It is a struggle to write about high ability without recourse to words and phrases such as 'natural aptitude', 'genetic endowment' and 'real ability', because intuitively we tend to consider ability as an innate characteristic. I will consider this in more detail in the next chapter (3), but state here that I

am remaining agnostic about the origins of abilities, as it is largely irrelevant to the way we deal with children in education.

It might be that teachers consider certain standards unattainable for those without a particular 'innate aptitude'. These lower expectations could prevent people from achieving their potential, even when this is a lower standard than their peers. Alternatively, it might be that the origin of the aptitude is environmental. It is by no means certain that education would be improved by the attitude that every single child could have every aptitude inculcated through a shift in pedagogy, nor is it evident that limits should be 'discovered' and resulting restrictions applied. The impossibility of ensuring appropriate support and provision would render the majority of children failures in terms of achieving their potential of excellence in every subject. Choices would still have to be made about who should focus on what and how resources could be allocated to serve both the individual and society for the best.

It is entirely possible to raise expectations and standards, with an interpretation of high ability either as innate or as environmentally created. Even if entirely environmental, the opportunity for developing aptitudes would be affected by the age at which the skills and ideas were first introduced and how they were nurtured. Such early childhood influences would be beyond the control of education, unless drastic changes were made in children's upbringing and broader societal structures.

The role of schools and teachers is to help each pupil, regardless of the source of abilities. Pupils with greater aptitudes still need support in order to flourish. Whether or not they have above average aptitudes in one area, all pupils should be helped to see how they fare in a range of fields. What education can do is allow the development and expression of aptitudes, inculcate dispositions and encourage positive propensities. In this regard,



motivation and opportunity are also vital.

Naturally, questions about the origins of ability are important and merit research, but they are not the subject of this enquiry. It is potentially impossible to determine definite answers about the nature-nurture debate, but how best to support the development of aptitudes can usefully be investigated.

2.5.0 Different definitions of high ability

There are myriad ways of organising the many definitions of high ability already identified (in section 2.1). McAlpine (1996), for example, suggests definitions are either conservative or liberal, concerned with multiple or single abilities, and focused on potential or performance. Certainly, debates about the nature of high ability swing from one extreme to another, something like the range presented in this overview:

single capacity	multiple capacities
performance based	based on potential
originating from nature	originating from nurture
traditional	progressive
selective	inclusive

In wanting to cover all these variations and separate the descriptive from the explanatory, I have structured the following sections (2.5.1 to 2.5.4) in a loosely chronological fashion, in order to demonstrate something of the journey to current thinking, along with the overview of the different definitions. I therefore begin by reviewing concepts of genius (2.5.1) and then review multiple and single abilities (2.5.2). I also briefly consider non-intellective qualities (2.5.3) and present a short summary of these three sections (2.5.4).

I have devoted a separate section to the complexities of the potential–performance question (2.6.0 to 2.6.4) as this encompasses the issues raised by able underachievers and is both a current and controversial debate. I put forward my own account of high ability in section 2.7. Whilst I cannot claim to deal exhaustively with all the arguments in the field, the following sections (2.5 – 2.7) provide a comprehensive coverage of key ideas and concepts as they are presented to practitioners and policy makers.

#### 2.5.1            Genius and prodigy - a race apart?

This section considers the possible qualitative difference between the ordinarily able and the highly able. Even though studies of genius apparently only concern a narrow band of people, it is possible that resulting concepts could be relevant to developing an understanding of the broader population of high ability. In-depth studies of the most able address issues such as how we learn, the relationship between potential and performance and the kind of challenge that inspires and fulfils children. Perhaps the highly able can be shown to be significantly different from their peers, or perhaps they are just the same in the way they learn and think. Either conclusion will affect educational provision and an evaluation of research should demonstrate its application.

Research into ‘genius’ is limited, the most widely known being Terman’s seminal work ‘Genetic Studies of Genius’ (published over a 70-year period from 1925 by a range of researchers within Terman’s group) in which the critical topics of intellect, disposition and development were introduced. Implicit in Terman’s work is an assumption that intelligence is a single, homogenous construct. Issues surrounding IQ testing are discussed in detail in Chapter 3, but the table below is typical of those found in gifted education literature discussing the spectrum of high ability:



<u>Level</u>	<u>IQ range</u>	<u>Prevalence</u>
Mildly gifted	115 - 129	1: - 1:40
Moderately gifted	130 - 144	1:40 - 1:1000
Highly gifted	145 - 159	1:1000 - 1:10,000
Exceptionally gifted	160 - 179	1:10,000 - 1:1 million
Profoundly gifted	180+	Fewer than 1:1 million
Gross:179		

Cut-off points for defining genius and other ‘grades’ of ability are variable depending on the nature and purpose of the test.

... an IQ of 132 allows someone to join Mensa, and an IQ of 164 is the entrance criterion for the Four Sigma Society, and an IQ of 228 puts someone in the *Guinness Book of Records* as the world’s brightest person.

Simonton, op cit:113

Obviously, case study research into genius is scarce and cannot be replicated or validated in the usual way, due to the small population.<sup>xiii</sup>

Gross attributes the lack of interest in researching genius to the egalitarianism of recent decades, acknowledging that definitions are now generally broader.

Genius is a word used rather lightly in common parlance. When applied with consideration though, it is the highest accolade. It should denote eminence and excellence in a significant field of endeavour, but is nowadays used liberally to apply to someone who is a top performer in their domain.<sup>xiv</sup> Of course the notion of genius is exciting and case studies are thrilling to read with their tales of twelve-year-olds translating texts into Latin for fun (Gross, op cit:187), eight-month-old babies able to read single words (p173) and seven-year-old pianists playing complex Beethoven sonatas faultlessly by heart (Winner and Martino, 2000:103). By definition, most studies of genius need to focus on achievement, which causes difficulties when reviewing the accomplishments of some children. Significant changes to a field or domain are often used to define genius

and these are unlikely to be accomplished by children, even the exceptionally able. In these cases, accelerated development or unusual ways of learning are taken into account, with predicted eminence in adulthood. It is quite feasible, of course, to be highly able but to fail to achieve excellence. There are also people whose area of high ability goes without public acknowledgement due to their field of study, some controversy, or achievements that are remarkable, but fall just short of incredible.

With genius in particular, and high ability to a lesser extent, it is sometimes considered that qualitative and developmental differences exist. Perhaps if the exceptionally able are so different from the rest of us they should be taught completely separately.

...the qualitative definition regards giftedness as a difference in *how* gifted individuals function neurologically. Some authors highlight the information processing differences, while others suggest gifted individuals differ emotionally.  
Porter, op cit:25

In this vein, some research even investigates optimum conditions for gestation, with programmes that prospective parents can follow for up to a year before conception, normally involving physical measures to reduce stress and strengthen the immune system. Research following 'bright babies' highlights characteristics of high ability, extrapolating instructions and recommendations in order to foster skills of memory, attention and discrimination (e.g. Leyden, 1998). These factors all correlate favourably with preschool success, demonstrating how music, deliberately controlled sounds, diet and physical exercise can affect the foetus, resulting in unusually high levels of concentration in the baby. Differences observed between babies have been interpreted as proof that gifted people learn in a different way from 'ordinary' learners, being able to cope with more



stimuli, making connections in complex ways and demonstrating uncommonly advanced levels of determination (Freeman, 1995).

This view suggests that people are born with differing abilities and thinking styles; that they are qualitatively different. Biological studies demonstrate high levels of cortical arousal in gifted children's brains and physical differences in thought processes, with much faster information processing.<sup>xv</sup> Cognitive difference would, in this case, lead to such deep or broad learning from an early age that others would never really be able to 'catch up'. Porter reinforces the idea of a 'race apart':

In terms of their intellectual skills, it is clear that advanced learners [...] can manipulate and juxtapose ideas in such sophisticated ways that it is probably safe to conclude that their thinking is both quantitatively and qualitatively distinguishable from that of average learners.  
1999:27

Statements of this type are often supported by studies of young children's personalities, suggesting unusual intensity that correlates with studies of the highly able, as emotional and sensory experiences are often powerfully felt by able people. Particular alertness in babies, together with extreme distress displayed on hearing loud sounds or seeing bright lights, indicates high ability according to the Over Excitability (OE) scale. Dabrowski's 1967 OE scale encompasses intellectual, emotional, imagination, psychomotor and sensual dimensions, with highly able children often measured as 'intense' in these areas (Tucker and Hafenstein, 1997). These super-sensitivities can be wrongly interpreted as an emotional disorder (Coleman and Cross, 2000).<sup>xvi</sup> Similarly, Csikszentmihalyi presents the notion of 'flow', 'a period of intense and single-minded attention to a particular problem or project', also highlighting aspects of intensity (Gallagher, 2000).<sup>xvii</sup> There is also a correlation between extremely high ability and psychopathology, with emotional and

mental disorders more prevalent among the population of people with very high IQ measures (Simonton, op cit:115).

The idea of the gifted being some kind of 'race apart' is fuelled by media image and popular conceptions, as traditionally and in the public imagination able people are somewhat removed from society and anti-social. As noted, popular stereotypes of the highly able generally entail the semiotics of social ineptitude with easily recognisable physical characteristics such as a monotonous voice, a gawky body and unfashionable clothes.

Research tells a different story. When primary age children are asked to choose classmates as work partners, able children are most commonly selected. They are consistently rated as attractive, friendly, and popular by their peers (Freeman, 1990), and tend to be socially accepted, sometimes 'because they have prestigious skills or are useful academically' (Austin and Draper, 1981; Cohen et al, 1994).

When possible, the highly able form strong bonds with other highly able pupils (Cohen et al, 1994) and where social difficulties do exist these 'usually diminish when they find a true peer group' (Morelock and Morrison, 1996). Someone with a very narrow range of interests and no apparent need for company is likely to be isolated, but these cases are usually indicative of another difficulty or problem. Children with Asperger's Syndrome, for example, are often very able, but when integrated into the mainstream classroom, their autistic-type problems of relating to people become apparent and problematic. Resulting isolation is usually due not to their high ability, but rather to their Asperger's Syndrome. Contrary to popular belief, 'the incidence of emotional disturbance in gifted individuals is probably the same as for the rest of the population' (Porter 1999:116), a view consistently reinforced by other researchers, notably Freeman



(1996).

Checklists for high ability invariably include characteristics such as determination, resilience and enthusiasm, by no means confined to the highly able, but possibly demonstrating the single-minded nature high achievers need to cultivate in order to do well. Such children may have unusual drive to complete certain projects. Theorists emphasise dispositional aspects such as 'task commitment' (Renzulli, 1986) and 'non-intellective' qualities (Tannenbaum, 1986), which can be nurtured and developed through education, but are often wrongly assumed to be unteachable.<sup>xviii</sup>

Confining the concept of high ability to a small group of very unusual individuals is an unhelpful methodology in educational terms; too many children are excluded (McAlpine, 1996, would label this 'a conservative approach' to identification). It is unhelpful to see the able as a group to be set apart, but rather as individuals who like everyone else, should be helped to do the best they can. Researchers (e.g. Terman and later Simonton) consider factors such as birth order, traumatic events (typically parental loss) and education and training to be part of the developmental process (Simonton op cit).

Genius is not just born; it is also made – by the environmental circumstances in which the youth develops his or her talent. Genetic endowment solely provides the raw materials from which environmental events and conditions can configure talent growth.  
Simonton, op cit:115

Acknowledging that differences are not just qualitative and innate, but also affected by background brings a responsibility to compensate children who are disadvantaged by their background. For example, workshops funded by educational charities are available for children who lack

opportunities to exercise their unusual talent. Because their background has prevented them from high achievement, provision must be for a broad group, defined not by what they have achieved, but for their potentially high achievement.

Freeman considers the interaction between the individual and their environment, making suggestions for how parents can help (2000:582-3) and noting:

The problem for research is how to establish what results in what. A highly verbal and demanding child, for example, can affect parents' behaviour by stimulating them to have more conversation and read more stories aloud. On the other hand, parents who talk to children a lot are more verbal people.  
Op cit:576

An explanation for disparities in ability could be that pupils are very quick at picking up ideas, setting them off on the standard developmental trail rather early.<sup>xix</sup> This would explain why children are described as gifted more often than adults. High ability is viewed like a head start in a race, rather than being on an entirely different track - almost everyone gets there, the highly able just need to wait for the rest to catch up. (This is not the same as qualitative difference, where the able are set apart as both children and adults.) Adopting the developmental view allows for high ability to be explained as accelerated development. This will result in there being more children advanced of their peers than adults, as achievements even out.

... there is simply not enough room at the top for all prodigies to become creators; and so there is an inevitable weeding out. Any domain would be in chaos if there were as many creative adult innovators as there are child prodigies.  
Winner and Martino, 2000:107



This allows for all to have the same potential for development, with the able being different only because they initially develop at a faster rate (Keating, 1975) which has been shown to be advantageous in the school setting (Webb, 1974).

Gross reports:

A substantial amount of research support exists for the proposal that gifted learners differ from their age peers of average ability at the age, and pace, at which they traverse the Piagetian stages of cognitive development: specifically that while all children experience the stages of cognitive development in the same order, the gifted progress through the stages at significantly accelerated rates, thus reaching the formal operational stage at much earlier ages.

ibid:182

This may be useful evidence for considering school-based achievement; perhaps even providing an argument for restructuring classes, grouping children by ability rather than chronologically.<sup>xx</sup> Recent UK initiatives to widen participation in high-level study and encourage lifelong learning will allow more people to 'catch up'.

Despite empirical research, respected psychological snapshot studies and longitudinal reviews, there are still some rather unusual aspects to gifted research, which do not serve to help develop a balanced dialogue about pertinent issues. Many of the papers concerning extreme ability have a sense of wonder throughout and conclusions such as the one below contrast with earlier scientific presentation:

There are some, [though], especially in the arts, who seem to have a built in impetus – a spark which can light up the world, bringing them great inspiration and success.

Gross, op cit:583

This serves as another example of some indistinct work in this field,

unfortunately doing little to help unpack deeper ideas of human potential, or explaining why some race ahead of peers, why others catch up and then stop progressing and why others never seem to catch up at all.

To conclude, some research suggests that the highly able are significantly different from peers in a variety of ways, while other findings imply that the highly able are developmentally the same, merely moving through their development at a faster pace. In general it seems unhelpful to consider only the 'genius' in research, as generalisations cannot be made due to sample size. Research seems to show that children with exceptional abilities benefit from the same provision as the highly able; that is, some time spent with age peers and some spent with ability peers, allowing for balanced development.

### 2.5.2 Single or multiple capacities?

A broader exploration of single and multiple capacities is presented in Chapter 3, on 'intelligence', together with arguments about the controversial notion of IQ. The single capacity definition of high ability is mostly viewed as synonymous with general intelligence, commonly referred to as 'g' and often accompanied by assumptions of fixed and clear limits. However, even early notions of 'g' were not as straightforward as sometimes portrayed. Spearman originally proposed a two-factor theory of 'g' and 's' (general and specific abilities, 1904, 1927) in which 'g' was considered insufficient as a total explanation of high ability. Considering the complexity of his original theory shows the stark dichotomy between single and multiple concepts to be both false and simplistic.

The polymorphous view, now familiar as Howard Gardner's 'Multiple



Intelligences' theory (MI), gained popularity in the 1980s, and has even been adopted as the basis of some schools and their curricula. As noted above, research literature tends to focus on either multiple or single capacity models. Currently, research reflects only a minority of support for the more old-fashioned single capacity viewpoint. However, rather confusingly, many teachers still cling to the notion of 'g' while simultaneously embracing multiple theories.

The argument is summarised by Tannenbaum:

Another seemingly perpetual debate that promises to continue well into the twenty-first century is between believers in general ability ('g') as the main source of mental functioning and those who point to separable aptitudes as the origins. Here [again], socio-political differences, more than research evidence, may account for the rivalry. Those who emphasise the importance of *g* concentrate on human differences in the abilities that relate most strongly to *g* and are at the heart of every curriculum in sciences and letters. Discreditors of *g* focus mainly on diversity rather than difference and prefer to show that more people can demonstrate excellence in at least one of a variety of aptitudes than in the restricted range of competencies subsumed under *g*. One side of the debate prides itself in being primarily selective in defining who qualifies as gifted, while the opposition seeks to be more inclusive and hence more egalitarian or expansive in formulating qualifications. Ibid:50

Teachers interpret multiple capacities as an add-on theory rather than a replacement for IQ, or 'g', requesting intelligence tests to support 'pupils who have multiple intelligences'. This is demonstrated through the networks on the internet where teachers often request details of reputable psychologists and is also a contention supported by both the British Psychological Society and the National Association of Gifted Children, who note that the volume of requests for IQ tests has not diminished in recent years. <sup>xxi</sup>

In my experience most people, both teachers and the general public, still hold the view of a single general intelligence (IQ) which children have to a lesser or greater extent and which can be accurately measured on an intelligence test; hence the request from many primary school teachers and parents for an intelligence test to confirm the ability of a child.  
Eyre 1997:2

Whilst not posing a practical problem in itself, conceptual confusion is demonstrated. It may ultimately be useful for theorists and practitioners to absorb aspects of both conceptions, rather than having to 'pick sides', but this should be done soundly, not as the result of a misunderstanding.

Gardner hypothesises Multiple Intelligences as sets of unevenly distributed talents. He currently uses the word 'intelligence' in his explanations and this is criticised by 'high ability' writers who have leapt upon the instances in which he has preferred to use the term 'talent'. Feldhusen notes that 'Gardner's own later use of the term 'talent' certainly suggests little devotion to the basic definition of intelligence.' (2000:124). Despite echoing this censure, Porter (op cit:22), among others, notes that MI has truly helped teachers in improving provision for able children and meeting their wider needs, through understanding high ability, embracing a broad range of human achievement, and by presenting educators with a comfortable view of ability, more in tune with the aims of an egalitarian society. The original concept of multiple conceptions of high ability was first presented with force by Thurstone in the 1930s and 1940s. He challenged the concept of 'g', identifying instead, seven primary mental abilities:

verbal comprehension; word fluency; numerical fluency;  
spatial visualisation; associative memory;  
perceptual speed; and reasoning.  
Gardner, 1983:17



However, he later conceded that there was still the likelihood of a general underlying ability (Porter, op cit:20) and that the separation of aspects of intelligence was more due to his choice of statistical analysis than any other factor, much like Spearman's use of 'g' and 's'. Other theorists have also adopted a 'multiple' model, some focusing on domains and others on processes.<sup>xxii</sup> Sternberg (1985), for example, presents a triarchic model of giftedness in which all aspects are underpinned by processing skills. Sternberg's three aspects of high ability are:

analytic,  
synthetic (unconventional, independent thinking),  
and practical skills.  
1997:44

Earlier, Guilford (1959) had postulated a similar three-dimensional structure-of-intellect model, in which intellectual operations, product and content are separated and in which a total of 120 different capacities were identified. Yet this separation of elements has been criticised as pointless, yielding little in the way of practical help or explanation for the nature of high ability (e.g. McNemar, 1964). As with Thurstone's model, the areas identified are similar to components of the IQ test, suggesting that these theorists have succeeded in breaking down components of ability rather than redefining it. The notion of 'g' cannot be so easily dismissed.

When the concept of different types of ability is taken to its extreme, there are so many different definitions that it becomes impossible to see connections between the disparate types of ability. In a sense, this defeats the object of making a connection between all people of high ability as the broader the categories become, the more difficult it is to see links.

Perhaps this is a wrong-headed notion from which to attempt to explain ability. It could be accepted that there are many different types of high ability, but that the characteristics underlying the ability are in fact linked to the area of expertise itself. If so, there would not necessarily be a connecting factor, as in Gardner's theory. But despite the support for multiple capacity models dissenting voices say:

Models of intelligence which propose a number of specific, quasi-autonomous factors, abilities or aptitudes,[...] require greater empirical support if they are to become the foundation for broad-based educational usage. More recent support has lent substantial support to Spearman's (1904) conception of a general mental ability factor *g*.  
Gross, op cit:187

Ziegler (with Raul, 2000 and with Heller, 2000:6) recognises that newer theories are more in favour of multi-dimensional models of high ability, criticising them for possibly being wide-ranging, encompassing too many different notions of what MI consists of to be clear and useful.

As concepts of ability have opened up to include a broader set of characteristics, personality factors have been increasingly incorporated, as well as notions of creativity and motivation.

### 2.5.3 Creativity and non-intellective factors

The relationship of creativity to high ability is unclear, but it merits attention, emerging as a factor in many polymorphous definitions, as do non-intellective personality traits. Creativity is presented as a dimension of high ability in Renzulli's 1970s influential three-ring model in which the elements are: 'creativity; above average ability; and task commitment', which is understood as some kind of character trait, or disposition.<sup>xxiii</sup> Similarly, and without any rationale for why creativity is important, Freeman presents a list with pre-requisite personal characteristics and



conditions necessary for creativity to thrive:

- Motivation
- Knowledge
- Opportunity
- Creative teaching style
- Encouragement to be creative
- Acceptance of one's own personality
- The courage to be different

Freeman, 1998:48

Tannenbaum's star definition (1983) also incorporates factors beyond ability as being necessary, yet singularly insufficient, for achievement. His five areas are: general ability ('g'); special ability (subject area); non-intellective factors; environmental factors and chance factors. He notes that a deficiency in any one area cannot be negated by excess in another area. All conditions must be satisfied, but the importance of different factors will vary across fields of endeavour.

Perhaps some personality or other factors could transcend different disciplines suggesting that high ability could perhaps be predicted and nurtured more effectively (see, for example the Nebraska Starry Night referred to in Appendix II). For example, a sense of determination, resilience, strong work ethic and high levels of motivation are requirements of high achievement in chess, ballet, surgery and painting despite the difference in activities. These dispositional factors and personality traits could be described as general, since they are consistently found among high achievers and perhaps this could help explain high ability better than a model of 'g' or MI. Underachievers though, would not necessarily be identified with such a definition. A personality-based model could imply a psychological profile of high ability, but as noted earlier and repeatedly, empirical research is contradictory. All

that can be safely concluded is that it is impossible to present a clear definition. This complexity is summarised by Ziegler and Heller

In exercising self-criticism, the field of giftedness research must admit that it has not yet been able to attain the level of scientific advancement which allows for a common definition of its research object in favour of a psychologically based construct.  
2000:11

It seems likely that pupils would benefit from tasks that incorporate measures to foster creativity and strengthen non-intellective factors, but more research is needed to show exactly how these factors relate to high ability.

#### 2.5.4 Conclusion concerning definitions

All ideas in section 2.5 are informed by the general issues raised in the previous section (2.4). They only constitute a fraction of the literature, but do represent the main themes. I expand discussion on the key factor of multiple and single abilities in the following chapter (3) but will briefly state my view here. The contemporary favour given to 'multiple' models of ability is useful and has helped the field to develop in a way that allows for the disadvantaged to gain important recognition. Simultaneously, however, there has been a backlash against the concept of a single, generalisable aspect central to high ability, which has resulted in a proliferation of definitions, some of which are so scattered that they are contradictory, which is unhelpful to practitioners. Some theorists have kept the idea of general intelligence as part of their understanding of high ability and these definitions are flexible, thorough and useful.

Consideration of genius and prodigy brings to the fore the possibility that the highly able are a race apart. I do not believe this to be the case, but I do accept there are individual differences that impact on levels of ability.



Such differences encompass some kind of capacity for intellectual and physical ability, but this is so strongly intertwined with personality traits, habits and environmental influences that it is vital that we do not let the capacity aspect dominate discussion or be used alone to determine provision or allocation of resources. Dispositional elements are vital, as is a discussion of non-intellective aspects and an understanding of how personal characteristics interact with performance. All of this helps provide a basis for supporting the able. Reviewing others' definitions is useful in demonstrating the obvious conclusion that there are both similarities and differences between children and both should be taken into account when planning provision.

I now consider the concept of potential (2.6) that seems to surface in every type of definition, and then go on to present my own positive account (2.7) of high ability.

#### 2.6.0 Performance and potential

This section considers the traditional notion of high ability as high performance and more contemporary understandings of high ability as high potential. The performance model of high ability can be traced back to the compelling work of Terman who 'considered achievement to be the observable output of giftedness' (Monks and Mason, 2000:146). At this time, highly able pupils were considered 'mutants who possess some kind of freakish powers bestowed upon them by some kind of biological accident' and that catering for their abilities would fulfil a prediction of 'early ripe, early rot' (Tannenbaum, 2000:34). Terman needed to show what highly able children were capable of achieving and so used exceptional performance as a defining factor. It is rare to find purely achievement-oriented models of ability in contemporary research, however, as the plight of underachieving minorities has been highlighted to such an extent that it is unacceptable to use an achievement model, or

any kind of retrospective model focusing on renowned people and their achievements. Indeed, the notion is met with disdain and even anger by many authors:

As these definitions do nothing to identify in advance potentially talented children who could need special educational provisions, they are not useful in educational terms. More than this, they can be positively harmful [...] at a wider level, the after-the-fact definitions have done a disservice, in my view, to the literature about gifted people; claims must be read with extreme caution.  
Porter, 1999:30

Retrospective definitions have led to some false understandings of the nature of ability and the role of the environment in forming genius. Through the vagaries of interpretation and lack of understanding of achievement within different historical and cultural contexts, it is difficult to make clear links with present-day situations. 'After-the-fact' definitions have only limited use and should be viewed with caution. The aim, though, is to find patterns that could help with provision.

If we could understand the developmental foundations for both the nipped bud and the late bloomer, we would have a much more firm idea about how best to intervene in the growth of talent – especially within our educational systems.  
Simonton, op cit:118

Questions about the realisation of potential and the late emergence of talent are seen in Cox's retrospective study of 301 famous adults, reviewing their biographies in search of early signs of giftedness as part of Terman's project (Volume 2, published in 1926). The enduring positive finding she noted is that children are unlikely to accomplish world-changing feats, but this does not mean their achievements or promise are insignificant.



Children's achievements are also limited by the fields in which they perform. A teenager can reach a peak of fitness and ability in sports such as tennis and gymnastics, but there have been no equivalent ground-breakers in Poetry or Nuclear Science. Some fields, such as Medicine and Law, are not open to children, which is fair and right, considering their lack of life experience. Others, such as Mathematics and Music have been characterised by young people's achievement, sometimes with accompanying burn-out, rather than development into a mature power. As such, there must be different definitions of giftedness for adults and children.

School achievement is the result of hard work in a wide range of differing areas of the curriculum where the level of study is fairly superficial and the problems that need to be solved are normally quite easily defined. On the other hand, adult creative achievement is usually the result of single-minded dedication, often extending over many years, to the resolution of problems that are usually vague and undefined.  
George 1992:28

(Sometimes children do manage to demonstrate success as framed within adult terms, though.<sup>xxiv</sup>) In a similar vein, there could be specific definitions of excellence particular to fields of endeavour, requiring yet more distinctions and checklists. Record-breaking swimming achievement has certain pre-requisites that are not applicable in painting, golf or Physics. It would seem that eminence must be placed in a clear context and that this cannot be decided upon until some time after the long-term effects of the contribution can be evaluated. Alan Turing's developments in Mathematics, for example, could not be assessed until a clearer image of the role of computers could be established, reminding us that we should sometimes reserve judgement. It is impossible to see how we could ever assess the full influence of the eminent objectively.

These difficulties, along with the barriers to achievement highlighted through examination of minority group experiences, have led to the re-definition of high ability along the lines of potential, more than performance (Simonton, 2000:118). In a list of (seven) key points for schools, Eyre warns that 'some abilities may not be recognised until later in a pupil's schooling' and that 'ability and achievement are not the same thing' (1997:36). Acknowledging the gap between possible and actual achievement brings into play the complex concept of potential. In order to help people achieve their potential it is necessary to be able to see when it has not been realised, what is preventing its realisation and how to rectify any associated problems. This sounds simple, but is often incredibly complex.

The concept of potential is frequently used in this field, but infrequently defined. It is easy to assume that children who fail at school have not fulfilled their potential, but there is no evidence to support the underlying idea that potential matches to subjects taught at school. Many renowned business tycoons and public figures delight in telling stories of how they were expelled, forced to retake examinations or labelled unintelligent, having since gone on to exert great political, financial or other influence on their detractors. Weak pupils are often cited in books about the gifted (George, 1992) with, for example, Roald Dahl as illiterate, Einstein mentally slow and Churchill as academically limited. These people were all outstanding achievers and it would be difficult to argue that they were not gifted, but would it ever have been appropriate to expect them to do well at school? This is not the forum in which to explore the curricula with which they were presented, but of the three examples, only Dahl has achieved what could be related clearly to school-based skills and even then his novels and poems are renowned for treating his child readers very differently from previous and even contemporary writers – exactly the kind of approach that could be considered facetious by a teacher.



Einstein's thinking had to be outside of the expected, not always favoured by school requirements. Churchill's brand of leadership mixed with stubborn tenacity and risk-taking could certainly have landed him in trouble.

Such examples only reinforce the narrowness of the school experience in terms of all possible fields of human endeavour. What individuals could achieve, their potential, must be considered in a much broader context. Motivation and desire to succeed should be incorporated into a view of high ability, as well as the effects of family and schooling. Studies continually reinforce the notion of a considerable number of important factors contributing to success.

...most studies have shown that non-cognitive factors such as motivation, concentration and endurance as well as parental and school support systems seem mainly responsible for exceptional performances in later life.  
Schneider, 2000:167

Clearly there is more to potential than a high IQ score, or a particularly good one-off performance. But what do teachers and researchers mean by potential?

### 2.6.1 Potential

The term 'potential' is often used as if it were a concept with universally agreed meaning, but it is a complicated notion. Peppered throughout research is advice for practitioners to facilitate the development of children's potential without defining what it could be, or acknowledging that it is, presumably, the potential to achieve in morally and socially acceptable fields being encouraged. It is impossible to measure potential and difficult even just to assess discrepancies between potential and performance (Porter, 1999:233). In some cases, diagnostic IQ tests have

been able to identify people with problems who have, as a result, received appropriate help and useful teaching, and enhancing school grades. More often though, such measures are far too narrow, or inappropriate in another way and so do not provide much information in identifying potential.

Using potential as a part of a definition of high ability could be problematic. However, an influential official definition from the US government (1972, Marland Report) highlighted both 'mature powers' and 'developing abilities', recognising the value of 'high potential ability' in a range of areas (cited in Rudnitski, 2000:676). Despite subsequent criticisms of the definition, it was a ground-breaking change, shaping the field of gifted education by placing 'potential' at its centre. It was the first definition to suggest that an achievement model of giftedness may not be telling the whole story.

With little attention paid to the meaning of 'potential' by psychologists and education researchers, it is necessary to turn to philosophy. Scheffler considers the notion in his 1985 essay 'On Human Potential'. He identifies three conceptualisations: 'a capacity notion, a propensity notion and a capability notion' (p45) designed to reconstruct the concept of potential and clarify it for practical use in educational contexts. These three conceptions are usefully outlined by John White:

1. To possess a potential can mean possessing the *capacity* to become something. A potential pianist in *this* sense is someone who is not prevented by some unspecified obstacle (which could be physical like having no hands, or cultural, to do with, say, being brought up in a belief system that has no place for art) from acquiring the ability to play the piano.
2. A potential may also be the *propensity* to become something. A person, described as a 'potential heart attack victim' has the propensity to become one. This is to say that if certain conditions are fulfilled (e.g. he continues to eat a lot, take no exercise, etc.) he will have, or is likely to have, a heart attack.



3. A potential can be the *capability* of becoming something. By 'a potential pianist' we may mean something different from the account given in (1) above. We may mean a person who is capable of becoming one in the sense that 'he can be predicted to become one if he makes the effort to' (p61).  
1986:136

Educators of the highly able generally have in mind a combination of all three definitions when talking about children in their care. The third, capability notion, is the strongest in this context, as this describes the able pupil as more likely to succeed than other students who may only meet the first, capacity notion, merely by being unhindered. Although I can see White's point that attributing capability when someone has the relevant pre-requisites could be no more than a truism (139-40), I think that teachers do use this capability notion to describe some kind of latent ability. This is mentioned by White in his discussion of the common language usage of potential:

...so far as people do speak of individuals as potential pianists, they do often tend to see them as possessing some inner talent which will flower if natural processes [...] are not interfered with. (Note, here, too, that when people talk in this way, they don't *pace* Scheffler, tend to mean merely that the individual will learn the piano if [...], but that he will become a talented player of it.)  
op cit:138

The second, propensity notion, is harder to apply to circumstances of education than natural laws, as identified by White (pp137-8). However, some researchers of gifted education imply that individuals have no choice but to pursue a certain skill or career as they are compelled by their talent, pushed in a certain direction by 'inner forces'. Perhaps this is only applicable to research that relates to the exceptionally able often described as driven, focused and single minded (e.g. Freeman, 2001; Gross, 2000; Schneider, 2000).

For the field of gifted education, the message gleaned from investigating Scheffler's essay and White's response is that the issues raised could be more plainly expressed 'using the more familiar language of capacities, preventing factors, capabilities and pre-requisites to which the reconstructed language of potentials [...] reduces' (op cit:141). It is yet another area of confusion in the literature.

### 2.6.2 Fulfilling great potential

Difficulties arise for the very able in that they have many options for success (recall the accomplished girl described at 2.4.2). For such pupils, the range of options should be as wide as possible and guidance must be made available.

One can never be all that one has the potential to become, because life is too short and developing expertise requires much time. But people do possess wide variation for how readily expertise development is likely to take. [...] The important life decision is not what you can be as much as it is choosing what you would like to become from an array of possibilities.

Lubinski, Benbow and Morelock, 2000:645

Personal fulfilment can come in a range of guises, not restricted to academic or career aspects of development. It is more about balance than exceptional accomplishment in any one area (Delisle, 1994).

### 2.6.3 Underachievement

As noted in Chapter 1, catering for the underachiever would seem less contentious than for other pupils. However, such pupils are often neglected. They were not even mentioned in the first three years of the government's strategy.<sup>xxv</sup> Some underachieving able pupils are not considered 'worthy' or deserving of resources due to negative attitudes



and difficult behaviour. Others are written off due to physical disability or sensory impairment.<sup>xxvi</sup>

A performance model of high ability is not an inclusive approach. It is easy to identify a bright child who produces excellent work, is keen to answer questions and take a full and active role in school. Other, 'invisible children' may choose to stay out of the limelight, under-performing for a variety of reasons or may indulge in anti-social behaviour.<sup>xxvii</sup> In recent years, underachievement and disaffection, have been increasingly studied, particularly in boys, and it is through this new interest that research projects have attracted government funding.

Deliberately performing badly at school may seem a strange tactic, but many pupils make use of this strategy for a variety of purposes, including boredom and a dislike of school-work, particularly when working hard only results in the expectation of completing more of the same uninspiring tasks. Able children, just like their classmates, need stimulation and interaction in order to flourish. For the busy teacher, 'the temptation was great to leave the more able to work unaided (Freeman, 1979; Hegarty, 1993; George, 1995). Although this was not to be condoned, it was at least understandable' (Lee-Corbin and Denicolo, 1998:35). In my own study, I found that children expected by teachers to perform averagely, with reasonable results and without any trouble, had a battery of time-wasting techniques at their disposal. They tended to make an explicit effort to live up (or down) to their teachers' expectations, even making deliberate errors in order to avoid being put into a work group with extra tasks to perform. They made clear decisions about which tasks to complete and which to undertake painfully slowly, based on factors such as the follow-up choices available and the teacher's mood. They were adept at duping their overstretched teachers and were certainly not demonstrating their academic potential. Children are adept at deliberately

failing tests in order to move into a lower set if they can be with friends, or escape from a particular teacher (Hallam and Ireson, 2000).

Even with exciting tasks and teacher attention, some able pupils will not apply themselves for reasons of peer pressure. This factor depends greatly on the school ethos, age of pupils and often gender, particularly if a pupil's friendship group is not in sympathy with the aims of schooling.

If they do work hard they get called a boff. At Thirsk school boff doesn't necessarily equate with intelligence, as much as diligence – and diligence isn't cool.<sup>xxviii</sup>  
Williams, 1995:3

Few children relish being called 'brain' or 'geek' or 'nerd'. Consequently one of the most favourite of strategies is for gifted students to deny their own giftedness, with the most gifted students being most likely to protest their giftedness (Swiatek, 1995). Many minority students who are gifted feel under additional social pressure to conform to student norms.  
Gallagher, op cit:683

When the child's cultural group holds values that may not match those of the school, this difference can cause children to be overlooked in the classroom with deliberate non-compliance assumed to be bad behaviour triggered through a lack of understanding rather than a rational decision on the part of the pupil (Lee-Corbin and Denicolo, 1998). Such problems can occur with able children from lower socio-economic backgrounds, different countries of origin, unusual religions and amongst children of Travelling people. Highly able children falling into these groups are unlikely to be receiving provision designed to meet their needs, partly for reasons of funding, partly through lack of understanding, leading to bright pupils remaining unidentified (Lee-Corbin and Denicolo, op cit:57-60). Problems also arise where there is a clash between the school and family culture and children do not want to lose the aspects of their identity that



make them feel comfortable in their home settings.

Some children have learning difficulties that can mask exceptional ability. Most common are problems of a dyslexic nature, generally resulting in handwriting difficulties, too often dismissed as laziness or petulance. Others just do not do well in tests.<sup>xxix</sup> Some very able pupils manage to compensate for learning difficulties for much of their school career, perhaps achieving reasonably and thereby not attracting attention. Teachers have become increasingly aware of such problems, for example children who have trouble spelling are not now automatically assumed to be non-academic.<sup>xxx</sup> Despite improvements in teacher understanding of learning problems, busy classrooms and constant demands on time can lead to problems being missed. The most common outcome for a very able pupil with a minor difficulty is that they are perceived as moderately able although they are in fact, highly able, but producing poor quality written work. Kellmer-Pringle noted that the majority of 'able misfits' were:

...just doing enough that he [sic] will not be bothered by the teacher. As a result he is often rated average or below average but without being considered a real failure.  
1970:20

There are of course those whose underachievement is a result of their sensory impairment, physical disability or lack of language skills. As with pupils trying to cope with learning difficulties, the focus is on remediating what is perceived as the main problem and the area of high ability is often left unchallenged. For example, in most schools, an able child with handwriting problems will receive extra handwriting exercises, but it is unlikely these tasks will also be tailored to tap into their main intellectual interests.

The other main influencing factor concerning underachievement is the role of parents (Lee-Corbin and Denicolo, op cit:21-24). Studies have found

that marital and relationship problems negatively affect school pupils' performance due to change in economic factors and inevitable emotional stress. This is hardly surprising, but worth noting, as when an underachiever's grades start slipping this will be less visible than those identified as high achievers.

So, in considering definitions of the highly able, underachievers should be taken into account and performance-based definitions only used in conjunction with other measures.

#### 2.6.4 Incorporating performance and potential: provision-led definitions

Using a non-achievement based model of high ability for allocating provision will yield inclusive results that allow more pupils to benefit from challenging activities and tasks. Pupils can be encouraged to orient towards activities based on their abilities and interests, providing opportunities for everyone to express some of their skills. This allows underachieving able children to bring their abilities to the attention of the teachers, as even though they are considered average in ordinary class, their talents could emerge in this freer setting. This provision-led definition is used in countries such as China. Here, Children's Palaces are designed as spaces in which all school children are exposed to a wide range of activities, all of which are in relaxed, free settings with open access. All children are therefore observed by their teachers who assess ability through their play performance and engagement in activities without external pressure (Shi and Zha, 2000).

Observing children working and playing before designing specific tasks can help teachers plan work that starts where the child is conceptually, providing challenge and encouraging individualised (or at least differentiated) provision.



Identification and provision have always been seen as closely linked, in that good provision allows ability to be displayed, whilst good identification leads to provision.  
Eyre, 1997:19

Generally, though, the phrase 'provision-led definition' is used differently. It is mostly taken to mean that provision can be made for a certain number of pupils, and this defines who can be listed as highly able. Eyre (op cit) identifies that definitions of the able are often framed in terms of appropriate provision, and that this is unavoidable. The current government definition talks in terms of the top five to ten per cent of pupils but there are obvious drawbacks to such an approach (DfES, 2003).

The government, for example, would pay for x number of activities and y number of children could attend, defining the number of gifted children as y. The proportion of the population defined as 'very able' depends, therefore, upon the level of provision in place. If all provision were cancelled there would be no able people and this is clearly absurd. Perhaps taken to its limit, if provision were individualised you could similarly eradicate the term 'very able' as all people would be provided for in terms of their personal needs. No-one would require any kind of label.

This individual approach is unrealistic in the current school climate. The most likely scenario is that the school system will continue to exist as we know it and that this will cater for the majority of pupils who tend to perform in a largely predictable way, in terms of their abilities to complete tasks deemed appropriate for their age. Pupils performing outside of these norms will require specific provision, as currently described in Special Educational Needs (SEN) legislation. It must be noted that able children are not included in definitions of SEN except for very few extreme cases of statemented individuals. Children receiving support for SEN normally have

to deal with some kind of learning difficulty or other problem that triggered the provision of help. With any such support, it is very much up to the discretion of the school, teacher and Local Education Authority as to how such pupils have their needs met. (Porter presents a model of assessment through provision that could be adopted, but this requires empirical research to consider its viability, 1997:104.)

In terms of sound activities and excellent classroom ideas, most source books seem, in truth, to be advocating little more than generally accepted good pedagogical practice, within a broadly based liberal arts curriculum. There is now an emphasis in books for the able, on breaking down stereotypes of ability and helping teachers to value pupils whatever their strengths, often by allowing children to respond in different ways from the usual written requirements. This may be an improvement on the rigidity of the National Curriculum but does not really provide a satisfactory answer to the needs of able children, who may well be approaching tasks in a very different way from their peers. More radical provision would probably be appropriate.

Ultimately, providing varied opportunities to all pupils may help teachers pick up detailed information about their abilities, but this is a method of identification rather than a definition, or explanation, of high ability.

#### 2.6.5 Summary of the chapter so far

So far this chapter has critically commented on the definitions and concepts found throughout the mainly psychological literature of high ability. Having explained something of the complexity of the task of defining the able (2.1 and 2.2), I then went on to consider the current government viewpoint. I introduced the general aspects that inform discussion in this area, to unpick the way that definitions have arisen in



the literature (2.4). Section 2.5 constituted a critical review of the main groups of definitions of the able pupil in school, including a consideration of genius, and an examination of the notion that the highly able could be qualitatively set apart from ordinarily able children. The ubiquitous concept of potential was examined in section 2.6. As the psychological literature tends to use the term without being absolutely clear about its meaning, some clarification was sought from philosophical texts.

I now present my own positive account of high ability, with some potential criticisms.

#### 2.7.0 What is meant by 'high ability'?

My characterisation of high ability owes a great deal to definitions and research already mentioned, as well as to personal observations and practice. Influential thinkers are acknowledged in the sections already presented. Sometimes it is those ideas which are distant from my own that have influenced me the most, through disagreement. I should like to reiterate the fact that the area is nebulous and fraught with difficulty.

This definition is to be read as a loose, soft thesis, not a strong, rigid notion of high ability. It hinges on some aspects of the traditional views that should be salvaged from the negative reaction to the single capacity theory that has characterised much theory over the last twenty years, rather than taking one side or another of the polarised view. For this thesis, I consider the research on the origins of abilities and nature-nurture argument to distract from the definition rather than being of central importance, because schools need to nurture pupils and provide for their development, wherever ability originates.

Discussion in this thesis is focused on *intellectual* high ability, and as such the definition is stipulative. I reject the hierarchy of subjects that holds

Mathematics, Science and Language to be of more value than other subject areas, but I am omitting extended discussion of the skills and abilities involved in practical Music, Sport and making Art for two reasons, neither of which have anything to do with the value of the subject areas.

I am not focusing on these areas firstly, because skill development in these subjects behaves very differently from the development of intellectual abilities (Heller, 2000; Porter, 1999; Eyre, 1997; Freeman, 2001). There are well-researched ways of predicting potential high achievement closely tied to these fields. Secondly, because I am concerned with appropriate provision for developing skills in school and despite the narrow nature of the National Curriculum (NC), children with special abilities in the areas noted are often able to pursue their interest through a wide range of clubs, and facilities are made available for their development. This is not so with many 'intellectual pursuits' partly because they are tackled in the NC, and partly because they constitute minority interest outside of the classroom. This is not to say that the extra-curricular facilities for all subjects are necessarily adequate, just that they are better developed for some subject areas than others. This makes success more socially acceptable amongst peers; pursuing sport, music and drama is lauded by pupils, whereas pursuing academic study outside of school is ridiculed (Freeman 2001). For the purposes of this discussion I am adopting a somewhat simple dichotomy, dividing subjects loosely as either intellectual and non-intellectual.

Research into non-intellectual areas of development has not been as affected by the political pendulum ushering ideas of single capacity ability in and out of favour. There is less controversy about aptitudes for Music, Drama, Art and Sport than for History and Physics. Traits such as drive, resilience and perseverance are recognised as necessary for success, whilst the 'possession' of high intelligence is a good enough explanation



for doing well in intellectual subjects.<sup>xxxi</sup> Of course, success in all domains ('intellectual' or 'non-intellectual') requires a significant investment of time and practice, as well as knowledge and experience. Just as the value of practice is less emphasised in intellectual domains, so knowledge tends to be ignored in non-intellectual areas.

The rejection of 'g'-centric notions has allowed for an opening up of definitions of the highly able and a re-examination of the way we value non-academic abilities (not just subjects, but qualities such as Gardner's inter- and intra-personal intelligences, 1983). However, the backlash against single-factor intelligence theory has resulted in some elements of the theory being discarded unnecessarily. Just as the concept of intellectual ability brings together a range of subject areas, so certain abilities are implied, raising the suggestion that there may be some value in ideas of a general capacity. It is possible to preserve aspects of 'g' without resorting to the worst scenarios presented through misinterpretation and misuse of the theory. Some elements of general ability seem to be untenable, or at least contestable, but others make sense both in theory and in practice. General ability is part of a definition of high ability, but not the whole story and there is a clear precedent for having a range of conceptions of high ability.

There is no ideal way to measure intelligence and therefore we must avoid the typical practice of believing that if we know a person's IQ score, we also know his or her intelligence. [...] we have cited these concerns to highlight the even larger problem of isolating a unitary definition of giftedness. At the very least, we will always have several conceptions (and therefore definitions) of giftedness.  
Renzulli and Reis, 2000: 369

This thesis though, focuses on only one area; intellectual ability. I consider a highly able child to be someone who has significantly greater aptitude

for some aspect of intellectual learning than would be considered typical for their age and background. Aptitude for learning is demonstrated through some form of achievement, conventional or unconventional, including notable, isolated incidences that serve as evidence of special ability but are otherwise difficult to categorise.

The following section (2.7.1) deals with five possible objections to this definition, but before exploring these I will expand the central notion of an aptitude. People can, of course, have aptitudes for a wider range of ideas than intellectual subjects, but the focus here is narrow, and so, for this thesis, aptitude for intellectual learning can be defined as a particular ease in ability progression once the learning process is underway, characterised in intellectual domains as an easy and effective mental engagement with complex ideas of the subject matter in question.

Not many theorists write about aptitudes, preferring instead the language of gift and talent, but Freeman notes that an aptitude is 'sufficient ability to gain a foothold in the learning process' (1998:7), suggesting an understanding not reliant on performance alone. Gagné considers aptitudes within high ability as 'the possession and use of untrained and spontaneously expressed natural abilities to a degree that places an individual among the top 10% of age peers' (Gagné, 2000:67). (I am not committed to the percentage differentiation here as it is impractical and restrictive, but in the context of Gagné's study it was relevant). This inclusive definition considers potential, allowing for beginner learners or people without experience, as well as those who already demonstrate mastery (even those with experience and skills will have more to learn). The definition strongly suggests an on-going process, rather than an achievement-based model, although some expression of the aptitude must be visible, however erratically expressed, such as in the Nebraska Starry Night Model presented in Appendix II.



There seem to be two broad explanations why an aptitude may not yet be apparent. One version is that the aptitude is dormant, a kind of sleeping giant, waiting to be awakened by a specific trigger such as a new subject area at school or an inspirational teacher. Once engaged, the aptitude can be nurtured, allowing for achievement. An alternative scenario is when an aptitude is hidden, prevented from presenting itself due to a barrier, or blockage, unseen, like an invisible man. Once the barrier is lifted, for example, through remediation of a learning problem or access to the dominant language, high achievement is allowed. Both 'sleeping giants' and 'invisible men' can result in underachievement. The first are helped through a range of enrichment activities and the second through useful and sympathetic recognition of problems, with some form of support.

However, I am resisting breaking down the nature of high ability further, as this results in the proliferation of lists of characteristics that tend to render the notion of high ability meaningless. I am also neglecting to comment here in more detail on the measurability of these aspects, discussed in Chapter 3.

#### 2.7.1 Some possible criticisms

Any definition of high ability will quite rightly be the focus for critical evaluation. Here, I consider some more obvious issues that could potentially be seen as flaws in my positive account.

##### a) Too loose - With a soft definition, the conception is too loose to be valid.

The examples in Appendix I can be used to illustrate the lack of homogeneity amongst highly able children, but to also demonstrate the 'family resemblance' of the related factors. Despite supporting some aspects of generalisable intellectual abilities, I am not presenting a clear-cut IQ-style definition. What I have is a messier notion, but one that is

informed by the research as presented in this chapter and also by practice with children, teachers and with clinical and educational psychologists. It is not clear what is needed to constitute a fully validated definition, due to the heterogeneity of the target group.

A tighter definition would be too rigid for the heterogeneous pupils in question.



b) Too subjective - By basing definitions on minimal and disparate evidence, there is an over-reliance on teacher interpretation and insufficient objective evidence.

There is clearly disagreement amongst psychologists and educators about what constitutes high ability, but there are recurring themes. My definition allows for subject-based checklists of characteristics that correlate with success in a field (George, 1992; Eyre, 1997; Koshy and Casey, 1996; Wallace, 2000; Freeman, 1998) as well as the use of professional teacher judgement through careful observation of qualities and features that may fall outside usual measures. The best way to help teachers to increase objectivity is to improve understanding of highly able children and their needs. Through training, accuracy of identification with supporting evidence will improve, even for students demonstrating flashes of ability, showing their potential. Such pupils are likely to be successful with help, but stand little chance if they are not even identified. In the UK, on-going attempts are being made to address the lack of professional courses and support for teachers, and it also remains a significant issue in the broader arena.

Without exception however, there is a need for training of teachers globally which in turn will prepare them to recognise and meet the needs of children from all cultures who exhibit gifted attributes.  
Baldwin, Vialle and Clarke, 2000:571

Building an evidence base helps reduce subjectivity, preventing teacher bias.

c) Too exclusive - By focusing on narrow intellectual ability, an elitist

definition results, with pupils already favoured by the National Curriculum content yet again the focus of attention.

I have explained reasons for focusing on intellectual ability, but I am not going down the traditional route of 'schoolhouse giftedness'. This is defined by Renzulli and Reis as:

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, and for this reason it is the kind most often used for selecting students for entrance into special programs.  
ibid:369

The pupils for whom I am advocating do not fit into this narrow conception. Of the examples presented, most of the children would fail to be selected for provision by these criteria; Billie's handwriting and presentation would let her down and Louis and Nat both have negative attitudes to testing, preventing them from doing well. Charlie's attention span and Stan's idiosyncratic approach to set tasks would be likely to harm their results. It is probable that Andre and Doris would be accepted on a programme, but they are the most settled children, arguably least in need of something outside of the curriculum.

The definition is not elitist or exclusive, despite its focus on intellectual ability. Children with other skills, talents, abilities and aptitudes are considered as different cases, not as excluded. The definition tackles the awkward aspects of high ability, those falling outside traditional test-taking measures. It also incorporates some aspects of more contemporary multiple measures allowing personal characteristics to be taken into account.

d) Too simplistic - It is insufficient to consider aptitude as predictive of



success.

I am not making such a claim. I am describing children of high intellectual ability, not ensuring their success. The suggestions for provision later in the thesis tackle this issue, but at this point I would like to present the oft-quoted Galton comment concerning capacity, adding the importance of the learning and home environments as significant factors in success:

By natural ability, I mean those qualities of intellect and disposition, which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work.  
1869, and 1962:77

Aptitude must be recognised in order to then be fostered. There is no guarantee of success through recognition of ability alone.

e) Too vague - There is no cut-off point or distinction between only slightly able and profoundly able children.

In order to be inclusive there is no absolute presented in order to 'qualify' as highly able, as the aim is not to find an ultimate unchanging cohort. The definition is flexible and wide-ranging, designed to be dynamic. A pupil who very rarely demonstrates their aptitudes may be allowed to partake in activities that ultimately fail to stimulate repetition of their achievement. Their inclusion in the tasks will be reconsidered after several attempts. Others may suddenly show areas of ability that have apparently been dormant and they will be provided with a chance to explore and extend their work.

Pupils who have exceptional abilities will be identified along with those whose aptitudes are more modest, yet still above average. As noted, the most extreme cases of high ability are rare, impossible to deny and

usually catered for by Special Educational Needs procedures. Therefore, my focus is on the highly able pupil in particular, including the underachieving and troubled child, whose abilities may be harder to detect.

## 2.8 Conclusion

The notion of high ability is complex and controversial. There are so many different definitions and possible explanations that the concept can seem irrelevant and meaningless. However, some people are more able than others of the same age and background, just as some fall below the average expected for the general population. Some are ahead of their age peers by a considerable margin and their achievements are startling and surprising. There are others still who may be unable to express their true abilities due to personal or social difficulties, but their potential for expression of high ability can be discerned through occasional revealing performance and/or a compelling constellation of characteristics that make such performance likely, given the appropriate opportunity. There is no clear definitive collection of characteristics or group of features shared by highly able children and not exhibited in the ordinarily able, because high ability is not the essence of a homogenous group. There are very many different ways in which people can be highly able and these will suggest qualities and learning styles that are as wide-ranging as the subject areas in which they are able.

Some people have ability in a specific domain. Others seem to present more general abilities, or abilities that cluster around related areas, suggesting some sets of skills and knowledge are closely linked, existing perhaps as general pre-requisites for some areas of accomplishment. Identifying the one defining characteristic feature of high ability is impossible. Aptitude is a useful guide, however, as even when different cultural values and fields of expertise are considered there is a focus on



easy mental engagement with difficult ideas and activities. Generally this leads to increased practice and commitment, which in turn fosters improved performance. Just applying oneself to a task with gusto would not be enough though to produce an exemplary performance; aptitude would also be necessary. Aptitude without application, will not produce high achievement, however. High ability is founded on the aptitude to do well in a field. When this is combined with commitment and opportunity, success is likely. If factors conspire to prevent the aptitude developing, underachievement is the result.

It is impossible to create an account of high ability without recourse to discussion of the concept of intelligence, and it is to this task that I now turn.

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<sup>i</sup> For a review of the shift in focus in worldwide gifted education research, see Heller and Schofield, 2000:123-137. Data about age related research is on p136.

<sup>ii</sup> A frequently cited example of this is the story of Dame Alice Markova who was pushed into ballet in order to help correct her flat feet (Freeman 1998:16, among many others).

<sup>iii</sup> 'A prodigy is a child who, before the age of 10, performs at the level of a highly trained adult in some cognitively demanding domain' (Morelock and Feldman, 2000:227).

<sup>iv</sup> These terms were chosen by the government against the unanimous advice of the advisory panel made up of teachers, examiners, specialist advisors and academics. Evidence was presented to the committee and is reported in the Hansard House of Commons Review (1998-9) in which the term 'high ability' was recommended to the government. 'Gifted and Talented' was adopted by the head of the strategy to avoid time-consuming debate on terms to describe the able as this was considered a waste of time (personal communication with two separate members of the House of Commons Review and Advisory Group from 1998 to 2001/2).

<sup>v</sup> German: *Begabung* or *Hochbegabung*, French: *doués* or *surdoués*. See also Monks and Mason for a summary of different cultural perspectives and discussion of how 'meanings are tainted by an emotionalism that seems to engulf the concept of giftedness' (p144).

<sup>vi</sup> 'Introduced in September 1999, the strategy operates in 1000 secondary and 400 primary schools to help disadvantaged able children, many of whom are underachieving, to reach their full potential. The strand operates in 70 LEAs and by September 2003, up to 200,000 pupils are likely to benefit. The main elements are:

1. Identifying the gifted and talented cohort - the 5-10% of pupils identified by each school as eligible for the teaching and learning programme;
2. Introducing a whole school policy for the gifted and talented cohort;
3. Introducing a distinct in-school teaching and learning programme for the gifted and talented cohort;



- 
4. Introducing an extensive programme of out of hours study support opportunities for those pupils, provided through local networks.

Each Excellence in Cities (EiC) area has a Strand Co-ordinator (and a School Co-ordinator for each secondary school) and schools are grouped into 'clusters'. Each cluster has formed a network with a range of external partners such as higher education institutions, libraries, museums and businesses to support the provision of out-of-school-hours activities.' DfES website; August 2003.

<sup>vii</sup> A termly conference is held in November, March and July. Delegates and speakers are all invited and comprise of teachers, policy-makers, pupils, academics, students, activity-providers, parents and other interested parties.

<sup>viii</sup> 'New Zealand Maori peoples value a broad range of qualities in the spiritual, affective, aesthetic, intuitive, creative, leadership and cultural domains in addition to Western culture's intellectual emphasis. The Maori emphasis is holistic and group-oriented... Individuals who excel in any domain will use their special abilities in the interests of others.' (Porter, *ibid*:32), and 'Aboriginal peoples value talents in such areas as 'healing, lore, story telling, religion, music, crafts, hunting and tracing culture. Individuals who are talented in these domains are expected to be humble and, although recognised for their talent, are not afforded higher status because of it.' (Harslett, 1996:102)

<sup>ix</sup> This is one reason why the House of Commons Review recommended the less contentious term 'high ability' (1998-9). Many cultures historically believed that human talents were an endowment of the gods (Hunsaker, 1995). Several examples are raised in Heller et al 2000: 'in ancient Greco-Roman culture special intellectual and artistic abilities were believed to come from the Muses' (Moon and Rosselli, 2000:501); wisdom, equated with giftedness, has been considered a divine gift (Pasupathi and Staudinger, 2000:253-67); Ziegler and Heller (2000:5) explore Greek, Chinese and Christian religious themes.

<sup>x</sup> This has been reflected in some recent successful and popular movies, notably 'Good Will Hunting', 'Billy Elliot' and 'Bend it Like Beckham'.

<sup>xi</sup> Perhaps any deviation from the general accepted codes of behaviour can be deemed harmful within some structures. It might seem heavy-handed to suggest this but in the microcosm of school, this is what often happens, with pupils punished for breaking with convention, even when this is only a minor misdemeanour, such as breaking a uniform code.

<sup>xii</sup> This can be seen with very young highly able children who have a sophisticated comprehension of the rules of a game, but lack the social skills to play effectively with peers who cannot keep up with their complex rule structures. Lack of social ability and consequent disruptive behaviour was the most common reason for me being asked to visit Nursery classes in my capacity as Senco. My experience is echoed by other Sencos and co-ordinators of the gifted and talented, with anecdotal evidence from conferences, network meetings and discussions with both school and psychology-based professionals.

<sup>xiii</sup> Simonton notes that Terman expressed 'belief in Samuel Johnson's (1781:5) assertion that 'the true Genius is the mind of large, general powers, accidentally determined to some particular direction' (2000:112-3). 'Exceptionally gifted children comprise a population characterised by their scarcity. [...] Over the last 70 years, researchers have repeatedly found that the number of children actually identified in the range 160+ far exceeds the theoretical expectations derived from the normal curve of distribution (Terman, 1925; Burt, 1968; Robinson, 1981; Silverman, 1989; Gross, 1993a); nevertheless, even the most generous over-prediction must acknowledge that these young people comprise an extremely small minority of the child population' (Gross, 2000:181). For a thorough explanation of the distribution of IQ scores, see Simonton, 2000, particularly p113 where he discusses membership of the Mega Society (IQ over 176; membership one-in-a-million).

<sup>xiv</sup> Just a brief glance at the Sunday newspapers shows a peppering of the word 'genius' to describe, variously, a pupil who gained high 'A'-level grades ('superkid genius'), a tv chef who has had an original idea for healthy and tasty picnic snacks ('genius picnic



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solutions'), a pop band whose latest single has a free downloadable mobile 'phone ring tone ('marketing genius') and the ubiquitous footballer ('Will Beckham's genius shine as bright in Madrid?'); from the Sunday Telegraph, Mail on Sunday and the Observer, all 17 Aug 2003.

<sup>xv</sup> Jausovec (2000) showed gifted subjects to have higher levels of cortical arousal both at rest and whilst structuring solutions to problems. He concluded that this would lead to superior readiness to deal with set tasks, as well as more efficient results.

<sup>xvi</sup> An example of this would be Billie working out from a newspaper article that there will be a fossil fuel crisis by the time she is old enough to have children. This led her to worry about the how she would get her children to school, to the point where she began bed-wetting and was absent from school having been wrongly diagnosed by her doctor as suffering from an infection. The OE scale has been adopted widely, particularly in Africa where this has helped to identify children who do not show up through more formal psychological methods (Coleman and Cross, 2000:204).

<sup>xvii</sup> Even though mental instability and high ability is rare, it has become linked in the popular imagination with more general notions of high ability. Terman collected his data to demonstrate that genius was not close to madness, but found that with eminence came emotional difficulties (Gallagher, 2000:683).

<sup>xviii</sup> See, for example, suggestions for helping build self-esteem and self-understanding in Bland, Sowa and Callahan, 1994, and Porter's sections on social skills coaching and the teaching of group entry skills, *ibid*:164-5, with further suggestions on p166.

<sup>xix</sup> Noted in Porter, *ibid*:25-6, and also Forster, 1997:80 (citing Sternberg and Davies, 1985) who discern 'qualitatively different metacognitive functioning in the gifted'.

<sup>xx</sup> Jackson and Butterfield (1986:38), consider that 'gifted children use the same strategies as everyone else but simply become more proficient in their strategy use at younger ages'.

<sup>xxi</sup> Personal communication with the British Psychological Society and the National Association of Gifted Children and evidence from the discussion group - [www.gov.ngfl/abil](http://www.gov.ngfl/abil), a high ability networking site. That teachers rely on IQ tests is also the subject of conversation in discussions at conferences and with teachers on Inset days.

<sup>xxii</sup> Gardner uses the word 'intelligence' to denote what Porter labels 'domains in which one can excel' (*ibid*:24). It is unclear, though, what is meant by 'excelling in a domain' and how this differs from excelling in a process. Gross perceives a clear link between Gardner and Thurstone (2000:187), whilst Porter suggests a link between Thurstone and Sternberg, saying they 'focus on the intellectual *processes* that are required to produce an intelligent response'.

<sup>xxiii</sup> Renzulli emphasises the interaction of these different elements and welcomed the environmental aspects added by Monks in 1992 (Monks and Mason, *op cit*:146) thereby broadening the definition.

<sup>xxiv</sup> In recent years, some exceptional teenagers have become multi-millionaires through working as internet entrepreneurs, selling toys that have become fashionable (such as scooters), brokering deals for exclusive mobile telephone ring-tones, and mixing music as DJs.

<sup>xxv</sup> DfES 1997-2000, information from the Gifted and Talented Unit including personal communication with people working in the department.

<sup>xxvi</sup> Having recently been involved with a project looking at children of high ability with sensory impairments, it became clear that many people (teachers, researchers and lay people) had not considered such a combination could even be valid, unless they had close personal contact with people with disabilities (Winstanley, in Montgomery, ed., 2003).

<sup>xxvii</sup> 'This is not to say that underachievement *causes* delinquency: both delinquency and underachievement themselves appear to have a prior cause – namely, non-conformity to social norms, or antisocial attitudes and values.' (Porter, *ibid*:232). My MPhil thesis in 1990 looked at able children in ordinary classrooms, observing their behaviour, in particular noting qualitative information about time spent off-task.



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<sup>xxviii</sup> This research found a culture in which girls were permitted to achieve and to work hard, but boys were unable to work hard if they wished to maintain a valuable social reputation (Williams, 1995:3). Other studies have found the reverse to operate (e.g. Ayles, 1991, cited in Lee-Corbin and Denicolo, 1998:20). The point is still relevant, however, that peer groups and school ethos are variables in pupil underachievement and achievement.

<sup>xxix</sup> Eyre, (1997:19) considering whether or not Standard Attainment Targets (SATs) are valuable in identifying the highly able, notes: 'Some able pupils make errors because they cannot conceive that the answer could be so simple. Some refuse to complete the test because it is so routine and dull.'

<sup>xxx</sup> Montgomery (1993) vigorously points out that spelling problems do not mean lack of ability.

<sup>xxxi</sup> See, for example, Bamberger, 1982; Feldman and Goldsmith, 1986; Howe, 1990; Radford, 1990; Shutter-Dyson and Gabriel, 1986; Winner and Martino, 2000.



## Chapter 3    Intelligence

### 3.0    Introduction

An examination of intelligence is necessary for understanding high ability and my purpose here is to provide some clarity in this fuzzy area. I will argue that although no single clear definition of intelligence can successfully capture its nature, the concept is not rendered useless. Intelligence is often portrayed as some kind of mystery, and in current literature the concept is frequently discarded in favour of consideration of abilities to do x, or y, rather than a singular definition. The concept of intelligence is justly seen as particularly significant in the population of people known as highly able. By examining presuppositions, the definition of high ability presented in Chapter 2 will be strengthened, through better understanding of the nature of intelligence and consequent implications for practice.

‘Intelligence’ is a widely used word, seen and heard in many contexts and on the lips of a wide range of professionals and lay people. There are, therefore, different aspects to the understanding of the word ‘intelligence’ and of the concept it describes. In trying to isolate useful definitions, we must examine intuitive and commonplace meanings, deciding which are worth preserving and which can be discarded as extraneous or simply wrong (3.1). Some questions recur in the intelligence literature, connected with major schools of thought dominating the field for the last century. They are mainly psychological issues (considered in section 3.2) and concern the nature of intelligence and its origins. Following this, four claims about intelligence are discussed in sections 3.3 to 3.6. In 3.7, I present my own account.

### 3.1 Everyday talk about intelligence

As with high ability, generally accepted and commonly used meanings of intelligence need closer examination when they impact on education. The concept is controversial, complex and confusing and yet 'intelligence' is often used without careful consideration. Although the concept touches the lives of most people, not much turns on its meaning in everyday conversation. Whether or not the use of 'intelligence' is supported by theory or conceptually sound, is irrelevant in most cases. In education, psychology and policy making, however, an examination of underlying assumptions is essential, in the same way as it is with definitions of high ability, because provision for children may result (for example, the 11-plus examination).

Teachers are well placed to observe how their pupils learn, by presenting them with a range of tasks that will enable them to demonstrate their aptitudes and abilities over some time, rather than the snapshot that one-off tests provide. However, the rise of political correctness and the threat of potential future ramifications have resulted in reluctance amongst teachers to make use of their professional judgement about students' abilities.<sup>i</sup> In recent years we have become generally more sensitive to how language is used to describe people's capacities and attributes.

The status of careers in non-academic fields in our society has risen, with accompanying public acclaim, since more traditional professions are failing to attract new recruits, the value of having 'school-house abilities' is affected. Respect for such abilities is not vanishing as much as being balanced by the recognition of achievements in other spheres. Perception that intelligence is demonstrated by school results is tempered by the real life stories of those who have defied their apparent lack of ability by demonstrating significant accomplishments. Among teachers this results



in reluctance to assign specific labels of intelligence to children for fear of missing a special ability that so far has not been discernible.

Despite this shift, there is a contradiction with teachers still displaying a curious adherence to the notion of IQ, which is often considered synonymous with 'intelligence'. The British Psychological Society and organisations such as 'Children of High Intelligence' (CHI) and the National Association of Gifted Children (NAGC) offer support to teachers looking for verification of suspected high ability. They provide the contact details of qualified practitioners and these are advertised as appropriate sources of IQ testing. When on Inset and training sessions, I am frequently asked which of the IQ tests is the most accurate and useful, but I am rarely asked whether they have any value. The internet conversations on the high ability networks also reveal teachers to be very preoccupied with finding accurate intelligence tests. It is not entirely clear whether they are persuaded of the value of the tests beyond providing additional evidence for presenting to senior teachers and LEAs, but most teachers certainly seem very determined to persist with testing.

They continue to believe that it is possible to define a child's level of ability by the use of a test and to give it a numerical score.

Eyre ,1997:3

Psychology is the field with the largest body of work on the concept of intelligence, with ideas so dominant they have seeped into common usage. This is not always useful, as everyday understanding of the concept has not been subject to rigours of academic argument and discussion, allowing for the domination of ideas based on inaccuracies. When new evidence is presented, it can take a long while for public perception to change and what remains are pseudo-scientific ideas accepted as fact.

Intelligence is a topic more written about by psychologists than philosophers.[...] Everyone will know about the controversies over the IQ that have preoccupied psychologists for most of the twentieth century.  
White, 2002:78

Not surprisingly, perhaps, surveys have shown a close correspondence between 'scientific' and 'popular' notions of intelligence (e.g. Sternberg et al, 1981; Fry, 1984).  
Richardson, 1991:3

But what is the extent of the effects of these commonly held conceptions of intelligence? Siblings are often afforded different opportunities by their carers, based upon notions of intelligence; extra chess lessons for the bright girl and French tuition for the boy who might not make it through his exams. Informal assessment of intelligence levels is usually based on school performance, showing how far-reaching such influences can be. Teachers plan classes and support to provide for individual needs, or decide who should move to a higher or lower set or stream, while many schools still select pupils based on their intelligence divined through pencil and paper tests. Our successes and failures at school and in life are often 'explained' or confounded by the consensus of our apparent level of intelligence: 'Only the one 'A'? Really? But she's such a bright girl.' In a wider context, doors are opened or closed as result of this contested notion of quality or quantity of intelligence. The gravity of the situation is shown by the increase in employers' use of psychometric tests and scores as part of their recruitment process and possibly also for university entrance.<sup>ii</sup> These tests are premised upon the quantifiability of intelligence, aptitude and potential. It is rather a surprising status for such a nebulous notion and it is clear, therefore, that the concept needs careful and critical examination.



So how is the word 'intelligence' used in common parlance? 'Freddie is not at all intelligent'; 'Norah is quite intelligent'; 'Erroll is very intelligent'. Most often it is meant as a capacity, or kind of internal mental strength but it is also frequently understood that this capacity can be employed effectively or ineffectively. Thus we can say: 'Freddie might not be too intelligent but he makes the most of what he's got'; 'Yes, Erroll is a really intelligent boy, but he doesn't apply himself'. This distinguishes between capacity and performance, but still makes use of a central mental power or mental mechanism model.

Intelligence is generally considered 'a good thing', but only if served up in the right sized portion. Too much is rather threatening and can be isolating and unattractive. Too little is problematic, although this can be compensated for. Mostly however, people require their friends and life partner to be intelligent. Many a 'lonely hearts' entry mentions this quality, apparently prizing it above physical attractiveness, independent means, love of travel, or a GSOH (good sense of humour) and treating it as the same kind of quality. This would imply a fixed characteristic, like skin colour. It is quite clear, then, that people have an idea of what they mean when they think about 'intelligence' and the personal qualities implied therein.

Over recent years, in discussing my work, I have asked many friends, colleagues and family members (including several school and university teachers) their opinions on this matter, and found that almost all had a clear idea of their own conception. This is a kind of intuitive characterization, a sense that intelligence is part of our very make up. No-one made reference to any kind of empirical or anecdotal evidence in support of his or her ideas, unless probed for reasons to explain them. Most people seemed to think it was a 'non-question' and the answer was obvious, shared and uncontested. Exploring these ideas resulted in

frustration at the difficulties encountered in trying to pin down such a seemingly simple and obvious issue. Responses were mainly suggestive of a general capacity with specific talents and dispositions also viewed as relevant, to varying degrees. These views were shared by lay people and experienced professionals alike. They were in no doubt that it is an important characteristic, valued highly, despite a lack of concordance and clarity about its nature.

And the words we use to talk about intelligence? As noted in Chapter 2, subtle nuances in language illustrate the concept's complexity and betray accompanying values. The metaphors and imagery are telling. It would be somewhat perverse to prefer to be called 'dull' or 'dim' than 'bright' or 'sparky'. To have intelligence is to be 'switched on', 'able' and 'alert', not 'foolish', 'slow' or 'limited'. The words soon have a negative ring, however, if the person in question has rather too much intelligence, or is too eager to share their ideas or understanding. They are suddenly 'egg-heads', 'nerds', 'swots', or 'boffins', considered 'precocious' and to be 'showing-off'. Being intellectually advanced is as anti-social as being 'backward'.

'Intelligence' is used in a multitude of contexts and scenarios, ranging from descriptions of highly acclaimed poets, to boxers, criminals and dolphins. It could be argued that the very breadth of usage dilutes its meaning, but these creatures are not considered 'intelligent' in the same sense of the word. The poet is a wordsmith extraordinaire and the dolphin displays human characteristics of sophisticated communication, amazing memory and expressive playfulness. There is no obvious defining element to these widely differing conceptions. As Richardson observes:

Just because we have a name for something does not mean that the term has a clear referent; nor does it mean that it corresponds with anything actually existing.  
Op cit:2



Perhaps there is a defining common characteristic that can help us to clarify a coherent, complete and compatible definition of intelligence. It is mostly viewed as an endowment and believed that we all possess a certain amount, and that this must be fixed and measurable. This belief explains the persistence of importance placed on IQ scores.

Other uses of the term exist. Winch suggests that it is only psychologists who subscribe to the model of intelligence as a processing ability, presenting examples of how the word is commonly used in speech and contrasting this with (Spearman's) notions of a unitary property of the mind. He cites examples of adjectival uses of the term:

We have no difficulty with such expressions as 'he is an intelligent footballer' or 'she handled that parent in an intelligent manner'.  
1990:7

I agree that we infer dispositional characteristics from such uses, linking intelligence to specific activities and behaviour. However, this is more a description of proficiency and the result of experience than intelligence. When people talk of 'an intelligent footballer' the context usually determines what they mean by the use of the word 'intelligent' and how it relates to the person in question. It could mean that the person 'is intelligent *and* a footballer', which could still imply the psychological central processing or capacity model and I think this is what people often understand by intelligence. The alternative interpretation would be that the footballer 'plays intelligently' and in this case the word 'intelligently' can be substituted by the word 'skilfully'. The skills involved in football naturally involve concept application and the flexible adaptation of means to ends, in addition to physical skills. In terms of use of language, we more commonly say that someone is intelligent and possibly use this as an

explanation for being good at x, or y; not that they are 'intelligent at' x or y. The confusion arises over the way in which 'intelligence' is sometimes synonymous with 'intellectual capacity' and sometimes used as a synonym for 'skilful'. Both uses are found in everyday language and nuances of speech or writing often indicate the particular meaning. Just because we are comfortable saying 'She handled that parent in an intelligent manner', this does not mean that we do not also have a conception of 'intelligence' as noun, representing the capacity understood as the psychologists' central processing model. In one of these instances, the intelligence described is general and a property of the mind and in the other it is about performance and application. For clarity, words such as 'skills', 'talents' and 'abilities' need to be distinguished from one another, and from the term 'intelligence'.

In everyday usage, intelligence is frequently used as an explanation, but in trying to explain, we can be left with a circular argument. For example, 'Chet is a talented trumpeter because he plays the trumpet well. Chet plays the trumpet well because he is a talented trumpeter'.

Although the level of someone's intelligence is frequently put forward as being a possible reason for that person's success or failure at intellectual tasks, intelligence level is in reality only a descriptive measure, not an explanatory concept.[...] invoking someone's high measured intelligence in order to explain a person's success is no more meaningful than putting forward productivity as the explanation of a factory's level of output.  
Howe, 1988:349-50

Howe simplifies the issue here. Intelligence is being used to explain a particular performance in terms of a general capacity. Certainly, intelligence cannot constitute the entire explanation of success or failure, but can be used in part explanation of someone's performance. Howe considers that 'a person's level of tested intelligence provides rather little



information about that individual, and considerably less than many writers who use the term in psychological literature appear to believe' (p358). This may be so, but does not mean the concept is useless.

As noted, most people do not need precision in their use of 'intelligence', but those who consider its nature within their professional life must be clear. Psychologists, teachers, philosophers, medical staff, social workers and employers need a coherent working definition, though this can reasonably vary across fields, as long as it is always suitably grounded. It is intriguing to consider the similarities between the aspects of personality, achievement and attitudes that would be highlighted by a teacher of nursery children and those of a university graduate lecturer. Even within psychology, there is a range of contested concepts, and whilst there is some agreement, no clear overall single definition.<sup>iii</sup> Howe emphasises this:

I think there are strong factual grounds for questioning a number of those assumptions about human ability that many people see as self-evidently true, or 'obviously' correct, or just common sense. [...] in connection with young people's capabilities, even those assumptions that almost everyone takes for granted may actually be mistaken. That is a serious matter, because the ways in which we adults think about abilities have practical consequences that affect the lives and fortunes of numerous children. If the beliefs that guide our decisions and actions are faulty, it is entirely possible that we could be denying children opportunities that would help them to thrive, by cutting them off from valuable learning experiences and effectively slamming doors in their faces.

1997:28<sup>iv</sup>

So it seems that ordinary language use of the word 'intelligence' merits investigation as it can affect provision for children or result in barriers to certain activities. Everyday understanding of 'intelligence' perpetuates ideas that intelligence stems from some kind of underlying mechanism,

possibly with measurable and quantifiable capacity, and maybe fixed; a kind of personal characteristic such as eye colour. There is also an adverbial use of 'intelligence', where, for example, describing someone as performing 'intelligently' can be used in the same way as performing 'skilfully' or 'very well'. Ordinary usage of the word seems to have been informed by psychology. How did such conceptions arise and are they accurate?

### 3.2 Psychological investigations

Before breaking down the claims made by psychologists it is necessary to say something about the field itself and briefly trace the history of the development of theory. Without this context, it is difficult to see how opinions have formed in the arenas of both public opinion and in education. Some aspects are integrated into the four claims (3.3 to 3.6).<sup>v</sup>

Despite more than 100 years of study, with numerous developments in neuroscience and psychology, not much has significantly changed:

We know how to measure something called intelligence, but we do not know what has been measured. We do know that whatever has been measured is predictive of performance in academic settings. And we know that what we have measured is influenced by a person's genes. We do not know what, if anything, should be done with this knowledge. A study of the history of research on intelligence may inform us about how prescient our forebears were. In large measure we know what they knew and we do not know what they did not know and what we find controversial and objectionable in their work is equally so today when similar ideas are advanced by our contemporaries.

Brody, in Sternberg, 2000:30-1

Biometrics was born in the nineteenth century, as scientists attempted to quantify everything in the natural world, a relatively new approach used famously by Francis Galton, who considered intelligence to be both



hereditary and measurable. Through studies of eminent families and their achievements, together with calculations of the physique, reaction times and sensory perception, he established a measure of intelligence that he claimed could explain differing abilities. His first publications (1865) were used to 'explain' the dominance and superiority of his race over others. From the outset, this field has been beset by controversy over methods, conclusions and use of data.

One of Galton's detractors was Alfred Binet, who was 'astonished by the considerable place reserved to the sensations and simple processes' in Galton's work' (1896, cited in Brody *ibid*:17). Binet (with Henri and later Simon) proposed far more complex tests based on cognitive processing, with elements of digit span, simple arithmetic, writing and sentence completion. These were designed to help diagnose children with learning and behavioural difficulties. Over the years, increasingly sophisticated measures such as the testing of reasoning, judgement and understanding of abstract ideas were included, and a comprehensive diagnostic test was developed. It is important to emphasise that the impetus for Binet to create this quantitative index of abilities was the need to improve the educational experience of 'retarded and abnormal children'. Binet never converted mental age scores to IQ (this was done by Stern in 1912) as he was rightly concerned that his tests would be misused. His test is still in use today (4<sup>th</sup> edition) and remains based on the idea that intelligence resides within the individual and is largely, although not exclusively hereditary (Khatena, 1992).

In America in 1904, Spearman published his two-factor theory of intelligence incorporating both general and specific aspects; 'g' and 's' (as noted in the previous chapter, section 2.5.1). The concept of general ability was (and still is) used to explain how people perform, taking as its central idea the intellect as a hierarchical structure within which 'g' dictates

the level of achievement in all sub-skills. Despite Binet's objections, the focus soon became a comparison of scores and standardised results, ranking children by ability. Spearman consolidated these ideas in 1927, listing and interpreting common components of test scores as the explanation of any individual's performance.

Spearman's aim was 'to find a coherent and even brutally simplified structure beyond the multiplicity of form and observation presented by the natural world' (Brody, op cit:19). Binet's opposing view is all about nuance, subtlety and difference, believing 'precision to be illusory with respect to understanding anything as complex as intelligence' (ibid).

Since these early pioneers, explaining intelligence has been a major field of study, particularly in the psychological study of the 'biological metaphor' (Sternberg, 1990:4). Measurements have been updated and now cortical arousal, analysis of brain activity in problem solving and hemispheric localisation are all investigated, published by key researchers such as Jensen and Eysenck. A number of theorists have investigated high ability, as a kind of anomaly (e.g. Jausovec, 2000). Backlash against IQ theory and accusations of being a 'pseudoscience' has made some psychometricians defensive (Carroll, 1997:48), but despite continuing study and research, the same central questions about the nature of intelligence have yet to be settled.

Contemporary theories fall into four categories: 'neural efficiency', concerning physiological aspects; 'hierarchical', based on the perceived structure of the mind; 'contextual', to do with external aspects; and 'complex systems' models examining interacting multiple factors (Davidson and Downing, 2000). They use different techniques and explanations in their investigation of intelligence, but share a common factor of valuing 'adaptability of cognitive processing as an important



aspect of intelligence' (ibid:47). They are also all lacking, both in specificity of basic principles, and in elaboration of practical realisation of their ideas. We are left with some sketched-in detail of certain aspects of intelligence, but are not much further along in addressing issues raised by questioning common usage of the word 'intelligence'.

From early to current research, key themes remain central in the study of intelligence and discussion of these claims constitutes the next four sections of this chapter.

1. Intelligence is a capacity
2. Intelligence is fixed and innate
3. Intelligence is a singular entity ('g')
4. Intelligence can be measured

### 3.3 Claim 1: Intelligence is a capacity

Following Spearman and Galton are the ideas of Cyril Burt, who defined intelligence as 'innate, general cognitive ability' (1955:162) and confirmed ceilings of ability as a central part of intelligence theory.

The degree of intelligence with which any particular child is endowed is one of the most important factors determining his general efficiency all throughout life. In particular it sets an upper limit to what he can successfully perform, especially in the educational, vocational and intellectual fields.

Op cit:202

White calls this particular interpretation of capacity the 'milk bottle model':

We can only hold just so much intellectual substance. Some of us may be quart-size, others pint-size, others quarter-pint-size.

2002:89 (also 1974:42, and 1997:27)

This capacity model is prevalent in common usage, along with its implications of fixed limits to achievement. White argues against this, presenting alternative understandings of the term ‘capacity’, drawing on Aristotelian theory, clarifying different aspects of intelligence.

We have, then, *three* concepts of intelligence:

- (i) as the capacity to *form* concepts
- (ii) as the *acquired* capacity to operate with concepts
- (iii) as the actualization, i.e. the correct application,  
of conceptual capacities mentioned under (ii)

adapted from 1974:41

The use of the word ‘capacity’ here in no way implies the limits or ceilings integral to Galton and Burt’s understanding. The meanings in the last two definitions are tied to learning and so are affected by opportunity and circumstance, but again, there is no ceiling in the sense of an individual being unable to acquire and apply a concept through an innate lack of ability. Capacity is used in the same way that we might use ‘power’, and no statement is made as to the possibility of an eventual limit to this. If there were any limit on capacity, it would be no more or less that the limits of human possibility and would be the same for all people. This is a broad notion, as the limits of human possibility are linked to the uses humans make of the resources at their disposal. Access to technology has allowed previous boundaries to be continually surpassed; flight, instant global communication, and space travel, were all considered out of reach of human accomplishment.<sup>vi</sup>

It could also be argued that limits are also suggested by the popular developmentalist notion of mental progression with its understanding that human minds develop in a way analogous to the development of plants, as an acorn grows into an oak. These theories reach back to the work of Rousseau, Pestalozzi and Froebel and are echoed in the ideas of Piaget and now Gardner. White (2002:70-77) notes that it is difficult to see



human mental development in these terms. An objective definition of the initial (acorn) state is elusive, as is the end-point of full maturity (the oak). Development is explained by growth being a sort of 'unfolding', both inevitable and natural, which is an insufficient explanation of how people learn. This implies limits to learning and mental growth.

Galton's concept of ceiling is to do with individuals developing to different levels, limited by their intellectual capacity, which cannot be improved or increased. This has strong implications for the value of educational experience. White emphasises:

I cannot stress too strongly the difference between this Galtonian concept of intelligence and the first of the 'Aristotelian' senses. To say, in the Aristotelian way, that we have an innate capacity to acquire learned abilities does not imply that there is any upper limit, peculiar to the individual, on the abilities attainable. It does not imply an innate capacity in the milk bottle sense of 'capacity'.  
Op cit:89

He finds the Galtonian/Burtian ceiling notion both unverifiable and unfalsifiable. An Aristotelian understanding of capacity does not have such upper limits. The only limits are that of being human; we could not turn invisible, develop X-ray vision, or grow an extra physical dimension. This useful discussion of the Aristotelian ideas can be considered in the context of teachers talking about their pupils. Bearing in mind everyday uses of terms such as 'intelligence', 'potential' and 'limits of ability' helps us to understand how children are considered and consequently how they are treated. To return to White's description of 'three levels of intelligence,

a) Biological aspect – the capacity to acquire capacities.

Human beings and other animals are – nearly always – born with the ability to acquire concepts/flexible forms of behaviour as they grow up. They are intelligent creatures in

the way that filing cabinets and sausages are not. To say that human beings are intelligent is to say that they are *constitutionally* - genetically - equipped with the ability, or capacity, to acquire such skills as speaking, playing hockey, driving cars, planning holidays, doing algebra, and an unlimited host of things.  
Ibid:85

The opposite of this quality is non-intelligence as shown by entities such as rocks, or paperclips. The capacity to acquire capacities is innate, and available to all sentient beings, but there is no comment on ceiling or individual variation accompanying the notion of possession of intelligence in this sense. When teachers talk of intelligence this is not the sense they are alluding to. Perhaps they may be distinguishing between the innate capacities of humans and other animals, for a specific purpose, but this is unlikely to be their meaning in talking about individual pupils. Where severe brain damage or disabilities exist, there may be some relevance, but there could still be possibilities of developing capacities (e.g. Feuerstein's work in Chapter 6).

b) Learned capacity – acquiring skills and abilities.  
White uses the example of the non-driver:

We are not saying that just because he has not learnt to drive he is stupid or a dimwit. His lack of intelligence is simply not possessing the skill in question. We all lack intelligence in this sense in a million and one ways. Children from deprived backgrounds often lack intelligence in areas where their more fortunate coevals are already adept. That is not at all to say they are 'thick'.  
Ibid

This capacity concerns the possession or non-possession of the skill in question. It is the capacity to do or perform an act, presuming the possession of the capacity to acquire capacities, (a), above. This is not what most teachers mean by the word 'intelligence'. For this they talk of



the possession or non-possession of skills. Teachers do not tend to describe children lacking particular skills as unintelligent.

c) Appropriate application of the skill – not doing this would be acting stupidly

We are all stupid from time to time[...]Stupidity consists in a lapse, a failure. We have the relevant conceptual abilities[...]but fail to apply them on a particular occasion.[...]Stupidity is not a personal quality on a par with vices such as meanness or intolerance. It is not an enduring feature of our personality, but a one-off or occasional failure to activate the know-how we possess.  
Op cit:86

White presents the distinction between acting stupidly and being stupid. He states:

A stupid action is one where the agent fails in some way to apply relevant concepts.  
1974:40

Perhaps a distinction should or could be made between people who fail to apply appropriate concepts with more or less regularity. If someone only applies inappropriate concepts once a year, how does this differ from someone making these errors, say, three times a day? Having taught an idea or concept, teachers often set a task that requires students to put the learning into context. They judge children as more or less intelligent through observing their response to the set task. If a whole class fails to successfully complete a task, a teacher could look to themselves for an explanation, but if, for example, only one child habitually fails to apply the learning, teachers are likely to explain this as a lack of intelligence.

Particularly relevant to the underachieving able is consideration of motivations for certain behaviour that could be perceived as stupid.

What initially appears as a lapse of correct concept application could be a deliberate action, with awareness of the obviously logical alternative. Without full understanding of motivating factors, a false judgement may be made. It could be that the agent is prohibited from acting as they would choose, and that they undertake action against their better judgement for overwhelmingly important reasons.

It can be difficult to assess intelligence and stupidity from observing action without accounting for motivation. A teenager, for example, stupidly deciding to fail a test to avoid being teased by friends; a patient stupidly 'forgetting' to take their medicine to avoid using it quickly and burdening her family with further expense; a sibling stupidly failing to give a correct answer, in order to allow his brother the rare chance for parental praise. Certainly, the lack of medication or limiting of academic success could have lasting damage, but we are imposing our values on the decision, in which considering these aspects is more important than the protection of family or friendships, as perceived by the agents in question.

In such cases the person in question is not acting stupidly by failing to apply obvious relevant concepts. Without intimate knowledge of motivation and an understanding of ultimate aims, we may not always be in a position to decide whether it would be correct to describe an act as intelligent or stupid. There is not always a stark dichotomy between intelligent and unintelligent acts as determined by an analysis of behaviour.

So, what might teachers understand by the word 'intelligence'? Since the idea of fixed limits is difficult to reconcile with the experience of helping children confound expectations through careful, effective teaching, it is likely that many teachers would subscribe to the first of the Aristotelian



capacity ideas. Capacity notion (a), allows for all but the most severely disabled potentially to acquire certain skills. This is a useful way for teachers to conceptualise intelligence as it permits people a wide range of opportunities.

However, teachers are faced with children who demonstrate variation in understanding, ease of learning and quality of performance and so are probably attracted to the ideas shared by Binet, Galton and Burt that concern the belief that it is possible to isolate and specify some of the factors that contribute to the individual intellectual functioning. Galton and Burt state that intelligence is fixed and general, whereas Binet has a more flexible understanding, more in line with contemporary views on the role of education.

In terms of the capacity described by (b), those who work with children would be unlikely to dismiss a child as stupid if they have not yet been taught an idea or skill. They will use their experience and judgement, though, to decide whether they consider a child is learning a new skill or idea with ease or difficulty. This need not concern the speed of uptake or quality of directly related tasks, but could be more about the correct application of new concepts and integration of new ideas into existing mental structures. These are revealed through working together with children on problems and discussing new ideas. Teachers tend to describe children as intelligent when they demonstrate an easy engagement with new and challenging concepts. This is particularly the case in terms of describing the able child. In the literature aimed at teachers and through conferences, personal experience and internet networks, discussions about the nature of high ability often refer to high intelligence in this way.

The notion presented in (c) is also relevant to the school situation. Teachers want children to apply the correct concepts habitually and avoid the lapses describable as stupid acts. This can be supported by the inculcation of dispositions which can be considered as another aspect of intelligence. Dispositions, or habits, are tendencies and inclinations to behave, or act, in a certain way. They can be already discernible in an individual, or acquired, through practice, training or mediated support. Motivation and interest are closely bound up with achievement and will be reflected in approaches to tasks which can result in changes in measured ability. Recognising the importance of dispositional elements creates possibilities for success for more children, than trying to discern the ceilings and limits of capacities. Calling something a disposition means that the behaviour is habitual, part of the child's frame of mind, or temperament, and that skills, knowledge and concepts are habitually used correctly.

Intelligence in terms of the appropriate application of skills is considered to be an intellectual virtue by Aristotle (Nicomachean Ethics, Bk 6 Section 5). To be practically wise, rather than merely 'clever', it is necessary to demonstrate the quality of consideration of good consequences, and to care about such outcomes. Omitting this aspect of intelligence leaves only an impoverished and 'denuded notion of intelligence' (White, 2002: 96) that Aristotle referred to as mere 'cleverness'.

Francis Schrag also distinguishes between ('innate') capacities and dispositions, calling them 'skills' and 'virtues'.

A person may be clever without being thoughtful and vice-versa. In the first sense we commend something skill-like. In the second we commend something like a virtue or trait of character.  
1988:8



He suggests that both skills and virtues can be fostered through the medium of the environment and the mediating presence of the facilitator, as noted by, for example, Plato and Rousseau. Schrag cites Dewey in support of both the direct teaching of skills and the inculcation of values, or virtues:

The development within the young of the attitudes and dispositions necessary to the continuous and progressive life of a society cannot take place by direct conveyance of belief, emotions and knowledge. It takes place through the intermediary of the environment.

Op cit:11

Schrag also makes a connection between philosophy and psychology, showing how both disciplines have impacted on the concept of intelligence.

The effective thinker, whatever his or her level of intelligence, manifests certain character traits. In the philosophical tradition, following Aristotle, Aquinas and Dewey, these are thought of as virtues or habits. In contemporary psychological research these dispositions are studied primarily under the rubric of cognitive style.

(Brodzinsky, 1985; Kogan, 1985)

Op cit:23-4

Binet echoes the also emphasised concepts of practical wisdom, considering the core of intelligence to be:

...judgement, otherwise called good sense, practical sense, initiative, the faculty of adapting one's self to circumstances. To judge well, to comprehend well, to reason well, these are the essential activities of intelligence. A person may be a moron or an imbecile if he is lacking in judgement; but with good judgement he can never be either. Indeed the rest of the intellectual faculties seem of little importance in comparison with judgement.

Binet and Simon 1916, cited in Sternberg, 1990:74-5

What matters to teachers in this discussion is helping children develop their thinking, as a way of translating cleverness into practical wisdom. Schrag states that he is concerned primarily with the development of virtues and considers 'the character trait of thoughtfulness to be the hallmark of a good thinker' (p14). He relies on Dewey to lend weight to his consideration of irrational thought and explains that this is explained by:

...inclination rather than the absence of technique or ignorance.[...] These biases do not depend upon mental capacity or information available. [...] Learning to be *thoughtful* is *not* learning to perform a particular action nor is it acquiring a method of obtaining a particular result; it is developing a 'second nature' which transforms heart and mind.

Op cit:15 and 38 <sup>vii</sup>.

Intelligence is clearly a capacity in terms of Aristotle's model of being capable of developing other capacities and as the flexible adaptation of means to ends. The fact of individual differences is often taken to imply difference in capacity in a Burtian sense, but this is not necessarily the case. It could be more to do with motivation and propensities, or interests. Capacity to apply concepts correctly is complex to assess, as other motivations are factors in behaviour despite understanding of correct concepts. Lack of capacity caused by not having yet learnt a skill or idea is not a lack of intelligence.

I think teachers consider a capacity model of intelligence to be about the ease with which children are able to comfortably learn new ideas and skills. They accept the notion that individual differences exist between pupils and that these may be partly affected by environmental influences, but can also have something to do with 'intelligence'. It is impossible to talk of intelligence without a focus on the disposition to apply known concepts and this involves an emphasis on aspects such as personality, attitude and motivation. I think that in teachers' understanding of



intelligence there exist some elements of both the capacity to learn, and the disposition to apply concepts correctly.

### 3.4 Claim 2: Intelligence is fixed and innate

Viewing intelligence as fixed and innate had an enormous impact on social policy and educational structures, particularly from the 1940s up until the introduction of comprehensive schooling in 1965. Galton considered 'there is no escape from the conclusion that nature prevails enormously over nurture' (cited in Eysenck, 1998:29) and more recently, this has been reiterated:

The fact that intelligence test scores are often normally distributed in the same way as physical characteristics has been offered as evidence that intelligence is genetically determined (Jensen, 1980)  
Mayer, 2000:523

Describing people's intelligence as 'a single quality of a person with definite limits' (cited in Winch, 1990:32) is ultimately simplistic, as demonstrated by Galton's analogy of intelligence to physical strength. It is criticised by Ryle, among others, as an inadequate definition of both strength and intelligence. Ryle asserts that it is impossible to provide a simple answer to questions of the nature of intelligence or of strength, and this is supported by Howe,

Those who subscribe to intelligence theory reject the possibility that the mental capabilities tapped by an IQ test are simply acquired knowledge and learned skills.  
1997:40

The other problem with using a physical analogy for describing intelligence is, yet again, the issue of a ceiling or limit. As already noted, this is both unverifiable and unfalsifiable and therefore without meaning (White, 1974). The nature of intelligence, and indeed physical strength, is that it is not a

single quantity but instead a cluster of abilities and propensities to do more or less well, at certain activities.

The traditional capacity notion can be illustrated with a pack of cards analogy, in which each of us is dealt a hand. Some people will receive a full house, or a smattering of aces, while others will be dealt a low scoring selection. We must also take into account how the hand is played, although there is a strong likelihood that a losing hand is so labelled from the outset of the game with limited room for manoeuvre. Howe presents evidence of changed IQ scores of individuals and indeed of whole nations, claiming to be 'badly denting' the traditional conception that there exists an underlying fixed inherent quality that can be called intelligence.

Using Aristotelian understandings of intelligence, only the first sense can be described as innate; the capacity to acquire capacities, as to be intelligent in this way is part of what it means to be human. Other aspects are considered to be learnt. Burt goes much further stating that intellectual limits vary between individuals and are fixed. Burt was wrong to consider that an IQ score is a definitive description of intelligence as research has shown that individuals' measured intelligence scores can change. This demonstrates the importance of the learning environment, which needs further investigation.

The notion of fixed limits is of particular importance in education because embracing the idea results in potentially writing off some pupils. However, teachers need to make judgements about matching tasks to pupils in order to facilitate their learning and this necessitates understanding the difference in pupils' propensities and apparent abilities. Teachers need to be prepared to revise judgements made about apparent abilities, allowing pupils a range of ways to express their learning and understanding. If



indeed there are limits to abilities that differ from child to child, these cannot be said to be definitively proven in the average school situation.

This question is part of the broader nature-nurture issue, an old problem recently reframed, after criticism for being a false dichotomy and an ultimately spurious way of considering issues. In social psychology, criticisms from Bronfenbrenner emphasise the *quality* of family interactions and of society as more important than the *extent* of its influence (Bee, 1998). 'What effect does interaction with the environment have on development?' has replaced 'How far does the environment affect development?' Similar points are raised by other theorists in the field of gifted education, for example, Freeman, in 1991.

The fire has been rekindled somewhat by neurology and genetic science fanning its flames as techniques for examining DNA and brain activity become increasingly sophisticated. Plomin and co-workers have undertaken genetic studies resulting in identification of groups of genes that are together partly responsible for what we call intelligence.<sup>viii</sup> They recognise, though, that these can ultimately account for only a part of development.

Individuals are not passive receivers of influences. They interact with their environment and this, in turn impacts on them. For example, a child with a rich vocabulary gleaned from a variety of well-educated role models may well seek out opportunities to converse with adults and others who respond positively to her use of language. Such experiences will serve to increase her vocabulary further. A child lacking such fluency may be confused by such conversations or disinclined to extend her range of discussion partners. She is not presented with widely-based speech patterns and her vocabulary remains impoverished. This does not prove, however, that she is incapable of acquiring and using a rich and varied

vocabulary. She may well have the potential to outstrip her more advantaged peers in terms of language use. It is just not correct to interpret the difference to be a direct result of genetic make up and limitation. It is speculation. The key point is that we can never be sure what limits we may have unless we can be certain we have compensated for every environmental variable. Eysenck confirms that:

It must be clear even to the meanest intelligence that a debate over nature-nurture must be quite pointless; to produce anything, nature and nurture must co-operate.  
1998:29

White asks if causal factors can be quantified, citing an example of the origin of a warehouse fire, asking if the fire was to be attributed to the flammable material in the warehouse by 30 per cent and to the source of the first flame by 50 percent, etc (1974 :48).<sup>ix</sup> In trying to separate influences of nature and nurture, empirical twin studies have been undertaken. White considers the evidence:

The claim that individual differences in IQ are largely determined by innate factors only makes sense, I believe, if it means that innate factors fix the upper limits of one's intellectual development while environmental factors operate only within this innately determined framework.[...] Far from this twin research being able to *show* us that people have their own intellectual limits, it is clear, I think, that this assumption is built into the research itself.  
1974:48 and 49

Winch recognises the importance of hereditarian claims of twin studies (and IQ theory) but rejects them as 'essentially empirical rather than conceptual matters' (1990:94). He and White note:

an ideology legitimates a certain organisation of society because it provides a justification for the rise and maintenance of, for example, capitalism.



Winch, 1990:95

... the proposition that we all have innately determined upper intellectual limits has become the hub of a new ideological system.

White, 1998:32

In the 1960s however, Burtian notions that had so informed policy, were upset by the dissenting voice of the Newsom Report ('Half Our Future', 1963) declaring:

Intellectual talent is not a fixed quantity with which we have to work, but a variable that can be modified by social policy and educational approaches.

Benn and Chitty, 1999:17

Let me reiterate the meaninglessness of the 'limits' issue in this discussion. If intelligence is to do with attitude, motivation and personality traits, talk of 'limits' seems irrelevant. It is difficult to measure characteristics. Barrow exemplifies this by showing that trying to quantify or assess a person's vanity or happiness would be equally meaningless, supporting White's view that ideas of intelligence ceilings are both unverifiable and unfalsifiable and therefore an agnostic stance should be adopted (1974:50). Later White admits:

It is not clear to me when, if at all, one would be justified in concluding that a normal individual has reached his ceiling and that no further teaching efforts would be of any use. [...] What is undeniable in the sense that it cannot be falsified is not necessarily undeniable in the sense that it *must* be true.  
1998:30 and 32

White is not saying that intelligence is limitless, just that it cannot be known whether or not it is. Let us assume for a moment that such a limit does indeed exist. The person charged with defining it would have an impossible task. It just could not be measured. How could a test be set?

Winch cites Ryle who points out: 'that a best performance is a best performance to date does not constitute it as a ceiling of ability' (1990:33).

It is clear that a more useful and realistic understanding of the nature of intelligence than a IQ based one, such as the 'flexible adaptation of means to ends' (White, 1974) would be impossible to measure, or cap with an upper limit. A conception of intelligence that credited people with making use of their own resources would cause further problems. In school examinations, pupils are sometimes allowed to use texts and calculators in order to construct arguments and solve equations. Measurement of their ability incorporates how appropriately they use aids. The judgement of intelligence based on 'raw' achievements is difficult to interpret clearly in this context. What if a pupil devised an aid to a test that confounded the marking scheme? We have all heard the folk tales of gifted students passing their final exams by merely writing 'yes' to a rather obscurely framed question that was expected to be answered in long essay form. What do art and design testers make of the sometimes groundbreaking conceptual responses to set tasks? The enterprise of measurement becomes like trying to determine the extent of an ocean with a centimetre ruler or a set of bathroom scales.

In order to determine a ceiling, there must be at least one other person functioning at a higher level, to undertake the measurement. How could this person then be measured? It is also impossible to define the moment at which someone would no longer benefit from any efforts to develop ideas or push their boundaries yet further. The next new tactic may be the one to get the idea across. White asks '...what could possibly falsify the proposition that we all have intellectual ceilings?' (1998:31) He asserts that Galtonian innate upper limits:



...cannot be *empirical* hypotheses and therefore subject-matter for scientific investigation. They are, rather, metaphysical speculations in a Kantian sense that they transcend the bounds of any possible experience.  
ibid

Deciding about limits matters because teachers can unknowingly 'write children off' by telling them they have low limits. Faced with the job of determining the provision for a child who seems not to be functioning well within the ordinary school setting, teachers need to be sure they have understood pupils' actual abilities and this is difficult, partly because of the lack of precision in the field. Batteries of tests are often conducted in order to identify a child's potential and assign appropriate support. As these tests are founded on definitions and postulations parading as scientific certainties, trying to forecast success or failure through measured potential is not a useful practice. Individuals will be affected by trying to live up to or defy their label. There is no single right answer to questions of educational provision as noted by researchers into high ability suggesting definitions are more or less educationally useful, rather than simply right or wrong (Sternberg and Davidson, 1986; Gallagher, 1996; Porter, 1999).

In order for provision to match needs, concepts of ability need careful consideration, but many psychologists seem to neglect to examine their theoretical bases. In an interesting paper examining the apparent rise of intelligence, Robert Howard (1999) searches for 'real world evidence' of such a claim. He cites better health and diet, more education and environmental stimulation, increased out-breeding, test sophistication, smaller family size and then effects of growing up in a visual culture. He settles on chess as a key indicator of increasing intelligence, looking at the age and achievements of champions, but nowhere does he challenge the underlying notion that intelligence can be interpreted as a simple, single measurable quality.

He does concede that measured intelligence can be changed, though, unlike hereditarian arguments that suggest a quantity of intelligence, of raw material. Let us assume, for a moment, that intelligence equates with measurable IQ. If the Burtian concept was correct, there would be no way to increase the basic intelligence of any individual. You have what you are given, or endowed with, and it is how you make use of this capacity that determines whether or not you reach your potential, which is fixed. Empirical studies by pioneers such as Reuven Feuerstein (1980) certainly show how teaching can affect test scores and, as a result, ability. Children of low mental capacity, deemed unteachable, flourish under his care. Children with measured IQs of less than 70 have been taught to read, write and cope within society, with IQ increases of around 20 points, challenging assumptions of fixed ability.<sup>x</sup>

This work has resonance with Ginsberg (1997) and Vygotsky (1978) whose emphasis on dynamic assessment provides an 'important incentive for revising the view of intelligence as a static skill' (Mayer, *ibid*:524). This elasticity of intelligence was accepted by Binet, who:

...argued against the 'brutal pessimism of those who believed intelligence to be unmalleable'. He advocated the use of techniques of mental orthopaedics designed to increase the intelligence of children.  
Brody *ibid*:26

Maybe it would be more accurate to say that abilities may have been added to someone's inventory. Whatever you call it, measurable ability can be altered by attention to the nature of tests and conditions under which they are taken. Scores on IQ tests are certainly not fixed. If, however, it *is* considered that intelligence is a Burtian / Galtonian capacity, it must be suggested that Feuerstein has found a way to give out more 'raw material'. This is clearly ludicrous. Improvements in measured IQ in these cases are however undeniable and so the model of intelligence



must be re-examined in order to explain such changes. A more likely explanation for an increase in test scores would be to look at how the students make *use* of their abilities, taking process into consideration. In such a view, attitudes and motivation would be far more important than any kind of inherited capacity. Some factors could certainly be affected by an inspirational teacher or facilitator.

It is wrong to characterise intelligence as a merely innate quality, but reasonable to understand that innate, genetically determined aspects of the self will indeed affect how we exhibit qualities grouped under the umbrella term 'intelligent behaviour'. Active interaction with the environment can expand or reduce opportunities and education is well placed to present possibilities and compensate for difficulties. Intelligence is not a predetermined, fixed entity, but rather a quality that has some continuity and some change over time in response to different stimuli, learning and experience.

### 3.5 Claim 3: Intelligence is a single entity ('g')

The theorist most associated with 'g' is Spearman whose two-factor theory stated that:

...performance was determined by a general factor ('g'), a universal due to a person's intelligence, and a specific factor ('s') due to a unique ability or activity related to a particular test.[...] all branches of intellectual activity have in common one fundamental function'.

Embretson and Schmidt McCollam, 2000:424

The resonance of this theory can still be felt in the contemporary understandings of intelligence. Sternberg highlights continuing controversy by comparing two major symposia (1921 and 1986) in which psychologists were asked to define and discuss intelligence. The theme of intelligence as either a single concept, or to have manifold aspects 'continued to be of

concern, although no consensus existed in either symposium' (2000:8) and this question is still an issue today.

Spearman characterised 'g' as a fixed amount of 'mental energy that an individual can assign to different tasks at different times' (Davidson and Downing, op cit:36). The way he describes aspects of the general ability is vague, and it has been criticised as perhaps meaningless as a result. Here, for example, is Winch, considering 'apprehension of reality', one of the mental powers identified by Spearman:

The phrase 'to apprehend reality' suggests a fairly passive consciousness that receives data of varying strength through the sense organs, data that is then grasped and retained with varying degrees of tenacity. But what people actually *do* is not like that at all.  
1990:33

Winch then goes on to explain the complexities of various tasks, highlighting the reductive and insufficient concept of 'g'. From a philosophical standpoint, the notion of 'g' as intelligence is woolly and incoherent. It is unclear whether it is a mental structure or some kind of process although either explanation needs to be contextualised as ability to perform a certain task, or as intelligence as directed to a specific activity. Psychologists also criticise early understandings of 'g' and Spearman was forced to clarify and revise his presentation of intelligence as merely a reaction to sensory input. This was considered insufficient by his detractors, particularly Binet, who felt intelligence was considerably more complex.

Other psychologists have also questioned notions of a single view of intelligence (Thurstone, 1938; Guilford, 1960; Renzulli 1978; Taylor 1978; Sternberg 1997), but their response has mainly been to try and create a more accurate battery of sub-tests rather than consider the possibility that



the underlying theory is wrong. (This was until the influential work of Howard Gardner, 1983, who proposed a more radical, multiple reinterpretation of intelligence.)

It should be remembered that test conditions do not always replicate everyday life. Test items are designed to build a picture of how people behave under a range of circumstances and performing different controlled tasks. From this (rightly or wrongly), information is extrapolated about how people are likely to perform in normal circumstances. Certainly the most successful cross-cultural intelligence test, in terms of correlation with academic success in intellectual activities bears very little relation to what people do in their lives. This is Raven's Progressive Matrices, 1956, which consists of a series of three-by-three complex figures with missing elements to be completed from a given selection, which show very strong correlation with academic success (see Embretson and Schmidt McCollam, *ibid*:429).

But what of philosophy? Philosophers have paid little attention to intelligence theory in general. Ryle is an important thinker in this domain who does not want to separate a general, intellectual ability from the performance of tasks in general. He favours a polymorphous description, contending that:

...the boxer, the surgeon, the poet and the salesman apply their special criteria in the performance of their special tasks [...] they are appraised as clever, skilful, inspired or shrewd, [...] for the ways in which they conduct these performances themselves.  
1949:48

Ryle uses intelligence as an adverb to describe performance, saying that activities can be performed intelligently or unintelligently and this view can be applied to any task, intellectual or otherwise. White supports this,

noting that the enormous range of human activity must be mirrored by the same range of types of human intelligence. This view would not endorse the notion of a singular, general approach:

Intelligent action has to do with the flexible adaptation of means in the pursuit of one's goals and there are as many types of human intelligence as there are types of human goal.  
1998:4<sup>xi</sup>

The concept of intelligence as a processing ability does not necessarily contradict this entirely. It suggests that intelligence is synonymous with intellectual ability, but this does not preclude using forms of the word 'intelligence' as adjectives or adverbs.

What of the empirical data that 'proves' the existence of 'g'? Current viewpoints of psychologists are summarised:

...in this field there is no longer any debate about the structure of human mental ability differences. A general factor emerges that accounts for about half of the individual differences among the scores for a group of people [...] but this is not proven to represent a model of the organisation and compartments of the human brain.  
Deary, 2001:15

Criticisms of statistical methodology have dogged test data though, summarised here by Howe:

The fact that it is possible to derive 'g' is no basis for concluding that 'g' must be either a physical quality or an entity that can be regarded as the source or cause of mental abilities.[...] So we end up with a technique (factor analysis) that gives rise to a 'general' factor that may or may not represent a singular underlying entity, and then we are told that this general factor is correlated with IQ, and finally, that the latter (IQ) is its validation as a truly general factor!  
1990:210-211



Howe considers it useful to think of *aspects* of intelligence rather than a single, all-encompassing model. This approach has given rise to subject domain models, typified by the 1972 Marland Report multi-faceted notion of high ability and the better-known work of Gardner. As many writers have noted, he was not the first to consider a multi-dimensional model, with even Binet's work focusing on different types of intellectual ability early in the twentieth century. Thurstone's multiple concept included a hierarchy incorporating 'g', as did Vernon's understanding, in which the influence of education was taken into account. Guilford and Cattell opted for a taxonomy rather than a hierarchy, but these also included a notion of a general processing ability. These differ from Gardner's theory, in which the notion of intelligence as a simple 'thing-in-itself' is rejected, in favour of several distinct abilities. Gardner identifies at least seven:

linguistic; logical-mathematical; spatial; musical; bodily-kinaesthetic; interpersonal; intrapersonal. Gardner has recently added to this list with naturalist intelligence (knowledge of the living world); spiritual intelligence (cosmic issues) and existential intelligence (ultimate issues).

Freeman, 1998:5

He describes these as 'relatively autonomous human competences' (1983:8) admitting that they may at times be working harmoniously so 'their autonomy may be invisible' (p.9). This echoes the problems with other multidimensional models trying to reject the notion of 'g'. There is overlap between subject areas and many shared skills. This renders the separation of abilities somewhat contrived and sometimes so specific as to lose meaning. He has presented some neurological and empirical reasons for his choices, but research has been into exceptional people. They have either excelled, or are autistic savants, sufferers of brain damage and child prodigies, but I am not sure that these models are appropriate to generalise an understanding of the nature of intelligence(s),

as these people's lives are extraordinary and their experiences unusual. The validity of this research has been challenged (e.g. Howe 1990:173) and as White points out:

The seven or eight categories are too close to familiar curricular areas for comfort. They make curriculum planning deceptively easy.  
1998:35

Gardner's work dominates the field, with its popularity tending to 'obscure other modern theories of intelligence' such as Anderson (1992) and Sternberg (1988), (Corner, 2000:227), but it would seem that the separate areas or intelligences do not serve to illuminate the nature of intelligence, merely to provide ways that may help teachers and researchers break down some of the issues to be considered. Despite the new categories that lean towards more practical forms, this similarity to the curriculum still exists and perhaps explains why the theory of multiple intelligences was warmly received by teachers. White describes the theory as 'decidedly flaky' (p93), lacking justifications for the criteria used to pick out the particular intelligences (p94).

Gardner has modified the language used in his theory, shifting between apparent synonyms for 'intelligence', such as 'talent' and 'ability', which serves to confuse matters. Reflecting on difficulties with his theory, and showing how his objection to the use of 'intelligence' to differentiate intellectual tasks from others is more about the labelling of activities than the nature of the tasks, he muses:

I am often asked whether an intelligence is the same thing as a talent or an ability. While I love to achieve conceptual clarity, I do not love terminological discussions because they are inconclusive or even counter-productive. I have no objection if one speaks about eight or nine talents or abilities, but I do object when an analyst calls some skills



(like language) intelligences and others (like music) 'mere' talents. All should be called either intelligences or talents; an unwarranted hierarchy between capacities must be avoided.  
1999:83

Howe agrees that it is difficult, or impossible, to make clear connections between some areas:

...different abilities are in fact remarkably independent of one another, autonomous, and specific to the particular kinds of knowledge that the individual happens to possess.  
1990:221

Although Gardner's theory has had a significant impact on the world of education, many psychologists consider his ideas to be 'on the semi-popular fringes of scientific psychology' (Deary, *ibid*:15). The positive correlation between the 'intelligences' are interpreted as evidence of a general mental ability and some are viewed as spurious, as they 'are not normally considered to be mental abilities, i.e. not within man's cognitive sphere' (*op cit*).

The most widely accepted notion of intelligence is a group definition, famously first appearing in the Wall Street Journal in 1994. Here is the 1997 version:

Intelligence is a very general mental capability, that among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings – 'catching on', 'making sense' of things, or 'figuring out' what to do.  
Gottfredson, 1997:13

This definition has not avoided the problems of previous attempts, with ambiguous unexplained language. There is also a mixture of a kind of

capacity ('the ability to reason') together with more dispositional elements ('figuring out what to do'). Intelligence also involves dispositions and subject knowledge at least. Correct application of concepts is implied in solving problems, but the emphasis is on a kind of passive understanding, rather than any kind of action.

The concept of intelligence as a single notion is difficult though, partly for reasons of its history, partly for the lack of account of the range of human activity and partly for its implication of fixed limits. It is accompanied by more than a century of baggage and undeniable negative links to both IQ testing and policy decisions resulting in unfairness. Psychologists though, seem to have reached a consensus that a central cognitive ability exists and that this varies between individuals. What matters about this is how it reveals itself through observable performance and how it can be altered through interaction with the environment and education. Any genetic component will account only for part of people's performance. Most tasks require a combination of theoretical and practical applications and so if there is indeed a group of abilities such as intellectual ability, this will be insufficient to guarantee an assurance of success in any area.

### 3.6 Claim 4: Intelligence can be measured

From around 1860 when scientists began investigating intelligence in a biological way, there has been an on-going search for criteria used to measure intelligence. There has been little doubt expressed that it is impossible to quantify. Even Binet, who expressed a subtle and tentative notion, still considered that something could be calculated. In earlier sections above, both historical and contemporary evidence has been presented to demonstrate that, whether correct or incorrect, it is widely accepted that intelligence can be identified. Teachers have complex attitudes to IQ test scores. Although they may disregard scores to avoid



dismissing pupils as low in ability, they often rely on IQ to validate reasons for special provision.

The emotive aspect of this story comes from the uses to which IQ test scores have been put over the years. As Binet forewarned, the scores became more important than the individual and when working as a Special Needs Coordinator (Senco), I found this to be true; no help was forthcoming until the child in question was firmly labelled by a psychologist. Like many, I am sceptical about attaching of a numerical value to ideas of intelligence, but in the field of gifted education this is a major tool in the kit-box for identifying the highly able. Since Terman's work in the 1930s, there has been an emphasis on collecting IQ scores and considering performance of identified subjects at school, even ascribing posthumous scores to the eminent.<sup>xii</sup>

Galton founded a eugenics movement that resulted in enforced sterilisation of people with low ability and later developments saw IQ scores used to assign rank to the US army reinforcing stereotypical views about immigrants and calls for stricter rules to avoid 'propagation of defective strains' (Brody, 2000:28). In the UK, testing has been commonplace in determining schooling provision since the 1940s. In the 1990s the controversial work of Herrnstein and Murray brought the highly charged issue of race and intelligence into the arena once again.<sup>xiii</sup> As White notices:

Even after the demise of the eugenic project in post-Nazi times, the notion that children with very low IQs are somewhat less than fully human has stuck like a burr to the popular mind.  
1998:87

Evidently, some of the early pioneers of testing, in particular Binet, were trying to help children, especially those of low ability. Working before the

concept of IQ, Galton used his various test results for less laudable reasons and he was not alone. Let us put aside these obviously objectionable uses of IQ and consider whether Binet's aims of usefulness were successfully realised.

To envisage an education system that does not use labels is almost impossible, though there is no problem with the idea of taking a measurement, if it is done accurately, giving data that is put to good use. There are, however, better ways than test scores to see how children are doing, or might do, at school and these involve working closely with the children themselves, considering the processes they use along with their interests and helping them to understand the way that personality factors such as determination and perseverance interact with their work. It is not clear that a number label can be of any help. Psychologists rarely suggest that IQ is enough to understand a child. Carroll is typical in making the point that:

Intelligence or general ability scores should not be taken as direct measurements of hereditary intelligence. Rather they should be taken as measures of an individual's progress, at a given point in time and for whatever reasons (genetic or environmental), in attaining the full range of mental development that is possible in an advanced society. Over the years of childhood to young adulthood, mental ages report the relative rate of that progress as compared with that of persons of comparable chronological age, with an IQ of 100 supposedly representing the average rate.  
1997:48

The use of IQ scores is not the only problem, however; the tests themselves are riddled with widely discussed difficulties, such as test conditions, cultural difference and the test subject's background (see Appendix III). Efforts have been made to produce culture fair measures and Raven's Matrices (op cit) have been found to cross a range of cultures very effectively, limiting bias as far as possible. Perhaps the most



relevant issue for the able is the setting of the test ceiling. Able pupils often burst through test ceilings by providing all the correct answers and then go beyond the limits of the test by adding an extra quality of flair, humour or comments that demonstrate other areas of their ability, but which are not 'point scorers'. Psychologists argue that such demonstrations tell us little; pupils have failed to read instructions, that they wish to make some kind of anti-authoritarian point, but it seems to me that tests are not allowing pupils to express themselves appropriately. This is a failing of the test, not the candidate. IQ merely describes some mental abilities by evaluating the response to set tasks.

Deary notes,

...tests of mental abilities do not assess all important aspects of brain function, let alone all important human qualities.[...] they do not measure personality, social adroitness, leadership, charisma, cool-headedness, altruism, or many other things that we value. But that [proper point] is not the same as saying they are useless.  
2001:16

Winch highlights and refutes the four major components of IQ theory (issues tackled in this chapter are noted in parentheses):

1. IQ is a factor that *underlies* particular abilities. (3.5)
2. IQ is a fixed potential for intellectual achievement. (3.4)
3. IQ can be given a precise numerical value. (3.6)
4. IQ is to a large degree inherited by children from their parents. (3.4)

1990:25

While testing of intelligence has been broadly criticised, there is generally agreement that some kind of predictive qualities can be discerned through examining IQ scores and it is certainly of use in breaking down approaches to tasks and isolating problems with factors such as auditory and visual discrimination. Whether or not one's conception of intelligence

concurr, collides or merely touches upon elements highlighted in the IQ test, it is clear that the predictive validity of academic achievement in a school context has a strong correlation, able to help teachers improve provision.

If intelligence is considered as the flexible adaptation of means to ends, then creativity is implied as part of this process, as the variety of situations would demand a wide range of responses allowing for the exercise of imagination and judgement of appropriate action. Tests and checklists generally name flexibility as one of the constituent parts of creativity and highly creative people would be distinguished from others in their application of creative thought (Torrance, 1960).

Various studies have considered the relationship between creativity and intelligence (Getzels and Jackson, 1980) and it has been noted that for success in some subjects, a certain amount of rule-bending is implied. In Urban's creativity test (1998), for example, extra points are available for 'breaking boundaries' on what most people interpret as a framed drawing (assumed rather than stated). In a school situation such a response is unlikely to be rewarded; clear instructions in academic contexts lead children to believe that breaking a boundary would be unacceptable. To respond to a set task in a way that scores highly on the this test may displease a teacher, so perhaps a low score has less to do with lacking creativity than with a desire to do 'what is right'. Therefore a creative response could be considered less than intelligent by school standards, depending on criteria and circumstance.

Creativity tests generally take the form of responding to a question that requires thinking beyond generally expected responses, such as the 1960 test in which respondents were asked to suggest '100 uses for a brick' (Torrance, 1960). Answers were graded with reference to their 'fluency,



flexibility, originality and the depth of possible elaboration'. More recent tests (e.g. Urban and Cropley, 1995), require a drawing response and are marked on highly subjective criteria such as 'showing humour'. Clearly what may elicit a chuckle from one person may leave another quite cold, raising the question of whether or not such emotions can be quantified and then translated into a score for ideas and unusual thinking.

The claim that intelligence can be measured is qualified. Elements of the cluster of behaviours and mental acts we know as intelligence can indeed be appraised but this is insufficient to constitute a complete measurement of intelligence and used to decide issues such as school provision. IQ can be a very useful diagnostic tool, but must be handled with extreme care.

### 3.7 My view of intelligence

It is impossible to present my own view in a vacuum. As I have shown, study of intelligence has always been accompanied by social issues and so I would first like to separate understanding of intelligence from the political and emotive aspects of the field. These have made it difficult to align oneself with any acceptance of individual difference, due to implications of ceilings and subsequent assignment of children to failure. Issues surrounding IQ, such as racism and maltreatment of the disabled have lent the area an understandably negative cast.

There are three different ways of looking at how intelligence theory and societal issues have interacted (based on an idea in Sternberg, 2000:12). The first is the old-fashioned notion that we are born with differing levels of intelligence meaning society must be structured so the able have power to rule the less able. This notion can be traced back to Platonic ideas of the philosopher-kings and linked to the Eugenics movement. An opposite view would state that we are all equal as humans and in terms of

competencies, as suggested by Aristotle's concept of everyone having the capacity to acquire capacities. This allows for people to be substitutable, except for specialised skills. Such skills can, however, be learned by anyone, since we are all equal.

The third view is that we have equal rights and opportunities, but different propensities and aptitudes (of the three, I have most sympathy for this view, expanded in the following chapter). Disadvantage should be compensated for and we should make every effort to allow people to demonstrate their abilities in whatever socially valued field they may lie. We should avail ourselves of opportunities by choice, rather than being forced into areas of study. I make no comment here about the importance of high ability in any particular area, nor about choices of society to financially reward, for example, star musicians over nurses.

As with my definitions of high ability in the previous chapter, my stipulative definition of intelligence here focuses on intellectual learning. I consider other aspects of performance to be better described as skills, and suggest that what most people mean by 'intelligence', is flexible cognitive engagement with abstract intellectual ideas. The adverbial use of 'intelligently' is synonymous with 'skilfully' in many cases.

There is certainly individual difference in how people perform tasks as well as the ease with which they engage with intellectual ideas. That this difference can be explained by an underlying capacity is certainly conceivable, although the psychological 'proof' through testing is insufficient to support the claim. Too many variables exist to be able to confidently isolate 'g'. Performance on groups of similar activities are obviously strongly correlated and this would suggest some transferability of ability to connected tasks. If these



connected tasks are all intellectual in nature, it would be coherent to talk of abilities that are general to the intellectual tasks. In schools, children who demonstrate easy engagement with abstract notions and 'academic' subjects are often labelled as highly able. This usually only happens when their performance demonstrates this comfortable engagement with difficult ideas. Children who easily engage with complex ideas, but fail to perform set tasks effectively can often be misunderstood as lacking ability. The definitions of high ability and intelligence I am presenting allow for these children to be considered intelligent, despite their poor performance.

Teachers know that effective teaching and a positive environment can allow children to defy labels assigned through IQ testing. This of course, calls into question the value of any label that purports to describe a child as having an unchanging capacity to learn. Ability to perform tasks and undertake tests show that performance can indeed be altered. Any measurement of ability is no more than a snapshot of particular ability at a particular moment. Some aspects of ability may indeed remain constant over time, whilst others may change. Just because this may be true does not mean that IQ is an accurate measure of lifetime ability.

Origins of ability are likely to be partly genetic and partly environmental, but the interaction of the two is the most important factor, as neither can guarantee success, nor should the origin of ability (whatever it may be) prejudice education providers to favour or deny an individual.

It is not objectionable to postulate and accept that individuals have different, strengths and perhaps potential(s) in all areas. These

could include some kind of capacity/group of capacities, or some kind of disposition/groups of dispositions. It is neither falsifiable nor verifiable to suggest that people have upper limits that mean that some peoples' abilities are somehow lesser than others. It would, however, be objectionable to suggest that people should be defined and limited by their apparent levels of ability, especially if these are surmised from a snapshot assessment, such as the IQ test, taken at an apparently critical moment in their development.

Howe notes:

Some individuals acquire ability more smoothly and effortlessly than ordinary people[...] Differences between people and in the ease in which a particular skill is acquired may be caused by any number of contributing factors. These include various motivational and personality influences as well as previous learning experiences that equip a person with knowledge, attitudes, skills and self-confidence.  
2000:9

My stipulative definition of intelligence is as the term used to describe an individual's intellectual ability, in particular the propensity to engage with intellectual ideas. Dispositional elements deeply affect learning and these seem to be dependent in part on innate personal characteristics. Neither the propensity nor the dispositional aspects are fixed; both are open to change through interaction with people and the environment. Intelligence tends to indicate the ease with which people are able to learn, notwithstanding problems that may affect learning such as learning difficulties, emotional problems or disabilities.

### 3.8 Conclusion

The purpose of this chapter has been two-fold. The primary aim has been to clarify some of the terminology and confusion accompanying the term 'intelligence', allowing me to present my own definition, particularly linked



to the definition of high ability already presented. The other main purpose has been to demonstrate the political complexities of the area. This atmosphere of emotion and contention soaks the area of intelligence, high ability and provision for the highly able, but is rarely confronted in discussions in these areas. I have shown the extent of these issues.

Central to the intelligence debate is a series of notions that are commonly held and rarely examined. Intelligence is a construct applied to people based on a cluster of factors, the characteristics of which are extrapolated by observing their behaviours within their particular contexts. We infer intelligence from this. Internal, or mental activities cannot be seen, only inferred. This description does not tell us much about the nature of the concept we generally mean when we talk about intelligence, however.

Commonly held views about intelligence are linked to the history of psychometrics and have influenced both educational policy and widely accepted views of how we think and learn. Older, single, generalisable capacity notions have been challenged, in recent years, by the more inclusive notions of multiple abilities, and by upsetting the long held dominance of subject-based hierarchical views and the highly emotive concept of IQ. The MI perspective has helped to break down older views of intelligence, making the concept more inclusive, rejecting the dominance of traditionally accepted academic and hierarchical subjects. People are accepting of the Gardnerian concept that being adept in one area constitutes an 'intelligence' that is just as valid as any other area. However, intelligence is also inextricably bound up with thinking, which is a private mental act.

The reaction against the notion of 'g' led to the rejection of any concept of central aspects of what we talk of as intelligence. Judging intelligence through discerning appropriate behaviour does not tell the whole story.



Sometimes, apparently unintelligent actions have intentional and reasonable grounds, but are misconstrued. Values often blur ideas of intelligence. Saying that someone is intellectually able is no more contentious than saying they are good at playing the tuba, or preparing a salad. Saying, however, that someone would never be capable of x or y is more problematic.

It is important to have an understanding of intelligence to support any concept of high ability and my intention has been to clarify terms being used. I have located my understanding of intelligence and high ability in the arena of intellectual activity. Having established the target group, I need now to argue in favour of supporting them with provision. Before saying anything about the nature of such provision (Part Three), I must show how they merit support, which is the task of the next chapter, which constitutes Part Two.

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<sup>i</sup> There are rare well-publicised cases of students suing schools and colleges for failing to identify learning difficulties, and having instead disallowed exam entrance with the justification that a pupil did not have the ability to pass.

<sup>ii</sup> A spate of broadsheet newspaper articles in August 2002 (Independent, Times Educational Supplement, Guardian, Telegraph) called for USA-style entrance examinations. Other articles noted around the time of national examination results show this to be an issue that continues to bubble under in the educational press and careers advice columns.

<sup>iii</sup> For an excellent exposition of these different views, see Sternberg's 'Metaphors of Mind' (1990) in which key theories are grouped by metaphor and explored, highlighting significant similarities and differences.

<sup>iv</sup> In this paper, Howe disputes the three commonly held views of intelligence being fixed, directly inherited and that accomplishment depends on possession of innate gifts.

<sup>v</sup> Information in this section is gleaned from a wide range of sources, some of which are unknown. Direct quotations are referenced and key texts are Sternberg, 2000, in particular Brody, pp16-33.

<sup>vi</sup> This also connects with the Kantian idea, as expressed in the Critique of Pure Reason, that limits are only equal to the bounds of possible experience. Leaving our universe would therefore be beyond our limits.

<sup>vii</sup> Schrag then goes on to note how Socrates considered the importance of environment in developing dispositions (ibid:38).

<sup>viii</sup> Plomin has been involved in a series of important studies that have some influence on gifted education. The work is predominantly in the field of neurosciences, however and without spending significant wordage on this field, it is difficult to do justice to his contribution. Key relevant issues are the 1990 studies of critical phases in development, his emphasis on the genetic aspect of development (1999), and an emphasis on the



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genetics of cognitive abilities (1998). For a clear and useful summary of recent developments in neurology, see Challoner, 1999.

<sup>ix</sup> Hebb says 'to ask how much heredity contributes to intelligence is like asking how much the width of a field contributes to its area', cited in Eysenck, 1962.

<sup>x</sup> 'Except in the most severe instances of genetic and organic impairment the human organism is open to modifiability at all ages and stages of development.' (Feuerstein et al 1980:9)

<sup>xi</sup> See also R.S.Peters and his definition concerning adaptation.

<sup>xii</sup> Estimations of early intelligence of the eminent were made by comparing their childhood achievements with those of contemporary children from whom test norms had been derived (Radford 1990:37). Research has shown that the IQ of JS Mill was around 190-200 and that others in that range would include Pascal, Voltaire, Coleridge and Schelling. Musicians and artists are measured at around 145, writers at 160, soldiers at 125, scientists at 155. Philosophers come in at 170.

<sup>xiii</sup> Carroll (1997:47), reappraises Herrnstein and Murray's data in his 1997 paper and like many of his colleagues he comes to different conclusions.

## Part Two:

What it is fair to do for able children



## Chapter 4    What it is fair to do for highly able children

### 4.0    Introduction

This chapter presents a morally defensible position for provision for the highly able. I argue that able pupils are entitled to be challenged and stimulated by their statutory schooling, even if this requires provision beyond the basic curriculum. I explain my argument briefly in this introduction, and show how my view differs from the more commonly expressed alternatives. I also raise some of the difficulties expanded later in the chapter.

Previous chapters have shown the complexities of trying to describe the able pupil. This entails rejecting simplistic definitions that equate ability with achievement, taking instead a non-traditional view of ability, allowing for the inclusion of highly able children with special educational needs and those who may not show their abilities in conventional ways. Once high ability is framed in this way, making an argument to support these underachieving pupils is not particularly controversial, as teachers obviously want to help children with easily recognisable individual needs. Provision is not necessarily contested, but it is still unusual to see anything but an achievement-orientated focus, as demonstrated by the relative lateness with which the government strategy has begun to recognise the needs of underachieving able pupils.

When children have special educational needs or cultural disadvantage, provision is compensatory, a more comfortable notion than extra funds for the already privileged. Creating an argument for able children without problems is clearly going to be more difficult. Research (in the USA in particular) continues to demonstrate 'gifted education' programmes are dominated by children already enjoying social advantage and familial

support. In recent decades, governments and educationists have increasingly focused on minority groups and the underprivileged (although the underachieving able pupil has rarely fallen into this category). This has meant, quite appropriately, that less attention has been directed to the development of the able achiever. It is my task to find reasons for providing for able pupils without any specific needs, as well as underachievers, making a defensible argument for their support.

This is difficult because provision for the able implies that teachers will be deciding that some pupils are 'superior' to their peers and that those excluded from special activities are less important. Schooling is striving to redress unfairness, allowing people to do their best, breaking down barriers to success. Where there is no need for compensation for disadvantage or any type of difficulty, provision for the able seems only to serve as the creation of an elite group, which is abhorrent to most teachers. Whilst other pupils are fighting for scarce resources, provision for the able is seen as at least an unnecessary luxury and at worst a terrible tactic, increasing social division and elitism.

These commonly held views are challenged in this chapter. I have first to explain the link between understandings of elitism and its application to provision for the able. The usual arguments for gifted education are problematic. They tend to draw on premises that education should be elitist, with more resources directed at the able because they are more deserving. In exploring elitism, it soon becomes clear that there are a range of meanings, some of which are associated with exclusion and exclusivity, which is the reverse of what most schools are quite rightly striving to attain. Because of their educated parents and social and cultural advantage, provision for the privileged able is an objectionable use of limited educational resources, responsible for perpetuating a kind of social elitism.



But this definition of elitism is not applicable to provision for the able where such provision is designed to meet individual needs. An understanding of elitism as high quality, or the best of something, is a less objectionable notion. If children are capable of extremely high levels of attainment, outstripping standards that usually count for excellence amongst their peers, this kind of elitism could have a place in schooling. With this sense of elitism there is no question of inclusion or exclusion, just of an education planned to meet requirements for flourishing, in response to pupils' interests and motivations.

Encouraging children to achieve excellence must be done for good reason, however. Promoting excellence for its own sake is not suitable, especially when this takes away from children who are failing to meet even basic levels of attainment. Excellence in order to improve society through enhancing efficiency and maximising economic growth could be more acceptable, but rewards are not guaranteed and measuring the efficacy of strategies is problematic. Striving for excellence for the sake of personal well-being could perhaps be considered appropriate, but there must always be a balance with other pupils. Directing resources at a select few at the expense of many others will certainly not result in well-being for the deprived group and it is also possible that the favoured group may be unable to enjoy the advantage gleaned from the fruits of their labour and ability, knowing that others are suffering.

Instrumental aspects of education are key in arguments against additional provision for the able; they do not need anything extra as they are likely to benefit from education anyway. However, rather than considering the instrumental aspects of education, I think it necessary to look at the *experience* of the able child in school. In this sense, arguments about social unfairness are irrelevant to my account of provision for the highly

able. My focus is on the school experience, not on projected career development and future benefits.

It is not the fault of schools that societal distribution is unfair and that the playing field is uneven for pupils before, during and after their schooling experience. Children should be supported and helped whatever their background and the school's role is to challenge and stimulate their pupils as they learn. What is of concern is encouraging pupils to do all they can to fulfil their potential during their time in school. Actual and potential ability should be the starting point for school provision, not the pupil's background, nor, incidentally, the origin of abilities, whether socially or genetically determined. A pupil performing significantly better than peers, or with that potential, needs stimulation and challenge at an appropriate level, whatever their background.

High ability brings people advantage through no merit of their own. Questions of desert are unavoidable and effort expended by pupils will affect teachers' responses to suggested provision. Where they are unable to make the most of their ability, they should be given appropriate support to overcome obstacles to their development. This is part of their flourishing. Even able children who are not beset with problems should be entitled to provision, but redirecting funds to meet their needs may well be outweighed by reasons of social justice. I would certainly, unlike the government, put the needs of the disadvantaged able above the 'ordinary able'. In discussing this, I consider the notion of the meritocratic ideal and how this 'talent times effort' equation may affect provision.

Fairness of provision is explicitly discussed, with attention to different relevant concepts of equality in education. Perhaps education should be characterised by equality, whether of resources, opportunity or outcome. Providing for the able will be inequalitarian in several ways but I argue that



this may not matter. What does matter is meeting the needs of children. Equality of resources will not allow education to adopt a compensatory role, as it should if it is to meet individual needs. Equality of outcome may set limits on achievement, and equality of opportunity could be impossible to achieve if the able with aptitudes in a broad range of subjects are allowed to develop in all areas. I have demonstrated that the highly able are not a homogeneous group, and will therefore have complex requirements. This implies a range of educational responses, matched to pupils' motivations and interests. I argue that it is more important to meet children's needs and entitlements than to be concerned about equality for its own sake. The aspect of equality I do feel to be important for schools is the value of the experience of schooling and the quality of cognitive challenge for pupils. I call this 'equality of challenge'.

Before explaining my positive thesis in more detail, I consider some of the commonly expressed justifications for provision for the highly able. As already noted, I find the elitist 'excellence for its own sake' argument inappropriate. Some other arguments are empirical questions with insufficient research and evidence, such as the proposition that support for the highly able will necessarily lead to a general improvement in standards for all. There are only tenuous conclusions to be drawn from the contention that activities for the highly able will result in benefits for society through more and better economic and social goods. The argument that all children need an education beyond the bare minimum is relevant, of course, to all pupils, not just the able, but it is unclear what should be put in and left out of this basic education, making it difficult to decide what counts as extra and what should be mandatory.

All children should be provided with an enabling education with sufficient resources to allow the development of their talents to a high level, particularly when there is a significant discrepancy between their potential

and their performance. This is true even where potential achievement exceeds expected requirements.

This chapter constitutes a discussion of political and policy issues pertinent to education for the highly able and the overriding matter both in literature and in practice is the unresolved tension between the contradictory dual educational aims of excellence and equity. While this thesis is written from a UK-based perspective, many of the issues raised have currency for a broader context. As these matters have to be addressed by all countries, it is both relevant and illuminating to examine the different responses and discern useful general principles or frameworks. To this end, the chapter now moves on to an examination of global approaches to education for the highly able (4.1.0 and 4.1.1).

#### 4.1.0 The global context

Despite wide differences between educational systems and cultures, there is a consensus that some pupils seem to be more able learners than their peers, or seem to have a greater potential for achieving in school-based activities. Most countries consider this can contribute to their development and growth, if they do what they can to ensure the potential is translated into achievement. They therefore strive to make appropriate provision, while retaining a sense of fairness, particularly in the distribution of education resources and allocation of limited funds. There is no country for which funding is unproblematic. All the issues of identification and provision mentioned so far are magnified when the problem is expanded into a global arena.<sup>i</sup>

Contrasting cultural perspectives of 'giftedness' and policy-making for the able from a range of countries brings to light complexities of understanding justice and fairness infrequently made explicit in the literature and research. Sure enough, practices and policies vary, along



with underpinning values and this is all illustrated by competing understandings of the origins and nature of giftedness and of diverse provision.

...modern cultures tend to believe that unusual abilities are the result of heredity, environment, individual effort, or some combination of these. Which of the three receives the greatest emphasis in a particular culture can have a dramatic impact on gifted education.

Moon and Rosselli, 2000:501

Examples presented in the literature are difficult to summarise without falling into a simplistic exposition of views and reinforcing stereotypes. So, it is not intended in any way that these short sketches should serve as a thorough explanation of ideas; the aim is merely to highlight contrasts. For example:

In the US and Canada, a prevailing cultural belief is that individual differences in abilities are largely the result of natural endowments.

ibid

In Canada provision is 'inconsistent, unsystematic and based on practitioner enthusiasm', organised by individual states or local education services (Leroux, 2000:695-6). In the USA, the equity-excellence pendulum has driven research and provision with a recent focus on finding hidden talent within disadvantaged communities which are viewed as a 'major untapped resource'. The current jumble of provision has some admirable aspects and the US leads the world in research in this field, but the lack of cohesion results in a 'laissez-faire' approach (Gallagher, 2000:691). Australia and New Zealand are interesting cases where egalitarian concerns have overridden the needs of the able for some years. As a result of reviewing the poor performance of minority groups,

schools tried to redress the balance, particularly from the 1950s to the 1980s.

In its starkest form, the issue was seen in terms of alternatives: education could concentrate on those with special needs (the disadvantaged) or those with special abilities.[...] the New Zealand Education Act of 1989 decreed that 'equity objectives shall underpin all activities within the school'. There were moves to downplay the concept of *giftedness* as such and use different terminology [...] *highly able*, or children with *special abilities*.

Op cit:780-1

In most developed countries, gifted education is tainted with an inescapable hangover from links with elitism and exclusivity. Modern approaches have equality at their core, as part of the social efficiency argument encouraging all members of society to reach their potential in a range of activities, but public justification for policy is typically rather vague. Different players in government may have a range of reasons for supporting particular policies, but there is rarely coherent public explanation of the aims in question. This is the case even in the field-leading countries with more mature policies. In the USA, 'poor and minority students are disproportionately excluded from programs for the gifted' (Kornhaber, 1999), which underscores the difficulty in realising aims, due to issues of wealth distribution. The same problems arise in the UK, where parents who can afford to, may move home to take advantage of publicly funded education that best suits their needs. It is also apparent in the explosion of demand for private tutors in areas where 'superior' schooling (defined through measured academic success as reported in league tables) is accessible through passing examinations. In Australia and New Zealand, some states have found their drive for equity incompatible with the success of programmes for the previously disadvantaged able pupil. Teachers report that they are unable to continue



programmes as inequality is being created by allowing the more able to succeed (Benbow and Stanley, 1997).

This contradiction is also seen in other ways, where some abilities are considered as fair opportunities for investment, while others are viewed as elite. Gross compares how extra funding for sporting prowess is often considered more acceptable than extra funding for academic areas:

Both nations (USA and Australia) abhor racial, social, and religious bias. ... yet we do hold a pervasive, insidious bias when it comes to talent development. All gifts are equal, we seem to say, but some gifts are more equal than others. ... Our bias becomes apparent, however, when the children's precocity is sited in the cognitive domain.  
Gross, 1999:3

Myriad articles lament the refusal of leaders and administrators, in the name of equality, to differentiate exceptional students (e.g. Lloyd, 1996) and such concerns are seen in a variety of different cultures, including the Philippines and Korea.

Democratic societies, whether long established or newly forming, often have reservations about special programmes that meet the needs of only a few – particularly when those programmes expand the gifts of the already talented individuals. However, in the future, as educational strategies and programmes are refined, the issue will not be equity versus excellence, but equal opportunities for all students to achieve excellence in their special talents.  
Wollam, 1992:67

In most Asian countries, individual differences are accounted for through effort, with an emphasis on 'teacher skill and pupil diligence', while in the Philippines, Taiwan and Singapore, some family values forbid differential treatment of siblings as this is seen to be unfair. Consequently, highly able children are often denied extra-curricular activities unless their siblings are

also involved, even if one child has no particular aptitude or desire for something that is wished for and easily accomplished by the other child. Some countries develop programmes with aims of economic development and of maximising the nation's human resources. Underlying principles suggest the populace is governed 'on the basis of employing the talented' and a 'societal tendency to value intellectuals and the wise' (Wu, Cho and Munandar, 2000:775).

'Bitter experiences with social elitism' (op cit) have led to a strongly egalitarian policy in Japan, where 'gifted education has become almost a taboo subject within Japanese society' (p768). There have been some recent moves to cater for older students, but nothing is available for the younger pupil.

This attitude is rooted in a belief that ability is not inherent, but rather the result of practice and hard work, even at the youngest age. [...] Japanese people believe that the individual differences, even at the fetus stage are influenced by the environment and one's efforts rather than by innate, stable and fixed characteristics. Therefore, they believe that the government should not enhance individual differences by intentionally providing special programs for those who are already doing well.

p769

This has resulted in an egalitarian provision pattern similar to the Nordic model that defines Sweden, Norway and Denmark, and, to a lesser extent, Finland. Ironically, similarities in provision have very different roots. Japan is characterised by the 'propensity for embracing and awarding individual excellence' whilst the Scandinavian ideal is of inter-dependence and 'reluctance to reward or promote policies or actions that would cause some individuals to excel more than others' (Persson et al, 2000:718)



Nordic provision is exceptionally egalitarian and it is even considered improper to exhibit pride of self. Schooling and society reinforce the sense that no one is 'special'.<sup>ii</sup>

Swedes are ambivalent about their 'stars' [...] whether in sports, show business, or culture. Successes may be admired, but their exclusiveness and out-of-the-ordinary achievements often give rise to envy and therefore to malicious pleasure when the stars 'fall'. The high value awarded to *sameness* makes all personal success problematic.

Daun, 1994, cited in Persson et al, op cit:719

In some Eastern European countries during the Communist period there was a denial of the existence of genetic variation, which acted as a barrier to the development of gifted education programmes, for example in Poland. Similar issues arose in Russia and the search for the talented consists of competitions now harnessed to help build profiles for entry into higher education rather than coercion into an identified field of potential excellence (Grigorenko, 2000:739) for the 'enhancement of national honour' (Moon and Rosselli, ibid:502). In China, psychologists use the term 'supernormal' to describe the able (since 1978). It conflates two key concepts in gifted education in China: the statistical meaning of being 'relatively superior to most normal children' and the role of God-given talent. 'Gifted' in Chinese 'tian cai' means the God's bestowal upon man' (Shi and Zha, 2000:758).

In developing countries, policies have not been cultivated because of other pressing needs, but models now being adopted generally follow the US/Australian/New Zealand style. They reject European ideas, as these are rooted in a performance-based understanding of high ability and linked very closely to a traditional formal schooling system with a long history of perpetuating class divisions. Historical inequity, colonial rules, political struggles, civil unrest and lack of funding have dominated educational

development in Africa and Latin America over the last century and the notion of singling out a small group for special treatment is reminiscent of elitist practices of the past (Taylor and Kokot, 2000:803). There are also cultural understandings of the individual, family and society that affect the development of differentiated education (also in Maori culture, where social and leadership skills are more important than academic achievement). In Africa, for example, the concept of 'ujamaa' meaning family, or togetherness represents:

...a call for communal co-responsibility towards the upliftment of those in society who, in some or other respect, have remained behind.  
Op cit:801

Misconceptions about the able are rife in Central and South America, apart from Cuba, where differentiated curricula have been in place since 1991. For the most part, however:

...a strong prejudice is firmly rooted in popular and teachers' thinking that any differentiated practice with the gifted threaten equity and democratic principles of education.  
Soriano de Alencar et al, 2000:823

It is commonly considered that able pupils need no instruction as high ability will be clearly evident in every sphere. High ability is equated with high accomplishment and it is thought that social and emotional troubles are inevitable (op cit:823-4).

In every country, fairness is controversial. The examples demonstrate that the issue cannot be overstated and that cultural factors affect ideas of high ability. In sum (and rather baldly dichotomised):

On the one side, it seems, stand critics who equal talent-selection to creating a socially privileged societal stratum



potentially beyond democratic principles. On the other side, stand proponents arguing the democratic rights of children to develop to their full potential.

Persson et al, op cit:703

#### 4.1.1 The UK and other European countries

In the UK, policy is still in its infancy and current discussion is rather dominated by political correctness. The normative percentage-based definition of high ability seems inadequate and gifted education is inseparable from issues of selective schooling and exclusivity.

Recognising and nurturing high ability has, in a sense, been an integral part of English society for a long time. Interest in high ability, however, has been largely class-bound, and has become a part of the sometimes conflicting interests of the higher and lower strata of English society.

Ibid:723

As explained in Chapter 2, high ability is not recognised in special needs legislation and the most vociferous campaigners for education for gifted education have been parents' groups.

Like other European states (e.g. France and Germany), there is separate school provision for different pupils and geography makes all the difference to the kind of education a pupil is likely to receive. In the UK, there are even wholly different systems (comprehensive, selective, independent, public), with resulting inflexibility making it complex to pass between schools and systems in order to take advantage of the most appropriate provision (Rudnitski, 2000:728). Despite this range of provision, it is still a battle to create provision specifically for the able.

Due to the dominance of political egalitarian conviction, as in the Scandinavian countries and former Communist Europe, resistance to focus on gifted education as a separate issue

in the English school system – irrespective of the existence of traditional elite schools – has been formidable.

Op cit:723

Having set the scene, I shall now consider arguments against providing for the able, followed by arguments in favour.

#### 4.2.0 The usual suspects: common arguments against providing for the highly able. Argument 1: Provision for the highly able is elitist

As illustrated in the previous sections, elitism pervades discussions of high ability provision issues all around the world. In the UK, the government admits confusion over this issue, with New Labour blaming the ‘Old Left’ for the muddle:

We have always wanted to make opportunity open to all, to allow people to progress and improve themselves by merit and hard-work, and to tear down the barriers that prevented the disadvantaged from making a better life for themselves. But we made a mistake. In our determination to open up opportunity to the whole of society, we confused elitism with excellence. [...] We were embarrassed to celebrate excellence, for fear we would be taken for celebrating the elite. It went further. There were those who thought that the highest achievers could take care of themselves and our efforts should be put into those who were under-performing. We thought there was a trade-off between tackling underachievement and promoting excellence - we created our own set of illusionary taboos. It is time to break them.  
Morris, May 02<sup>iii</sup>

The government ‘Gifted and Talented’ strategy is part of the Excellence in Cities (EiC) initiative, where achievement (in city schools) has been celebrated. Four years into the scheme, underachieving pupils are being taken into account for the first time and so it seems the focus so far has been on high achievers; an elite group?



People are more aware of societal inequality now than ever before. The media bring images and words telling stories of how people in their own and other countries cope with difficult lives, and international travel has allowed people (at least from wealthy nations) the opportunities of seeing these struggles for themselves. People seem naturally averse to elitism, if it is synonymous with unfairness. Two different meanings of the term elitism are noted in in Winch and Gingell's philosophical dictionary (1999:76):

- 1) Some students will do consistently better [...] than other students. They will form an elite with regard to this subject matter.
- 2) A sense in which only a very narrow range of abilities are considered to be educationally worthy and are therefore specially catered for in our education system.

The first definition is about achieving highly and therefore becoming specialists, whereas the second description makes value judgements. This echoes negative and out-dated aspects of Galtonian and IQ theory (Chapter 3) which seeks to 'rank human intellectual attributes in an unreasonable manner' (op cit:77). Ordinary dictionary usage is represented by the following:

1. The belief that certain persons or members of certain classes or groups deserve favoured treatment by virtue of their perceived superiority, as in intellect, social status, or financial resources.
  - a. The sense of entitlement enjoyed by such a group or class.
  - b. Control, rule, or domination by such a group or class.
2. (adj) Selected as the best; 'an elect circle of artists'; 'elite colleges'  
(n) group or class of persons enjoying superior intellectual or social or economic status.

In everyday usage, elitism is loaded with baggage; people mostly imply the first of the above meanings when they use the word. 'Favoured treatment' should not result from any of the characteristics described and

people will quite rightly reject a system that allows this to happen. The second definition is a jumble. The adjective refers to people who actually are the best at something, whilst the noun is used for status that need not have been earned. The example of 'artists' is perhaps a difficult choice, as it represents a field that is not made up of a clear and objective set of skills, but is notoriously victim to fads and fashions. The ability of the artist as draughtsperson can be measured, although the extent of their influence on future generations cannot be instantly assessed. 'Elect' implies chosen and it would depend on the selection criteria as to whether that would form an acceptable or unacceptable group.

Rigorous training and examination are no less than we would expect for aspirant members of the Parachute Regiment or SAS for example. Most people want our best soldiers in the field, our greatest footballers in the World Cup and most accomplished musicians in our international orchestras. This kind of elite is acceptable.

Other forms of elitism are more confusing. A divine notion of elitism is difficult to refute, as it would entail proof, or not, of a divine being or beings. The selection of the Dalai Lama and the Pope rely on such guidance and royal families are also determined by an alleged divine right. An historic tradition has then built up over centuries, ingraining these ideas. Birthright elitism concerns parents giving advantage to their children and is acceptable to many people. Swift argues that in this case, even when the political ideal of equality is supported, the conflict with other values is too strong to abandon. Parents are passing on the benefits of hard-earned wealth, whilst simultaneously contributing to wider society through their taxes. It is an all-things-considered benefit for their children, although it is likely to bring with it some educational advantage. Being able to pass on wealth will probably reflect a life in which aspects of educational advantage can be bought through having time to support



children and the pursuit of extra-curricular activities. Swift notes that '...many people say they want "equality of opportunity" when what they really want [...] is actually just less inequality of opportunity' (2001:101).

Social elites are also complex. Families can acquire wealth but still be excluded from the goods to which they aspire. Entire comedy shows are built on the 'joke' of the unsuitable rich social climber, suffering while trapped in a lower social stratum than they believe they deserve. We laugh collectively at their delusion, knowing they will never be admitted to the elite club after which they hanker.

Forms of exclusion often considered synonymous with elitism concern class, race and gender issues interlaced with the idea of elitism as superior ability. Historically, women, ethnic minorities, homosexuals, people of certain religions and of lower socio-economic status have been variously excluded from a variety of activities and institutions. The excluding institutions have been dubbed elitist. Disallowing people on an irrelevant basis is abhorrent and intolerable. This, however, is different from disallowing someone through their lack of actual ability to benefit from a specific activity or membership, for example joining an advanced choir without being able to read music, or applying for the Magic Circle without being able to perform any tricks or illusions. This confusion is demonstrated in a recent article considering the nature of the Royal Society and its funding:

The Royal Society, by its very nature, is an elitist organisation. What else can a national academy of science be? Its whole *raison d'être* is to represent the best of science in this country. [...] The word elitist means different things to different people [...] elitism has (also) become an all-purpose boo word for condemning any kind of exclusivity, justifiable or not. One doesn't want to be elitist in the sense of saying 'we're only going to have white men' or 'we're only going to

have people who went to Oxford', [...] the society has an historic problem.'  
Watts, 2002:18

In education, increasing sensitivity has been shown towards elitism, to the point of 'positive discrimination'. What the government seems to suggest in their fight against old-school elitism is a meritocratic system in which the able are allowed to achieve highly, and nothing acts as a barrier to these accomplishments. They have expanded the number of university places and been met with criticism that they are 'dumbing down' education.<sup>iv</sup> Tony Blair, however, is determined to make changes.

'There are some traditionalists who believe that more means worse – that only a minority have the brains to go on to university [...] It is a cosy elitism that has bedevilled and weakened our education system for more than a century.'  
Blair, quoted by Goddard, 2002:3<sup>v</sup>

Recent initiatives have spawned a new type of complaint in this territory. The Faculty of History at Bristol University rejected students with top grades from independent schools in favour of students who constitute the next level down in terms of achievement coming from state schools.<sup>vi</sup> The Bristol faculty considered that these students would have worked much harder in order to achieve their grades and would therefore make more committed students. The university considers this a fair and meritocratic process, but some independent schools have complained about this tactic as being elitist and Bristol University has been boycotted by some head teachers and careers staff.<sup>vii</sup> (It seems ironic to be advocating for the able privileged as a group suffering from discrimination.)

There is no reason why providing for the able should be elitist in the negative sense of the word, if suitable criteria are applied. There is little point designing activities of no value to potential participants. Restricting them to people who have the requisite skills, experience or interest is



acceptable. It would be less contentious to describe this tactic as 'appropriate provision', rather than 'elitist provision'.

#### 4.2.1      Argument 2: Provision for the highly able will increase the gap between rich and poor

Schools are unable to control the inequity of the society in which they function. If meeting the needs of the children in their care could increase the gap between the richest and poorest in society, it is not necessarily their concern. Schools strive to do the best for their pupils and people obviously expect schools to aim to compensate for deficiencies and disadvantage wherever possible. It would seem counter-intuitive to ask schools to hold children back, however, and so until broader society is more equitable, schools are likely to contribute unwillingly to social division. What schools tend to do within their own communities, is assign provision on merit.

Meritocracy cannot be dichotomised with elitism as the former is a political system and the latter is not. Meritocracy can be defined as the principle that:

...each person's chance to acquire positions of advantage and the rewards that go with them will depend entirely on his or her talent and effort. In such a society inequalities in different people's life chances will remain, but social institutions will be designed to ensure that favoured positions are assigned on the basis of individual merit (talent times effort) and not allocated randomly, or by ascriptive characteristics such as race or gender, or by the machinations of the already powerful.  
Miller p177, cited in Brighouse, 2002

Miller's notion of 'talent times effort' relies on the concept of desert, which is contentious among political philosophers. John Rawls, for example, considers that people cannot be held accountable for their degree of talent

and that ‘...luck plays too great a role in determining how much people can sell their productive activity for’ (Swift, 2001:40). In the same vein, Harry Brighouse argues against this notion as a suitable principle on which to base the distribution of educational resources. He considers the notion of desert inappropriate, stating that:

...natural ability, like social class background is something we cannot reasonably be held responsible for, [...this] suggests a strongly compensatory principle, that significantly more educational resources should be spent on the less able than the more able.  
2002:40, point 5

Interestingly, Swift observes that popular opinion endorses the concept of desert whereby people are entitled to earn more than one another even when this is for reasons beyond their control, which is obviously out of tune with the Rawlsian view already presented. It is also disputed by Robert Nozick, who is sympathetic to difference and to some aspects of public opinion as noted here, but not to distribution by desert.

...they agree with one another that achieving social justice is not about making sure that people get the value of their productive activity on the grounds that they deserve it.  
(Rawls because of the ‘moral arbitrariness’ objection, Nozick because distributing according to desert is a patterned principle.)  
Swift, op cit:40<sup>viii</sup>

Swift contrasts three different view of desert: the ‘conventional’; ‘extreme’; and ‘mixed’ views. The ‘conventional’ view is that noted in the previous paragraph, allowing for inequality in earnings and supported by popular understanding. The ‘extreme’ view disallows reward for effort as well as talent because it is considered that how hard someone works is out of their control. It is irrelevant whether a strong work ethic is in-born or instilled at an early age, but it should not be an incentive for higher pay.



The 'mixed' view allows for rewarding aspects that people can control and choices they have made. Rawls rejects the mixed view as it is impossible to discern which aspects of someone's performance can be derived from their own efforts.

Teachers tend to hold the mixed view. This can result in children being prevented from participating in enrichment programmes perceived as fun rewards. Children are expected to demonstrate both parts of the merit equation (talent and effort) and are disqualified if they are considered lazy, sometimes even when there are extenuating reasons for underachievement, such as learning problems. The western attitude is that a work ethic is well within an individual's control and any given talent should be properly utilised. This notion contrasts with Asian and Pacific Rim cultures in which talent is viewed exclusively as the reward of effort. University places and other such educational privileges are distributed entirely on the basis of a concept of talent as success earned through endeavour.

Using desert as a basis for provision for the able at first sight seems reasonable; reward for hard work, not unfair advantage. However, if hard work is as much a result of background influence as other aspects of talent, pupils who are able but have not been encouraged are likely to be excluded from such schemes. High achievers are favoured again and some pupils with potential to benefit from unusual activities can be passed over in favour of those who are less able but more conforming. (I have heard talk of the 'able worthies' and the 'able unworthies' in staff meetings for allocating provision.)

Some children have less talent and work hard and others can achieve the same results with abundant talent and less work. If merit is to be used as a basis for reward, there must be a way of ensuring that every child has a

fair opportunity to demonstrate both effort and ability. Underachievers can fail to apply themselves for a range of reasons, or can present a false image of exertion. This makes it difficult to assess ability accurately or to know how much effort they are making and consequently what they merit. Astute underachievers can convince teachers and parents that they do not need the extra work bound to follow from a true assessment of their ability (in Appendix I i, see Louis, an expert in this regard). Some who do not exert effort as they see little purpose in a set task, and some (such as Billie, Appendix I ii) who are so lacking in confidence that they cannot engage with the task at all. It seems that merit is a problematic basis for distributing resources. (A different way of considering merit and Miller's concept of meritocracy would be from the perspective of enhancing efficiency rather than desert and this is taken up in section 4.3.2.)

I do not think issues concerning the gap between rich and poor should be the overriding concern of the school and should certainly not preclude provision for the able.

#### 4.2.2           Argument 3: Highly able children do not need special provision as their ability and background will assure their success

This common claim is grounded on two false assumptions, as clearly demonstrated with the evidence presented in Part One. It is not true that high ability equals success, evidenced by the underachieving able. Neither is it true that all able children come from privileged backgrounds. It is a fact though, that children from privileged homes do indeed demonstrate advanced knowledge of academic conventions and have familiarity with the atmosphere and attitudes of school, unfairly allowing for success in selection tests. Some will have been prepared for the examinations, conducted invariably in their first language and in a recognisable format. This suggests it would be fair to change entry to the programme rather than disallow the disadvantaged able pupil from partaking in provision.<sup>ix</sup>



To help refute the argument that the able need no support, it is useful to summarise potential variations amongst pupils, despite this analysis being rather simplistic:

- |                                      |                          |
|--------------------------------------|--------------------------|
| 1. average or low level of aptitudes | unfavourable environment |
| 2. average or low level of aptitudes | favourable environment   |
| 3. high level of aptitudes           | favourable environment   |
| 4. high level of aptitudes           | unfavourable environment |

Children in the first category have some programmes to help them and no teachers would wish to deny them this help and support. Similarly the second group have a certain advantage from their background. It is often assumed that all able children fit the third group, but this is not the case, as shown by the fourth group. Pupils in this last group are likely to exhibit unconventional behaviour or disaffection as their home background is more likely to be in conflict with the values of the school and because of their high ability they may be acutely aware of this fact. Of course pupils from a favourable environment can also fall victim to disaffection, but this is less likely.

Children invited to attend in-school enrichment sessions are usually those who accede to school requirements, 'teacher pleasers' who work hard and are not disruptive. However, it is often the case that they do not need enrichment programmes in order to profit from schooling as they are probably in a social situation with a share in the goods that come from successful education and family advantage. Of course they should be allowed to participate in enrichment activities and not be bored at school. There are limited places on enrichment schemes and conventional pupils are normally rewarded with such opportunities in recognition of their hard work. Pupils who are also able, but do not meet teacher expectations, are often more likely to benefit from these programmes, but are less likely to

be selected. Enrichment could provide the chance to explore unusual ideas unlocking motivation, or just the freedom to explore their own strengths in a non-judgemental environment, free from the pressures of peers who think their abilities are 'uncool'.

The underlying understanding of high ability and a sense of fair distribution of resources are the factors that lead teachers to make decisions about who should and should not attend sessions. It is not necessarily an unprofessional lack of rigour leading to misdiagnosis of high ability. It could be a particular sense of merit that ends up perpetuating divisions between likely and unlikely achievers. Teachers' concern is often for rewarding conventional behaviour and task completion rather than encouraging less obviously talented pupils.<sup>x</sup>

George (1992) has created a provoking list of characteristics of the bright and gifted child in school. He includes the following items which show how the bright child fits the conventional role of school pupil with less disruption than the gifted child:

Bright child

Is interested  
Answers the questions  
Knows the answers  
Top set  
Grasps the meaning  
Is alert  
Completes the work  
Has good ideas  
Enjoys school  
Good memory  
Is pleased with learning  
Is receptive  
Learns easily  
Enjoys straightforward sequential presentation  
Enjoys peers  
Absorbs information

Gifted child

Is highly curious  
Discusses in detail  
Asks the questions  
Beyond the group  
Draws inferences  
Is keenly observant  
Initiates projects  
Has unusual and silly ideas!  
Enjoys learning  
Good guesser  
Is highly critical  
Is intense  
Already knows  
  
Thrives on complexity  
Prefers adults or older pupils  
Manipulates information



This list is not exhaustive or definitive but does highlight some differences between children that teachers tend to recommend for provision ('bright children') and those referred to the Senco for some kind of investigation ('gifted children'). My concern is for the underachiever who often fits the non-conventional high ability profile.

Preceding chapters have presented research to demonstrate that highly able pupils are a heterogeneous group of people needing provision and attention to ensure their abilities are translated into success.

#### 4.2.3            Argument 4: Provision for the highly able offends against equality

Most teachers would subscribe to an ideal of equality and it seems that since able children already have an advantage through their aptitudes, it would increase inequality to provide anything extra for them. On the face of it, providing for the less able seems to be a reasonable way to move towards equality. It sounds like a sensible and fair ideal, but scratch the surface and complexities are revealed. In fact, there is no reason why everything should be equalised. It may well be that the distribution of resources and provision for pupils is unequal as this ultimately allows for greater fairness. I am specifically concerned with school policy here (as distinct from social policy) and as such consider it acceptable to pursue a non-egalitarian distribution of goods in order to achieve fairness. I do not consider that it is the role of schooling to level the playing field.

It is perfectly coherent to reject equality at the philosophical level, as a fundamental ideal, while arguing that, for other reasons, resources should be more equally distributed – perhaps *much* more equally distributed – than they are at present.

Swift, 2001:92

In my experience, however, many teachers strive to be egalitarian, equating the term with fairness. Neither egalitarianism nor inegalitarianism are precise terms (Winch, 1996:128) and whilst initially it seems obvious to side with equality, on closer inspection, value emerges in an anti-egalitarian stance, a 'middle position, based on a genuine commitment to meeting everyone's educational needs' (White, 1994:180).

Winch notes that the principle of equality of treatment:

...requires that goods and outcomes be allocated equally to all, regardless of factors of entitlement, need or desert.  
1996:115

Few teachers would ignore entitlement, need and desert when deciding how to allocate resources. As Swift summarises:

What matters is not that people have equal shares of good things. Nor is it even that people have equal opportunity (or access to) good things. What matters, if we think about it, is that everybody has enough, or that those who have least have as much as possible, or that people who most need things take priority.  
2001:92<sup>xi</sup>

White rejects both egalitarianism and equality, emphasising that this does not imply acceptance of right-wing views of education. Meeting needs should be separated from valuing equality, and equal access to leading a flourishing life need not mean equal distribution of goods (p174). White cites Raz, emphasising that the real concern is not for equality, but for the suffering or need of the individual in question. We may redistribute goods, but this will be for reasons of relieving hardship, not for creating equality (p175). According to White, this supports the notion that '...one has good reason to attend more to the needs of those more lacking' (p180), which would seem to rule out most, but not all, able pupils. If it were feasible to



clearly delineate ability and achievement, pupils with a considerable performance–potential gap could be viewed as lacking.

Rawls' principles underlie ideas in this discussion, in particular the fair equality of opportunity principle, which on the surface seems to be a meritocratic principle, insulating educational opportunities from class difference. It allows more resources for the able, until the difference principle is carefully considered. This principle operates as long as social class has no influence over social equality, but given the state of our unequal society, and the minority of high ability people, the greatest benefit to the least advantaged is unlikely to be served by the distribution of more to the able.

General equality arguments do not seem to hold much promise for the able child thus far. Perhaps it will be helpful to clarify exactly what is meant by equality. The literature tends to focus on three areas: equality of resources; equality of opportunity; and equality of outcome.

Concerning the distribution of resources, Brighouse argues with John Wilson, suggesting it would be fair to spend the same amount of money on each student's education (p418). He rejects the way in which Wilson problematises this notion. However, it is unclear how equality of resources could be made to work and even, in fact, whether or not it would be desirable. Some training and learning is just more costly than others and it would be both unnecessary and prohibitive to allow for fund-matching for all potential students. In their papers, Wilson is referring to university education and Brighouse to earlier years, but neither is crystal clear about boundaries for provision, a point that would be important in trying to create a funding formula or policy. In a footnote, Brighouse acknowledges this difficulty, recognising that there is a difference with Higher Education as it is applicable to adults, who should be freer to make their own choices.

While this is relevant, it is also worth noting that access to Higher Education is often decided much earlier, with some groups of (less privileged) people ruled out and others all but guaranteed participation. This factor, surely, is part of the equation.

Brighouse quite rightly criticises Wilson's woolly notion of resources being awarded to those who can 'profit from them most'. What is meant by 'profit most' in this case? If interpreted as getting the highest grades, it could apparently be advantageous to able achievers. If the profit is calculated as value added, disadvantaged or weak students should be key beneficiaries but if profit is measured by enjoyment, children with an enthusiastic disposition would be rewarded by resources, and so on. What would happen if the investment failed to reap benefits? Resources should be distributed according to need, favouring underachieving able children over high achievers in order to increase the likelihood of their success.

Swift identifies three understandings of equality of opportunity: 'minimal'; 'conventional'; and 'radical' (p91). The 'minimal' view considers people's gender, religion or race, etc, must not prevent them from opportunities in areas such as education and employment. The 'conventional' view goes further, suggesting that not only should people's competences be considered above their race, etc, but that they should have had an equal chance to acquire the competences in the first place. (This echoes the meritocratic principle of rewards for talent times effort, with the added dimension of aiming to assure a level playing field as a backdrop.) As already noted, many people like this idea but balk at some of the measures that would have to be taken to ensure its realisation, for instance restricting or demanding certain practices in the home, such as supporting children with homework. Without equalising parental support, 'conventional' equality of opportunity cannot be assured.



The third conception of equality of opportunity is labelled 'radical' and 'requires that untalented children – whether rich or poor – should have the same opportunities as talented children' (p102), which again would oblige the state to revise some deep-seated structures and values, such as the meritocratic aims it seems to hold.

It is difficult to say exactly what is meant by equality of opportunity, as it is not even clear what opportunities are in question. By lowering the bar, we could be sure that all pupils have the opportunity to achieve the basic minimum. This implies that where possibilities exist for only some pupils to train for district level sports, or learn the piano, it would be better for all to be denied the chance in the name of equality. This seems counter-intuitive and ultimately unfair and I agree with Brighouse when he suggests that equality of opportunity is only a desirable ideal if qualified by other principles to stop it undermining more important values.

Equality of outcome is also a complex concept, open to a range of interpretations.

Equality of outcome is a principle of equality that asserts that the endpoint of a process ought to be the same for everyone who goes through it.  
Winch, 1996:115

It is difficult to define the 'endpoint' and the 'process' in education and so this view can be interpreted along a spectrum from a weak to a strong conception. A weak notion would require something like the National Curriculum which is a fairly rich minimum of educational experience, covering a reasonable range of subjects and considering that children should emerge from school with roughly the same set of life skills. Even with this conception, highly able children without problems are likely to complete their requirements earlier than their peers, but are still expected

to stay in school. With equality of outcome they would be unable to undertake additional work and so would be wasting time. However, if the standards were raised to meet their abilities, many other children would be unable ever to reach the same high levels and the cost of trying to do so would probably be prohibitive.

A much stronger interpretation would require specificity about the school experience, or process, implying less diversity in schooling. In order to allow everyone to achieve the same endpoint, teaching would have to be in far smaller groups, or minimum levels would need to be set at a fairly low level. (We can see the effect of these ideas by looking at the issues raised by various Swedish and Australian programmes of education, in section 4.1.0.)

#### 4.2.4 Summary of arguments against providing for the highly able

To illustrate the points raised in terms of arguments against provision, let us take the example of two pupils, Oscar and Ella. One will symbolise the reasons people intuitively reject high ability programming as perpetuating division and offending against equality, and the other will exemplify the path too often taken by able pupils where provision is inadequate.

Typically middle class, Ella begins state school with an advantage over many of her peers due to her private nursery. Her well-educated parents value schooling and provide an enriched home life with museum visits, educational computer games, books and general knowledge. When tested for the gifted programme Ella is nervous and mindful of her performance. Ella, of course, shares her parents' values and once successfully installed in the enrichment programme she continues to make full use of her well-ingrained work ethic, achieving reasonable grades. Her friendship group is drawn from the highly able peers in her class and their shared interests and study approaches are echoed through the high expectations of



teachers and pupils. Barring disasters in her personal life, Ella's academic success is pretty much assured.

Oscar is able and interested, but his parents are unable to secure him a nursery place. He is happy and safe with his child-minder, but seems to prefer the company of adults and older children to those of his own age. When Oscar begins school, he is all at sea. Despite the activity and freedom, he fails to bond with the other pupils, spending much of the day enjoying the book corner, the quietest part of the open plan room. He completes activities quickly, but the short-cuts he creates to finish tasks earn him a reputation for carelessness. Oscar applies his same rushed attitude to the test for the gifted programme, answering the oral questions impatiently and emerging as a borderline candidate. His teachers consider he would benefit from staying in normal class to improve his 'slapdash' attitude and allow a 'more deserving hard worker' to be awarded the place.

Oscar becomes increasingly bored with school, retreating further into a world of his own and paying less and less heed to his parents' pleas to take classwork more seriously. He bides his time, kicks his heels, keeps out of trouble and leaves school as soon as he can, with an undistinguished clutch of qualifications and a sense of disappointment.

Equality of provision should bring Oscar's opportunities up to those of Ella's but should not deny Ella the chance to participate in activities that bring her challenge. It would be unethical to hamper Ella by using her background as a reason to disallow her enrichment. She works hard and, as such, merits the opportunity to benefit from the enrichment programme. Oscar deserves to have a valuable time in school. He should not be bored, but challenged. Denial of provision based on a notion of his lack of desert is unfair, largely because his behaviour is being misinterpreted. He

is indeed 'lazy' and 'slapdash' and these are not qualities to be praised. He has, however, been unable to develop the disposition for a positive work ethic through a combination of factors beyond his control. Why then should he be penalised?

I shall now consider the five most common arguments in favour of provision for the highly able.

#### 4.3.0 The usual suspects: common arguments in favour of providing for the able. Argument 1: Academic excellence is intrinsically valuable

Mostly we consider academic success as directly linked to job market options and as assuring financial success and stability. Able pupils without specific problems will be likely to reap the rewards of their high ability if they expend some effort and receive reasonable schooling. This can result in excellence, often translated into higher education and a graduate salary, or other similar, lucrative opportunities.

Some consider, however, that the subjects generally central to traditional curricula are good in themselves and that excellence in these disciplines is its own reward, separate from the instrumental benefits just outlined. This view is presented by David Cooper who talks of:

...a fundamental human concern in myriad areas of human practice – the concern with the attainment, in whatever field, of excellence; the concern that some should scale the heights.  
1980:54

This sets some people above others, potentially breeding resentment and leading to the view that programmes to help those of high ability are trying to provide a foot up into a different class stratum, simultaneously



suggesting that unselected pupils are somehow less valuable and merit being 'left behind'.

Patricia and John White effectively critique Cooper's ideas, demonstrating both the elitist nature of his argument and also that he fails to 'show why excellence in the possession or pursuit of knowledge for its own sake should be a central educational aim'. They wonder if the excellence ideal would enjoy the same popularity if it resulted in a disadvantage in the job market, suggesting that it really is valued as a means to an end and not as an end in itself. They also note that pushing children in one direction towards excellence can jeopardise well-being:

...Cooper has to show why their good is to have a lower priority than his excellence ideal: why, that is, their own good has to be sacrificed to knowledge (etc) for its sake.  
1980:241

Cooper's views focus on high ability children already demonstrating a certain level of achievement. Those with difficulties may be more expensive to teach, as well as subject to more risk factors, making them less likely to receive support than higher profile achieving pupils.

So, to refute this argument, I consider that encouraging the promotion of excellence for its own sake is too closely linked with elitist notions to be acceptable for general educational provision. There is no good reason why this should take precedence over more widely distributed reasonable achievement or over personal choice and well being.

#### 4.3.1           Argument 2: Economic and social benefits accrue from focusing on the highly able, ensuring they achieve

There are two connected but slightly different aspects to this argument because economic and social benefits are both linked together and also

discrete. Encouraging excellence and high achievement will be likely to help the country's economy, through taxes and the development of more productive and efficient business practices. This will be to everyone's benefit, as increased goods and wealth are redistributed to the rest of the population. Of course, this advantage is built on two questionable assumptions: fair distribution and able people achieving success. Firstly, higher productivity will not guarantee that others will benefit, until the redistribution of these goods is effectively managed. The second assumption that the highly able will indeed turn their talents to economically productive uses is also uncertain. Neither of these are aspects under the jurisdiction of education per se, although schools do have a responsibility to deal with moral education for their pupils. Hopefully this will have a positive effect on the way that pupils choose to develop and use their abilities.

As noted in 4.2.0, there is another way of considering meritocracy that links to the argument presented here and shows how there could be more goods for distribution.

...the efficiency-enhancing character of meritocracy makes it desirable – if people are allocated to positions (and the rewards that attach to them) according to merit (effort x talent) there will be more surplus, or social product, for us to redistribute. So instead of having a desert-based case for meritocracy [...] we have an efficiency-based case.  
Brighouse, 2002:point 6

Although this may be clearer than the complex desert notions, its success still rests on the two assumptions of efficient distribution and the able making the best use of their abilities.

Socially useful work and valued abilities are generally encouraged by teachers, and an ethos that celebrates its pupils is obviously



recommended. Here, we are to consider what abilities should be nurtured in terms of society's needs, placing these above the needs of the individual. In this argument, where there is conflict, the multi-talented pupil should be directed towards a socially useful role, even if this is their second or third choice.

This could be accomplished in part by linking funding for expensive higher education to a certain amount of state service. Presently, many students sign up for costly courses and yet fail to translate training into practice. Without schemes that trace the state's investment in education to the productivity of the individual it is difficult to guarantee value for money and a direct financial return on specific and targeted provision. Schemes that aim to do this are probably unworkable with so many non-vocational subjects studied and too many variables to make direct links.

Some pursuits are less obviously linked to the economy or mainstream workplace, connected instead to perhaps a more contentious notion of what is useful for a society. An example of this would be the cultural benefits of education, funding for artists and musicians, even where there is not controversy about the nature of what constitutes 'good' art or music. Throughout history, key contributors to a nation's cultural development have fought for appreciation, unrecognised by their contemporaries, often struggling for survival. Their cultural and financial contribution may not have been immediately apparent, but this more intangible contribution is just as valuable as those in other more obvious fields of endeavour.

It is also difficult to separate the advantage to society from the advantage to the individual. If someone is supported in doing what they feel to be a worthwhile activity, this will impact on their own sense of well-being. Taken further, there is a notion of protecting society that can be called into play here. Unhappy able individuals could efficiently turn their abilities to

activities that may not benefit society, or that could even be harmful. Empirical evidence has shown that while this is an unusual state for the able, there is some susceptibility to mental health problems among the extremely highly able and also that disaffection in school can result in unlawful conduct. Provision for the able could therefore be considered as necessary protection from future problems.

Since economic and social benefits cannot be guaranteed, I consider therefore that it is too tenuous a link to make such potential benefits sole reasons for providing for the able.

#### 4.3.2           Argument 3: Special provision for the highly able is valuable because it can lead to a rise in general standards for all

There is some empirical evidence to support the contention that highly able pupils have a positive effect on their peers both by acting as role models and by supporting a strong work ethic in the classroom (Hallam and Ireson, 2001; Renzulli, 2000; Freeman, 1998). This is countered, however, by suggestions that the able pupils benefit their less able classmates only when they are allowed the opportunity to be stretched through some tasks undertaken with peers of the same ability, even if this needs to be provided outside the classroom. Appropriate provision should help the able pupil to succeed and this raises the profile of the school generally, in these times of league tables and selective entry.

From the point of view of protecting the interests of schools and their pupils, ensuring that children are allowed to excel and work to their high levels can help to prevent behaviour problems and disaffection that can result from boredom. Pupils are also encouraged to remain in the maintained sector rather than leave to take up bursaries in independent schools. This makes for a wider mix of pupils in schools.



Whether or not gifted provision can lead to a general rise in standards is an empirical question that should feature centrally in debates about the government strategy. It seems that specialist schools are currently favoured, but international research does not bear this recommendation out.

#### 4.3.3          Argument 4: All pupils are entitled to an education that takes them beyond the bare minimum

If we consider the purpose of schooling to be about inculcating literacy and numeracy, guaranteeing that all pupils emerge from schooling as both literate and numerate would be sufficient to ensure that schools will have done their job and met their objectives. This would allow for acceptance of arguments about a minimal level of schooling such as James Tooley's notion that the state should only fund a 'minimum adequate education'. Further educative experiences would be privately funded and in all likelihood able pupils whose families could not pay would be eligible for some kind of sponsorship, something akin to the now defunct Assisted Places Scheme. In order to run cost effective schools, it would be sensible to get as many pupils to the required minimal levels as quickly as possible. Education Authorities would then have met targets and could slim down any other provision, or at least make a profit on further study. Perhaps our most able pupils would leave as soon as they had met their targets.

White, among others, considers that numeracy and literacy are inadequate as exclusive goals for education, as there are many more valuable objectives for children to meet. Within his broader conception of education there also lies an emphasis on the role of autonomy, which develops as pupils are allowed to express themselves effectively. This can only be accomplished in the kind of environment that treats individuals with respect and understanding, and this must imply appropriate provision

for the able as part of the student body. (These ideas echo equality arguments in section 4.2.3.)

Tooley's view of education is impoverished. As well as the implied narrowness of an adequate minimum curriculum, there are obvious problems with perpetuation of the class system as families pick up provision where school leaves off. The inequalities that would result are criticised by Brighouse, who finds that resulting 'incentive-based inequalities' may be appropriate for adults but that 'these do not apply to the distribution of education among children' (2000:149). It is also very difficult to identify the elements that would constitute an appropriate adequate minimum. Will this include social development through group activities, the development of dispositions and good work habits, and inspiration and enthusiasm for learning? This is also questioned in the Whites' paper (op cit:243) in terms of how this would connect to notions of excellence.

To refute this argument, I consider that providing a bare minimum will lead to potentially damaging inequality and would present an impoverished model of education. Able pupils are unlikely to be intellectually challenged by such a curriculum, especially where there are few extension tasks or very narrow teaching objectives. Teachers can also feel limited by a basic, restrictive curriculum.

#### 4.3.4          Argument 5: All pupils are entitled to an education based on their needs

All pupils have the same entitlements and these include basic numeracy and literacy, a fair chance in the job market, to be treated with respect, to have support for problems, to develop socially, personally and intellectually and to be challenged, stimulated and engaged. There is also



a moral entitlement to ensure that any group is not unfairly disadvantaged by the distribution of goods.

A needs-based argument would seem counterproductive when trying to advocate for the able pupil as they do not seem likely candidates for provision outside of the curriculum. As mentioned, there are able pupils with additional SEN, but this aspect of need is met (to a greater or lesser extent) by the school's legal obligation to provide support. High ability is not generally considered as a SEN and the statementing process and the development of Individual Education Plans in such cases is usually left up to schools and LEAs to use or ignore, with only rough guidelines from government.

If it could be shown that a pupil's development would be badly affected by being held back in class, there could be a case for extra provision, meeting the emotional needs of a potentially disaffected pupil. This is usually only recognised when a child has begun to exhibit anti-social behaviour, the response to which is more likely to be punishment than a programme for high ability.

Needs are difficult to define in education, but I have distinguished between instrumental and non-instrumental aspects of schooling in this chapter to try and make this easier. Instrumental or positional aspects of education tend to dominate discussions about what should and should not be provided. Brighouse, for example, focuses mainly on the positional aspects of education and, I think, does not place enough emphasis on other aspects (2000:115). Certainly the positional goods (that help compete for other goods) are likely to be greater for the high achieving able person. It is possible, however, that they are relatively unchallenged throughout their schooldays, not really benefiting from the intrinsic value that schooling can bring. Able underachievers fare less well, losing out on

both fronts, being both bored in school, and mediocre (or failures) in the examination system.

All pupils are entitled to spend their compulsory schooling engaged in worthwhile, positive and inspiring pursuits. They need to engage with their learning and with the school they attend, to develop positive social relationships and to acquire a healthy self-image. Ensuring this would certainly involve changes to the schooling system, effectively differentiating curriculum and activities, providing additional and alternative classes, vertical grouping, individual work plans, teacher training, learning support and enrichment programmes.

It seems a reasonable view, as there is nothing in what I am defending that implies that the highly able deserve or get additional benefits. Efficiency related reasons may suggest this. I am remaining agnostic. But either way, there is a difficulty in the connectedness of non-competitive and competitive goods in education. I do not want to allow access to additional benefits that are bound to accrue as the able improve exam scores as a result of a more stimulating and exciting educational experience. The able already benefit from the value society places on their talent. I would wish for a fairer society, obviously, but I do not want this to sanction the experience of a soul destroying and enthusiasm numbing time in school. Provision for these children could be considered a way of equalising experience of personal challenge, allowing for flourishing through an enabling education.

Pupils are entitled to needs-based provision and should derive both instrumental and non-instrumental benefits from their education. For the able pupil, this may mean activities that go beyond the National Curriculum to ensure intellectual engagement and social situations that allow for the honest expression of the self. Pupils need a school ethos that



encourages the bright pupil to shine rather than an ethos that forces them to hide their talents deliberately.

#### 4.3.5 Summary of chapter so far

I have explored some of the arguments for and against provision for the able. The 'intrinsic value of excellence' notion is too elitist, and there are only tenuous conclusions to be drawn from the contention that activities for the highly able will result in benefits for society through more and better economic and social goods. The effect of the able on other pupils is an empirical issue, requiring further investigation. The argument that all children need an education beyond the bare minimum is relevant, of course, to all pupils, not just the able, but it is unclear what should be put in and left out of this basic education, making it difficult to decide what counts as extra and what should be mandatory.

I have argued that the quality of schooling or learning experience can be enhanced by narrowing the gap between potential and achievement through appropriate provision for the able. Lessening this gap is an aim of most schools, boldly asserted in mission statements. As well as meeting requirements for personal flourishing, in the long term, self-esteem built up during formative school years has an influence on how pupils perform as adults. Schools can open or close both personal and social doors and an encouraging, facilitating ethos can propel pupils to success.

I have considered both instrumental and non-instrumental aspects of education, in terms of lifetime expected income and lifetime expected flourishing. That the instrumental benefits of schooling and education can be harnessed to help in the struggle to iron out social inequity seems to be a view held by Brighouse and as such schooling is predominantly viewed in instrumental terms. These goods are competitive 'in that whether they yield material advantages depends on whether they give you an edge in

the competition for high-income occupations' (2000:121-2). He does not however, seem to account for potential underachievers (p140).

A more broadly conceived model of education takes into account the experience of schooling and means more than leaving with a good clutch of examination results. Educational experience should involve positive social interaction, learning about one's strengths and weaknesses, and feeling part of a community, among other personal and social qualities. Success, in terms of school values, is implied, but not demanded; more important is a sense of useful activity and positive attitudes to learning. Personal flourishing and fulfilment through learning are individual matters and individuals are encouraged to do their best, mainly for themselves, but with the understanding that flourishing people are more likely to make a positive contribution to the system in which they find themselves. Concern about the experience of education shows a commitment to meeting children's educational needs.

The quality of schooling or learning experience is linked to the potential-achievement gap in a way that is particularly pertinent for the highly able. In this model, pupils are not measured by their success, but by the relationship of this success to their potential achievement. There are difficulties associated with measuring potential, but it is sometimes clear that students are failing to be appropriately challenged by their schoolwork. It may be that Astrid is achieving higher grades than Carlos and the obvious response is to try and help raise Carlos' results. However, if Astrid is working well below her potential level of success, she may be bored and develop the associated problems of disaffection and frustration. In terms of flourishing, and closing the potential-achievement gap, resources and/or effort should also be directed towards helping Astrid to improve her performance. Of course, no one would want to take away from Carlos to ensure Astrid's flourishing, but the resource pot is unlikely



to be big enough to cope with both children's needs. Decisions need to be made about how best to apportion resources, especially when Carlos may never reach Astrid's level in terms of grades. It is perhaps possible that he is able to flourish fully at his current level of achievement.

All children should be provided with an enabling education with sufficient resources to allow the development of their talents to a high level, particularly when there is a significant discrepancy between their potential and their performance. This is true even where potential achievement exceeds expected requirements. I think a clearer way of considering what it is fair to do for the able is to aim for some kind of equality of quality of learning, or equality of challenge.

#### 4.4 Equality of challenge

Providing equality of challenge, or equality of quality of learning, should be a key factor in schooling and able pupils are likely to need provision beyond the National Curriculum to ensure such stimulation. While there is a statutory requirement to attend school, there is a moral obligation for schools to ensure that pupils are not wasting their time. Pupils need to be engaged in their learning and this can truly only happen when tasks are challenging. Even the most determined of us can only sustain a certain amount of motivation for simple tasks that lack any intrinsic value.

Deciding on a universally applicable definition of challenge is probably an impossible challenge in itself, but pitching activities and tasks at an appropriate level should be done for all pupils. Having fun all day every day and expecting school to be entertaining is not the proposal, but ensuring a better match between task and ability may well require increased resources, training and facilities. Pupils must move at their own intellectual pace, or as near to this as is practically possible, regardless of whether that pace is 'normal' for their age.

Of course it is the case that some people seem to have the potential to display excellence in a broad range of pursuits and it would seem unfair to provide for their development in all these fields, especially where those who have a narrower range of abilities are not provided with whatever tools for success they may need. It is not the case that a choice must be made between 'all for one' and 'none for some', but it should be ensured that pupils are being stimulated and challenged.

Brighouse states that there is no way of ensuring equality of experience as a principle for establishing education policy. We can only consider equality of opportunity, or even a minimising of inequality of educational opportunity (op cit:149). I would suggest, though, that pupils *are* entitled to some kind of equality in their school experience; entitled to more than the minimising of inequality of educational opportunity. This can be ensured (at least we can try to ensure this) through careful consideration of the quality of teaching they receive and the level of challenge with which they are presented.

#### 4.5 The nature and importance of challenge

As noted, it is impossible to create a single prescription for challenge for all. Challenge is intimately bound up with motivation and this can be intrinsic or extrinsic. Superficial external rewards will not ensure continued interest in an area of study. Children need to derive genuine intrinsic motivation from the task in hand and this cannot always be ensured merely through the subject areas found in school curricula. Workshop sessions for the highly able tend to cover an enormous range of disparate issues, hoping to catch as many interests as possible. Open-minded children generally come away from sessions with a broader range of interests, having found that there are so many fascinating things to learn



and find out about. (See Appendix IV for some examples of workshops for children aged from five to eighteen years.)

Once it is clear that the subject in question is stimulating to the child, or potentially of interest, it is important to ensure the right balance in the set tasks. The level of difficulty should avoid frustration or boredom. When a task is too easy, children become bored, sometimes even refusing to undertake what they perceive as pointless. If a task is too complex, without obvious entry points, it is too frustrating even to begin. Children need to feel some level of competence in order to motivate them 'to exercise and elaborate their abilities' (Freeman, 2000:577).

Cognitive challenge was well described by Vygotsky, in terms of the Zone of Proximal Development, where challenge is defined by what can currently be achieved with support, moving toward what can be accomplished without help. The support recommended by Vygotsky was that of an adult or more capable peer, but support can be provided through written or recorded instruction. Many able pupils find computer technology ideal in terms of being able to control the amount of support they require. Piaget and other developmentalists use the term 'cognitive dissonance' to describe the sense of sufficient challenge to ensure optimum learning.

Challenge must include a risk of failure. Generally children choose tasks just a little harder than previous successes, as the impulse to improve is intuitive where children have a good sense of their abilities. Watching children in an adventure playground demonstrates this. Children are rarely injured through attempting a task way beyond their capabilities. Injuries are usually caused by mundane errors. When striving to learn something new, children do not merely repeat the same task endlessly, at the same level, but only until they feel confident enough to move to the next stage.

Often, teachers know very well how to provide challenge through designing tasks that capture children's imagination. The palpable buzz that results from a busy class of children engaged in sustained concentration and interested enquiry is instantly recognisable. Teachers cannot always provide this level of engagement for a variety of reasons. Sometimes it is too time-consuming to plan activities, or too complex to provide appropriate resources, but often there are just too many competing issues in the classroom to allow for the kind of atmosphere that promotes excited learning.

The dangers of too much time without challenge are noted by Montgomery:

...boredom and lack of cognitive challenge in the daily curriculum is playing a more significant role in causing pupils across the ability range to become disaffected than was originally suspected.[...] more pupils, including the highly able and the more creative, are rejecting such 'schooling' and are switching off. We now have the situation where the National Curriculum and the methods by which it is taught have especially not led to a stimulating and educative experience for the gifted and talented.  
2000:130-131

More pervasive problems can result from the able being habitually bored (Feldhusen and Jarwan, 2000). If they come to expect to be bored, this negative attitude can infect other areas of their lives, as they generalise the boredom to other experiences. They can also become disruptive:

The gifted, like any others, need the enjoyable stimulation of variety, and the excitement of playing with ideas. So, when lessons are too easy, they lose the satisfaction of tackling and resolving problems. To compensate, they may deliberately provoke disturbance, either in their own minds or



among others in the classroom, just to taste the spice of stimulation.

Freeman, 1997:488

Often, we are able to find our own level of challenge and the able child in the classroom is capable of this if the available materials match their needs. I am doubtful that any research could find the perfect formula for creating challenge, as it will, of course, vary across individuals. Some factors could be determined, however. I think some of the key ingredients could be: intrinsically interesting subjects; well-thought out, systematic development of ideas; and the real possibility of both failure and success.

#### 4.6 Conclusion

I have defended provision for the able on the grounds that even though provision cannot (and need not) be the same for everyone, there must be equality of value in the education provided. There will be inequality of outcome and of resources and opportunities, but there must also be more than a minimum safety net.

Provision for the able does not need to be elitist, although it is likely that the achievement gap between the most able without problems and the rest of the school population will increase. The alternatives of ignoring able underachievers and holding back able high achievers are unacceptable. Able pupils with learning problems and those who have become disaffected should be helped and this rising tide should elevate general achievement. It is possible that developed talent can be harnessed to the needs of the least advantaged through increased economic and social productivity. How best to do this has not been discussed and is a matter for research, as is the empirical question concerning the extent of the effect of provision for the able on other pupils in school.

We should not have to hamper the able pupil in order to equalise their prospects. That the societal playing field is uneven is not a good enough reason to make schooling a waste of time for the able advantaged child. That chances of success are dictated by forces outside of school does not mean that teachers should not provide for the able. Society must adapt to allow all participants to do their best. It is the distribution of income and wealth that is at fault, not the educational ideal of striving to meet children's needs.

Pursuing excellence for its own sake constitutes insufficient grounds to provide for the able, but meeting individual needs is a compelling reason for doing so. I have argued that pupils should be presented with challenge every day and while I am an ardent advocate for the able and underachievers more specifically, my views are tempered with a realistic attitude to practical restrictions.

It would be impossible to fund all the activities in which the able may excel and so choices need to be made, in which the most challenging or useful are selected. It may be that meeting children's needs results in some people costing the system more than others. If they are not able, fine. If they are able, fine. I expect the most and least able will be the most expensive users of any resources.

It is fair to do something for highly able children. It is not fair to do nothing.

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<sup>i</sup> Rudnitski (2000) points out that if governments worldwide prioritised education in any way that could be considered close to the military budgeting, there would be sufficient funding for a huge range of programmes and no need for taking from one group to give to another.

<sup>ii</sup> The expression 'the Law of Jante' encapsulates this and was first used by the Danish novelist Aksel Sandmose in 1933 (Persson et al, 2000:718).

<sup>iii</sup> Estelle Morris, Secretary of State for Education, speaking at the Institute for Mechanical Engineering on 16 May 2002. The whole speech can be accessed at [www.dfes.gov.uk/speeches](http://www.dfes.gov.uk/speeches). The speech is a little confusing concerning under-performing



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pupils. Surely they are not suggesting that effort should no longer be put into helping these people?

<sup>iv</sup> There have been recent news reports suggesting that university entrance could be decided by a lottery (4 September 2003, BBC Radio 4), to avoid subjectivity in admissions procedures. There have been calls to introduce North American-style Scholastic Aptitude Tests (12 October 2003, BBC Radio 4) and the serious political fall-out from the 'top-up fees debate' (still resounding in February 2004).

<sup>v</sup> However, Blair has been attacked for 'the rise of the parentocracy, and [...] the fall of the meritocracy rather than its ascendancy' (Hellowell, 2002).

<sup>vi</sup> I call these children 'the marzipan layer' during Inset sessions and teachers have commented that it is a useful expression. These pupils are often forgotten, their needs superseded by the more obviously able pupils, or those with clearly observed difficulties.

<sup>vii</sup> Margaret Hodge, Minister for Higher Education, at the Social Market Foundation think-tank, London. 'The minister praised a scheme run by the history department at Bristol University where the average A-level score for the school was taken into account before a place was awarded. If a state school pupil had significantly outperformed their predecessors, they were awarded places even if they had 'far lower A-level qualifications' than Bristol had accepted in the past. The government was determined that more working-class youngsters should get the benefit of going into higher education. The target [...] was not a matter of political correctness, but vital for the future of the economy. Cole, from Bristol University, denied suggestions that pupils from private schools were losing out under its selection scheme.' (April 12 2002)

<sup>viii</sup> Patterned principles 'prescribe a particular state that must be realised (such that inequalities are benefiting the worst off) or require distributions in accordance with a particular pattern' (p34).

<sup>ix</sup> In the Philippines, there is difficulty encouraging children to take up programmes due to the sense of fairness across families; it is considered wrong to 'favour' one sibling over another. Open access programmes have therefore been set up, with no entry qualifications. Students were expected only to attend with regularity. The sessions were very popular and results demonstrated the raising of achievement for all pupils (Wu et al, 2000).

<sup>x</sup> I am not suggesting that teachers only 'like' conventional pupils, but that school structures work in favours of these pupils. Teachers sometimes emphasise behaviour and self-control as key factors for choice of provision and this may be practical, but lacks pedagogical validity.

<sup>xi</sup> Differentiating again between social and school policy, while most teachers would agree with Swift about what matters, they would also want to take into account Kymlicka's notion of an 'egalitarian plateau'; the principle that 'members of a political community should be treated as equals, that the state should treat its citizens with equal concern and respect', cited in Swift, p93.

### Part Three:

What should we provide for the able?



## Chapter 5 Provision for Highly Able Children

### 5.0 Introduction

Having established that highly able pupils merit provision, I now consider how this can best be realised in mainstream school settings. Early sections will focus on understanding the needs of the highly able underachiever more fully (5.1) and the usual responses in providing for the able (5.2). This includes an exploration of the role and qualities of the teacher, as well explaining aspects of differentiation, evaluated in order to draw conclusions about provision. Considering current and recommended provision and practice is useful in helping to define central principles. Arguments made in Chapter 4 suggest that meeting individual needs is the best reason for provision, but some of the other arguments are also discussed in this chapter, as they are often harnessed in the literature.

The reality is that pupils in schools have different abilities, interests and motivations and it is difficult to cater for their diverse needs. The highly able are generally low on the list of priorities because of the assumption they can manage without help or support. This is not necessarily the case. Some research does suggest that higher expectations and achievement for the whole school population can possibly be achieved effectively by paying particular attention to the more able, such as the work of Renzulli and others. Investing in able pupils can possibly benefit the whole school, which is important in the current climate of accountability and evaluation. This is demonstrated through the research-based Schoolwide Enrichment Model:

...a detailed blueprint for school improvement [...] its major goal is to promote both challenging and enjoyable high-end learning across a wide range of school types, levels and demographic differences.  
Renzulli and Reis, 2000:369

Research demonstrates that having a mixed ability cohort has a positive effect on the less able,<sup>i</sup> raising overall achievement significantly. I know of no research that makes a direct comparison between the cost and effectiveness of funding activities for the able and specifically aimed at raising general standards, in comparison with a focus on remediating weakness with the same overall aim. Recent government initiatives for 'Gifted and Talented' and the London Challenge project are designed to keep the more able pupils in state maintained schools, with the aim of stemming the flow of achievers into the independent sector or specific star schools, while others sink.<sup>ii</sup>

As noted in Chapter 4, provision for the able is often dismissed as elitist and premised on notions of diversity, and this only becomes problematic where difference is interpreted as a kind of hierarchy of worth. There is nothing objectionable about the notion that we all have different strengths and abilities. What is objectionable is that people with certain abilities are entitled to more provision or higher status because they are considered somehow more valuable than others. Research supports the need for specific provision, not as icing-on-the-cake elitist indulgence, but as necessary for all schools. Able children are not very well understood and tasks are often inappropriate.

Some educationalists have included able pupils in the category of newly disadvantaged groups.[...] A typical sample of research findings is: In the case of the most able groups the work was considerably less well-matched than for average and less able groups (HMI, 1978:81). High attainers were underestimated on 40% of tasks assigned to them (Bennett et al, 1984:215). In the majority of schools the expectations of very able pupils are not sufficiently high (HMI, 1992:28).  
Eyre 1997:1



Studies concerning provision for the able have not often considered the difference between the underachiever and the high achiever, although there has been a focus on the disadvantaged child in some arenas.

### 5.1 Highly able underachievers: an inclusive approach

The phrase 'able misfit' was coined by Kellmer-Pringle in 1970, to describe pupils with an unusually large gap between potential and achievement. This is not considered appropriate in contemporary discussions, mainly because the stereotype of the underachieving able pupil has been discredited, but also because it is now read as an insulting and simplistic expression, taking no account of reasons for lack of achievement.

Research has allowed for more comprehensive understanding of the able underachiever. Belle Wallace (2000), distinguishes between 'coasters', who achieve reasonably but expend little effort, and 'high fliers', who achieve highly and work hard. She also notes other effects such as disruption in classes and disaffection. Freeman (1996) presents two broad categories: the 'underachiever'; and the 'non-producer'. The former involve themselves in classroom activities, participating, but with a lack of achievement reflecting a tangible difficulty. Non-producers, however, are not really invested in the classroom structure, nor do they share the group aims of individual success and collective accomplishment, in an atmosphere of compliant, shared industriousness.

In my own research, I have encountered the 'invisible able pupil'; children not at all outstanding to the casual eye or trouble-makers. They are expert at convincing teachers they are reasonable workers, achieving appropriately average grades for their pedestrian work. On closer inspection, however, it is clear that they are able to convince teachers of their average ability by completing set tasks to a reasonable standard, in

an exceptionally short time. The rest of the allocated time is spent in apparently fruitless tasks; over-sharpening pencils, gazing outside, trying to balance a ruler precariously on their desk, walking surreptitiously around the classroom by the longest route in a quest for 'vital equipment', etc. Such pupils show up as highly able on conventional psychological intelligence and creativity tests (I used AH1, WISC-R and Urban), but were ranked as average or below average by teachers and self-identified as not enjoying school. Their work was not of a particularly high standard, because of the lack of time spent on-task. Teachers mistakenly, but understandably interpreted this average work as reflecting pupils' average ability.<sup>iii</sup>

These pupils are particularly difficult to help. Ordinarily able pupils are generally sufficiently challenged by the normal curriculum and highly able pupils with no specific difficulties show themselves through excellent results and offer to partake in arranged activities. Students with problems are more complex to work with, but Special Educational Needs (SEN) staff are supported by legislation that compels schools and Local Education Authorities (LEAs) to fund activities, ensuring attention is given to pupils' difficulties. Of course, such funding and programmes are not without problems of realisation, or controversy and conflict concerning principles and methods, but education professionals agree that pupils need special attention and support. The underachieving highly able pupil however, is especially demanding to support successfully.

Legislation has not been very helpful. The introduction of the five-step Code of Practice (1994) included guidelines for helping children whose difficulties are not severe enough to warrant a 'statement of need' but who still require support, and 'statementing' was finally clarified in the 1996 Education Act and is continually updated. However, the use of statements for enshrining the needs



of the able is still very rare as '...able pupil provision falls into the 'guidance category' and is not legally binding' (Eyre, 1997:110). The Code emphasises partnership support, involving outside agencies and parents, as well as requiring all schools to publish a whole-school special needs policy. Ofsted inspectors can use the Code of Practice to assess schools' approach to coping with children with complex needs. As a result of this attention, the needs of the able pupils are beginning to be highlighted, and the role of the Special Educational Needs Coordinator (Senco) reinforced and clarified.

Defining SEN has always been rather difficult and parameters change as society shifts its interpretation of need and support. In 2003, Montgomery presented a broad range of 'dually exceptional' children, including children with Down's Syndrome, noting that high ability can accompany any of the areas identified in the SEN categorisation of 2001. The UK is moving towards inclusive practice, partly in response to assumptions of the Salamanca Statement,<sup>iv</sup> 'that all children's educational needs can be satisfied, more or less, within the regular classroom in a mixed-ability setting' (Persson et al, 2000:724). Whilst teachers may welcome less segregated provision, they need flexibility to be able to cope with a widening range of needs. Teachers see the National Curriculum as restrictive in this regard, as they are unable to adopt their own curriculum initiatives that might more readily address the needs of 'pupils with problems' (Garner 1990:100).

Considering what constitutes good practice for the able underachiever is useful. Helping able underachievers necessitates good understanding of the principles of practice in catering for all individual needs a teacher is likely to meet (except for very specialised education for people with severe physical disabilities and sensory impairments). Defining principles of good

practice in this way allows for pedagogy that helps not only pupils with Special Educational Needs (SEN), but all pupils, because individual needs are taken into consideration more explicitly.

An example of this would be classroom management techniques, such as minimising disruption and distraction, essential for pupils with Attention Deficit/Hyperactivity Disorder (AD/HD), but helpful to all pupils in increasing concentration. Pupils with visual dyslexia, for example, are well served by particular use of colour on whiteboards and on handouts, pupils with dyspraxia appreciate an uncluttered spatial layout and those with Asperger's Syndrome require absolute clarity and no ambiguity in receiving instructions. All of these techniques help other pupils to work more effectively, partly through the clarity they provide and partly through the calmer classroom environment promoted through preventing the behaviour problems sometimes implicit in children with learning difficulties. The same principles can be applied to the issue of high ability.

This emphasises that good practice for the able need not be exclusive or elitist. Using broadly conceived support can help to uncover more abilities within pupils as well as helping nurture and develop those already recognised.

#### 5.2.0 How teachers cope with highly able children

The highly able are a heterogeneous group and responses to their needs require a range of strategies. Some subject areas such as Music and Sport already have clearly defined models of support and apprenticeship, with private lessons, group coaching, opportunities to represent the class, school or district, leading to national and international competition. (Freeman, 1998, for example, recommends her own 'Sports Approach' based on this model.) It is generally acceptable to miss class in order to pursue these types of activities, although core subjects are less likely to



be missed than others. In staff meetings at all the schools I have worked in, those teaching non-core subjects have always been expected to accept that pupils would miss their classes rather than English, Mathematics or Science.

With subjects traditionally held in high esteem, such as Mathematics and Science, the battle is to win over pupils, who can find conventionally approved subject areas rather dull and unappealing, rejecting associated out-of-hours activities. Already valued with pupil prizes and highly rated examination success in most schools, these areas can be made more appealing through enriching curriculum material and out-of-school competitions. These are described as 'cost-effective, inexpensive ways to develop talent' with 'extra expenses, including transportation costs, willingly met by the parents' (Campbell, Wagner and Walhberg, 2000:534-5). Although these competitions may be very useful, I am concerned that lower income families may not be in a position to be as supportive as some researchers suggest. They also state: 'Third World developing countries with limited financial resources for education should develop a wide range of competitions to nurture the indigenous talent that exists in these countries.' I dislike the dated use of the term 'Third World' and wonder about the implication that more developed countries have a limitless supply of funding.

The experience of learning can encompass so much more than the subjects covered in the National Curriculum, though this is not the place to discuss the broader issue of the pros and cons of the NC. Clubs and other extra-mural activities go some way to meeting the requirements of voraciously interested pupils, but with increasingly burdened teachers, expecting this to be the answer for able pupils is no more than wishful thinking.

### 5.2.1 Differentiation and teachers relinquishing control

Teachers aim to recognise and cater for individual differences. They need to ensure that assignments are suitably differentiated by matching tasks to the abilities and interests of pupils. This is an essential teaching tactic, lying at the heart of effective classroom practice, but it can be difficult. Eyre describes true differentiation as an 'aspiration' but emphasises that this 'does not negate the need to strive for improvement' (1997:38-9).

In my experience of delivering 'gifted Inset', and from discussions on the internet and at conferences, the most pressing concern of teachers is failure to differentiate sufficiently. It can lead to pupil frustration and boredom, if tasks are respectively too difficult, or too easy and teachers would like to solve this problem with minimum preparation, yielding maximum results. Differentiation can be defined as:

Teaching things differently according to observed differences among learners (Westwood, 2001:5). Differentiation strategies can be applied to:

- teaching approach
- content of the curriculum
- assessment methods
- classroom organisation
- student grouping
- teachers' interactions with individual students.

Westwood, 2003:202

This suggests that different variables can be used to match the needs of the group with resources, set tasks, management, content or outcomes being varied. For example, in learning about the water cycle, all children could complete a worksheet to show understanding, but could have gleaned the information from different sources. In this differentiation by resources, groups could be given information in diverse formats: pre-written, pictorial, video or audio, free access to the library or internet. Tasks would be different for each group; perhaps more effective and



directed differentiation than giving the whole group the same introduction and expecting written responses of varying depth and sophistication.

From my experience delivering Inset and working with Sencos, who have access to a variety of teachers with different pedagogical tactics, it is possible to summarise shared understanding of differentiation as commonly catering for three levels. This often results in the 'three-worksheet phenomenon' in which each lesson is taught using three different worksheets: the one with lots of writing; the one with a larger font size and a graphic; and the one with lots of pictures. Pupils assess themselves by the worksheets they are given. Highly able children are expected to be capable readers and are thus given the first worksheet. Less able pupils are given the third worksheet – the one with all the pictures – and their tasks are likely to involve only the basic concepts. But what of the highly able pupil with reading problems?

In recent years, the phrase 'maximising potential' has been introduced to replace 'differentiation'. Reframing differentiation in this way could help teachers focus on getting the best from each individual rather than trying to rank them according to difference. This is closer to the approach implied by using Individual Education Plans (IEPs) tailored to meet specific needs (Code of Practice, 1994). In cases where pupils have a SEN along with high ability, the focus for support is often the area of difficulty. In such cases, IEPs would be the optimum response, as group sessions make differentiation very complex.

However, even in one-to-one consultations, the need for appropriate challenge can still be overshadowed by remediation. An example of this would be Billie, the child with dysgraphia (handwriting problems, noted in Appendix I,ii) often required to copy out chunks of text to help rehearse letter formation. This is a fairly soul-destroying activity for any individual,

and with able pupils, dysgraphia is often caused by the need to write at speed to try and capture ideas, rather than a lack of understanding of letter formation. Rather than trying to slow down the mechanics of writing in order to help legibility, a far better tactic would be to help the pupil to find an alternative way of recording ideas, replacing pages of linear longhand with notes, diagrams, tape recording or shorthand. Teachers could then impress upon the pupil the importance of legibility in communicating ideas, and this can be accomplished by using the notes as a basis for the response to the set task. This allows the pupil to record their thoughts under less pressure and is a better way to demonstrate understanding of the child's needs, showing respect for their ideas and helping to build practical, transferable strategies. There is still a place for penmanship sessions, but these can be narrowly focused and will not interrupt a child's flow of ideas in the way that struggling with clear handwriting can prevent children from recording their thoughts.

An obvious response to problems caused by differentiation would seem to be reducing the range of ability in any one class by streaming, setting or selective schooling. However, even in such classes there can be a broad range of abilities, motivations, strengths and difficulties and although variation is not as marked, it still exists and careful differentiation is still required. Flexibility is a key factor for teachers providing optimum conditions for learning and facilitating understanding. Teachers need to understand when to use particular methods and their expertise will come from a combination of factors including, most vitally, subject knowledge and a good understanding of pupil needs. This will pave the way for effective differentiation.

Selecting the right kind of pedagogy can imply a shift in power in the teaching situation and different situations call for an adaptive role from teachers. Sometimes a firm lead and clearly established boundaries are



needed, but on other occasions pupils need freedom and a loose structure in order to flourish. Shifting the balance of power can be particularly important with more able pupils, as research indicates that highly able pupils spend much time in school feeling unchallenged and bored. At the same time, they have deep interests in valid areas that they could pursue in an independent study, or their curiosity could be re-ignited through a shift in the set task.<sup>v</sup> Teachers are often reluctant to negotiate with pupils as it would appear that they are losing control of the direction of learning, or unfairly favouring some pupils. This is not the case, in fact, if they are merely responding to pupils' needs by differentiating tasks based on collaborative assessment, in partnership with pupils.

A simple example to illustrate this would be the battles over homework in Religious Education with Louis (Appendix I,i). Louis had failed to complete weekly homework for RE for three months and I was asked, in my capacity as Senco, to help iron out the problem of his lack of co-operation (not to ensure that he was being challenged). The teacher's plan was to consider differences within Christianity and there were a series of tasks to complete over several weeks, with the same task for the whole class. These tasks all had the same structure: research a denomination of Christianity, find a representative church and write a few paragraphs on the layout and architecture, demonstrating how this linked with the nature of the religion. Louis was horrified at the thought of having to complete four rather similar drawings over four weeks and described the task as 'dull, dull...unbelievably dull'. I asked him what he was planning to do, since he was required to complete some homework and was already in serious trouble for general non-compliance. Avoiding the task was not an option, unless he wanted to push the school into considering exclusion, as he was already on report in several other subjects, mainly for 'being cheeky'. (In my classroom observations I would have disputed this interpretation in a number of cases, but not all, however.)

Louis made a suggestion for the RE homework. He would draw a basic church shape and then use transparent overlays to illustrate the features that would mark out the differences in belief, ritual and emphasis. He was rather excited about this original approach and got started immediately. The work he produced was of a high standard and his annotations were far more detailed and well-researched than the short paragraphs that even high achieving pupils produced. Louis had completed two of the overlays when the RE teacher said: 'No. I have to put my foot down. It's not about doing what you want, Louis. It's about doing as you are told. You've got away with a whole term just mucking about and now you've shown you can work, you must get on with the homework I set just like everyone else. You're nothing special.'

Louis stopped working and went back to avoidance tactics. He was particularly angry with me for letting him down. I had assured him the teacher was open to negotiations, but I had been wrong. She changed her mind and started seeing him as a threat to the smooth running of her classroom, fearing accusations of being 'soft'. Louis had been beginning to change his opinion of her, but he dropped back into accusing her of being unimaginative and narrow-minded. What Louis had suggested was a perfectly valid differentiated task, meeting the learning objectives of the curriculum and probably also suitable for other class members.

Teacher-pupil relationships involve shifts in control, as trust builds and pupils demonstrate their motivation and work ethic. Negotiating homework will better allow children to see the value of what they are being asked to study, as aims and goals are made explicit. Most highly able pupils are capable of seeing work targets before a project is started and making suggestions and decisions about how best they can achieve set goals.



With pupils having control over their learning, teachers take on more of a supervisory role, helping, guiding and facilitating, rather than prescribing.

It is difficult to allow a few pupils such freedom while the rest of the group are set more prescriptive tasks. Dealing with such complex management is possible only where there is trust and understanding between pupils and teacher and where it is understood that the teacher is motivated by pupils' needs and not by favouritism. Highly able children must be seen to be working hard and not 'getting away with doing nothing'. If they are thought to be coasting while classmates are struggling, resentment may set in.

Using able pupils as learning mentors is another possibility. The mentor pupil, if accelerated, will initially have to build friendships and a mentor system can help pupils communicate. Mentors who are not accelerated can get to know peers who may find them difficult to understand in ordinary class situations and the pupils they are helping have an opportunity to work with someone who can give them full attention and who is close in age. This method can work well if handled by a sensitive teacher making a thoughtful pairing, where both pupils benefit from meaningful personal discussions about work that can be so difficult in a whole class situation. Teachers' roles are altered, not lessened.

Able pupils have clear views on preferred characteristics of their teachers and unsurprisingly prefer humour, creativity and curiosity.<sup>vi</sup> The preferences require a trusting teacher - pupil relationship which can require the teacher to relinquish some control, acceding to pupil suggestions of tasks.

In general, pupils appreciate teachers who provide appropriately differentiated tasks and trust and respect pupils sufficiently to negotiate

work tasks within reason. Key approaches to meeting needs of the able are underpinned by the tricky notion of differentiation and generally fall into three categories. They are acceleration, enrichment and extension considered in the next three sections (5.2.2-5.2.4).

### 5.2.2 Acceleration

Acceleration involves placing a pupil in a different year group from his or her chronological peers. Most accelerations skip one or two years, but occasionally there are larger jumps, often dramatically covered by the media. Such sensationalism is partly responsible for the common knee-jerk response that acceleration is 'potentially harmful'. In the UK, every August when the examination results are made public, tabloid and local papers present pictures of primary pupils with clutches of GCSEs and sometimes 'A'-levels to rival those achieved by 16 and 18-year-olds. This is presented as slightly freakish, and the article is often at pains to reassure readers that there is no need to worry about their own children's relative lack of achievement, as these pupils are clearly weird, with overbearing families. The timbre of such coverage suggests that the child's welfare may even be at stake, and praise for astounding achievement is sometimes overtaken by an emphasis on the abnormality of the child. Often, parents and schools are criticised for having forced the child into taking exams early, and along with admiration for the achievement, articles are often full of concern for the future.<sup>vii</sup>

Acceleration is in danger of being a hot-housing showcase. Passing exams or achieving recognised qualifications at an early age is not uncommon and with schools increasingly expected to promote themselves, children can be made to jump through hoops for the glory of the school rather than for their own development. It may not necessarily be harmful to encourage children to sit such exams at an early age, but there is the possibility of developing burn-out, or boredom with consequent



learning. Pupils who have mastered an 'A'-level at 14 are unlikely to have sufficient skills and maturity to make the most of a degree course.

Benefits accrued from accelerating a pupil to experience intellectual challenge can be outweighed by social and emotional concerns and at different points in a school career an age gap of two years can have a more or less severe impact. Gross introduces the notion of 'radical acceleration', defined as 'several grade-skips spaced appropriately through the student's school career'.<sup>viii</sup> She explains that nine of 58 subjects have entered university at ages between 11-16 and that 'all are experiencing high levels of academic success and full social lives' (2000:189).

It cannot be sufficiently emphasised, however, that the problems of social isolation, peer rejection, loneliness and alienation which afflict many extremely gifted children arise *not* out of their exceptional intellectual abilities but as a result of society's response to them.

Ibid:188

This may be so, but the issue is still real. Until societal changes allow for this problem to be solved, children will need to deal with the difficulties that acceleration can bring and for some this would be a counter-productive strategy. Gross, however, would consider overcoming these obstacles to be worthwhile and this is understandable given the following quotations from two of her subjects:

'I'm sorry it was necessary to do something that was so unusual at the time, but I certainly don't regret *doing* it. The alternative – staying with age peers – would have been intolerable.'

...bleakly encapsulated his life in the heterogeneous classroom in a single word: 'Hell'.

Sometimes acceleration works very smoothly. If the pupil is mature enough to mix well with peers and the change to more challenging work has a positive effect on self-esteem, it can be the perfect response. Most theorists and teachers agree that each case should be considered on its own merits as an individual's reaction to any situation will determine success or otherwise. There are also good support strategies that can help ease the process. For some pupils, the social aspect of acceleration is entirely unproblematic. Often, able pupils befriend older children and adults, finding their peers have problems understanding ideas and language that they find natural. Sometimes an apparent outsider suddenly fits in when accelerated, and their quirky nature that seemed so off-putting, is properly contextualised and no problem at all. This can also happen when a child is moved to a school with a different ethos and emphasis. This happened with Stan (Appendix I vii), whose unusual rhyming and word play made it difficult for him to make friends. When moved to a different, and more academic, school he flourished, mainly as a result of beginning to study classics and languages such as Latin and Greek in which his word play was of great help.

It is sometimes difficult to judge when to stop accelerating and it is hard to continue effective differentiation when the pupil is still well ahead of classmates. The practicalities of keeping pupils interested once they have completed the curriculum at an early stage can be insurmountable. If the acceleration is not coordinated with the next phase of provision, the whole project can be negated, resulting in pupils repeating work. Recent research has already suggested that much of Year 7 in secondary schools serves as little more than a repeat of the material covered in Year 6.<sup>ix</sup> Sometimes there can be suspicion of the previous teacher's work and pupils are treated with some scepticism when they say they have covered certain course requirements. It would be sensible to ensure assessments



that allow pupils to show what they already know, allowing pupils exemption from work already completed.

The main concern with acceleration is to ensure the development of positive social relationships. A valuable strategy is to allow the pupils to mix vertically in a variety of settings, including clubs and classes. The most common problem for the accelerated child is physical education, where a marked smallness in comparison to peers can make many sporting activities difficult. Miles (Appendix I, iv) found this when accelerated. Other pupils who were threatened by his high achievements in Maths and English took advantage of his lack of ability in football. He was two years younger than classmates and also rather short. His unusual abilities, coupled with his small size, made him an obvious target for bullying. Miles' problems came from his height and despite the stereotype, most highly able children tend to be good all-rounders and are not as weak in sport as their nerdy portrayal would suggest.

Another strategy would be to make a more radical move and abandon the idea of traditional class age-groupings. This would stop the able pupil being seen as the odd-one-out and may help promote more harmonious social integration. Acceleration is therefore the strategy most affected by the institutional framework. It is an exaggeration of setting and streaming, which if it is to work, requires considerable flexibility and teamwork.

### 5.2.3 Enrichment

Enrichment provides breadth of learning through exposing pupils to a wide range of different activities and ideas helping them to see connections, discover interests and talents and develop different skills, knowledge and understanding.<sup>x</sup> Schools may strive to offer pupils a range of activities that do not relate directly to the curriculum and provide opportunities they may not be afforded due to economic or other home background

situations. That is not to say that this is a kind of compensatory educational strategy as much as a way of allowing children opportunities to express their abilities.

To avoid the danger of activities becoming a shallow or meaningless kind of 'pick and mix' of fun, lacking depth or coherence, a well-considered selection of activities should be ensured, with access as part of an explicit whole-school policy. Teachers need support in referring and recommending pupils to attend sessions and can only do this when they understand the provision available. For example, children with aptitudes in mathematics may be encouraged to learn strategic games, such as chess, or investigate astronomy while being encouraged to develop her academic mathematics through competitions and examination syllabi.

The rise in organised out-of-school activities has been discernible, partly as a response to the perceived danger of letting children play unsupervised in public parks and streets and partly as a result of children needing to build curriculum vitae for entrance to competitive schools. The concept of the 'hyper-parent' has recently surfaced as a concern,<sup>xi</sup> where children are ferried from tap-class to T'ai Chi and then to private tutors and French classes, leaving little 'down time'. Some commentators also worry that pupils are spending too much time with planned activities. This view could well be informed by a rose-tinted memory of the past. People commonly yearn for 'simpler times', and whilst each era has its positive points, negatives can easily be forgotten. Whether this is a problem is affected, in part, by the nature and quality of the activities on offer. Some schools and workshops are activity-led, consisting of like-minded individuals with a shared interest, such as sewing, country-dancing or bridge. These offer intrinsic rewards rather than certificates or improved grades. Others are competitive, or designed to maximise classroom performance in Key Stages, including independent school Common



Entrance exam crammer courses for prestigious 13-plus entry to private upper schools as well as remediation for problems. The internet has also allowed people with shared interests to meet up 'virtually', which is of tremendous use to the able pupil wanting to research an area in detail. (Concerns about internet child safety are addressed by school gateways.)<sup>xii</sup>

Activities designed specifically for the highly able pupil tend to be more child-led; outcomes and subject area are considered less important than the opportunity for challenge (see Appendix IV for examples of such activities). With out-of-school enrichment courses, a group of children attend either residential or day sessions, opting from a selection of planned workshops spanning a wide range of topics, with opportunities for social mixing and trying out new ideas and projects. As all pupils are selected for high ability, there is no need to wait for any of the group to catch up. Small group sizes allow staff to spend more time with each pupil and the relaxed atmosphere without the pressures of tests, targets and statutory activities helps develop a more open and creative response to set tasks. Pupil behaviour is rarely an issue and it is possible to allow a certain laxness in rules, as the group's motivation ensures on-task and focused work. The children police one another, and the strength of feeling that comes from working on a group task encourages a responsible attitude to working.

School and family 'activity days' to which the able are invited can help to introduce pupils to a broader range of topics than can be covered in school time. If these are family events, parents are present to share in their child's enthusiasms and to talk informally with teachers about their child's ability. In days planned for the family, activities should also be available for parents at their own level, to present a positive model of adult learning. The family that can appreciate one another's interests is likely to

offer a positive ethos encouraging children to pursue projects and ideas as they wish.<sup>xiii</sup>

#### 5.2.4 Extension

Extension work is quite simply going beyond the basic prescribed tasks. This is usually explained as a model in which the teacher outlines (a) minimum tasks, (b) recommended further tasks, and (c) optional extension tasks that able pupils can undertake as extension of the basic class activity. This model is known as ‘must, could, should’ and is designed for use at the planning stage, rather than adding extra activities to completed tasks as children finish work. This should ensure continuity and progression and is ‘far more valuable than bolt-on, one-off extension ideas’ (Eyre, 1997:40-1).

Extending pupils beyond the level expected for their chronological age is more difficult than might first appear, however. It would seem logical that a pupil should continue working in a subject area at the level of their ability, and that teachers should differentiate tasks and resources accordingly. In reading, able infants have found themselves in the position of having read every book in the library. These ‘hyperlexic’ pupils are then directed to further texts that may have themes that are too advanced in terms of emotional maturity – material designed mainly for young teenagers. There are problems too, for the teachers. It is a complex business having to differentiate for pupils within a typical ability range, but someone who is very far advanced from their peers will present further demands. There may not be materials available for the next stage in the relevant subject. Next year’s teacher will not thank their colleague for using up all the texts and plans intended for their next group.

Some subject areas lend themselves to this approach far better than others. Literature, as noted, can introduce themes that children can find



awkward to discuss and difficult to understand despite the mechanics of literary criticism remaining well within their grasp. Similarly, musical performance often requires a sensitivity that a child cannot present as they have less experience upon which to draw. Mathematics and Modern Foreign Languages, however, are appropriate fields for such extension work.

The mechanics of running a school and meeting curricular demands are affected by pupils inevitably demonstrating a wide range of abilities. It makes practical sense to minimise difference and roughly group children, teaching them with the same materials. Extension is only practically workable where there are very small classes and where teachers can be extremely flexible.

### 5.3 Summary of strategies

Of the strategies outlined, I would suggest that acceleration must be handled with great care and that extension is often too impractical to offer a real solution. Enrichment though, has many positive aspects and is appropriate for allowing all children to explore their interests and aptitudes. It can be fit easily into school structures and, whilst being aimed primarily at the able, other pupils can benefit. The following is a summary of how techniques may help all pupils, or just the able:

*Uniquely appropriate for gifted*

Acceleration

Career education (girls)

Ability grouping

High level curriculum

Differential programming

*Effective with gifted and general education*

Enrichment

Inquiry, discovery, problem solving and creativity

Professional end products as standards

Microcomputers

Gallagher, 2000:688 adapting Shore and Delcourt, 1996  
and echoed by Moon and Rosselli, 2000:505

This list seems to suggest that a flexible and open curriculum, providing discovery, problem solving and creativity is more important than the common response of ability grouping, if the needs of the whole school are taken into account. If provision can help the able as well as other pupils, it is obvious this method should be adopted if possible.

Each strategy has its strengths and weaknesses and although I am broadly in favour of enrichment, I concede that rather than one strategy dominating, a range of factors should be taken into account. These include the general pedagogy, including consideration of classroom management issues such as grouping of children and overall organisation. As noted, curriculum content and assessment are important, but the key factor is likely to be how teachers interact with individual students. Many texts make recommendations for enrichment, acceleration and extension, but these are not always well implemented, if at all.

More and more educators seem to be convinced that differentiating the standard curriculum is the key to the effective education of gifted students but examples of such differentiation are few and far between.[...] Such modified content can represent acceleration, enrichment, sophistication or novelty.<sup>xiv</sup>  
Ibid:689

#### 5.4 Conclusion

Provision for the highly able pupil is undoubtedly complex. Highly able children need to spend time with age peers and with those who share the aptitudes, abilities and interests that constitute their high ability.

Acceleration is appropriate for the socially mature individual where there



are structures in place to support the decision. Radical acceleration is only useful in a small minority of cases, but can sometimes be the perfect solution. Sometimes home schooling could provide a suitable response, or a specific specialist school for Music, for example. Extension, similarly requires a great deal of flexibility on the part of the school and general differentiation can be effective where training and support are provided. Enrichment emerges as the best all-inclusive strategy (if one strategy alone needs to be recommended) emerging as more workable and less problematic than acceleration and extension and with the potential to involve a wide range of pupils.

The distinct way that the able think and work requires particular programmes and pedagogy falling outside the range of techniques and subject areas presented through traditional schooling and, more specifically, through the National Curriculum. Provision for the able is currently patchy and lacks coherence. Of particular concern is the lack of attention given to able underachievers, who miss out even where provision is available. To help overcome this, high ability could benefit from being reframed as a SEN but only if teachers are properly equipped to deal with high ability issues. Account also needs to be taken of how best to deal with children who have 'ordinary' SEN along with their high ability ('dually exceptional' children).

Any approach will benefit from team-work, training and a committed work force. Dealing with high ability is about more than task-setting. On training courses and in providing information for teachers, issues of relinquishing power should be confronted and it must be acknowledged that teachers are likely to feel emotional effects when control for learning is shifted to pupils. Teachers need to be equipped with strategies to help cope with this unusual issue. Also, it must be emphasised that for any initiative to



have lasting impact the provision should become 'an integral part of the curriculum, not an add-on' (Goodhew, 2002:26).

Thinking skills programmes can be incorporated as part of an enrichment strategy, or as an element of extension or acceleration, depending on the structure and curricula of the school. Some critical thinking skills programmes are presented as strategies for raising standards throughout the school with a variety of ages and abilities and often with a focus on helping the highly able. This seems to fit with the suggestions in the literature and so the efficacy of this approach is considered in Chapter 6.

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<sup>i</sup> Hallam and Ireson argue that traditional notions of setting as positive for lower ability children is inaccurate and in fact the more able benefit most from setting, whilst mixed ability teaching is better for the majority of pupils (2001:39). They recommend strategies that meet the needs of all pupils and emphasise that there is no 'quick fix solution' (p175). Porter cites Eyre who has found that 'Research tells us that when schools expand their provisions for more able children, overall provisions improve' (1997 in 1999:11).

<sup>ii</sup> The 'London Challenge' aims to establish specialist schools and to improve standards across problem boroughs in London. It is a five-year project, with reasonable funding and significant high profile (although some funding has been recently clawed back, jeopardising the project).

<sup>iii</sup> This research was funded by the Economic and Social Research Council and submitted in part completion of a Master of Philosophy degree at Cambridge University in 1990. Two classes of eight-year-olds (total of 74 children) took part in the study, along with their teachers.

<sup>iv</sup> This statement was issued in 1994, building on the foundations of the 1989 UN Convention of the Rights of the Child, intending both to improve understanding of children's individual rights within education and welfare. 'The Salamanca Statement was arguably the most significant international document that has ever appeared in the special needs field' stating that '...regular schools with an inclusive orientation are 'the most effective means of combating discriminatory attitudes, building an inclusive society and achieving education for all' (Garner, 1999:52, citing Ainscow, 1997:182).

<sup>v</sup> Gallagher identifies 'sophistication' and 'novelty' as valuable for the able child, in terms of differentiated tasks (2000:689).

<sup>vi</sup> Baldwin, Vialle and Clarke (2000:570) report the following characteristics: 'Innovation' – teacher is looking for and trying new or different ways to approach learning...focusing her creativity on helping students develop creativity and to become actively involved in learning. 'Gestalt' – well organised with a drive toward completing tasks even at a perfectionist level. This teacher works from where the student is. 'Rapport drive' – sees him or herself as a warm friendly person who students like, works purposefully to build a positive working relationship with the students, which the teacher perceived as beneficial for the students.

<sup>vii</sup> The well-publicised case of Ruth Lawrence is perhaps the first and most famous of these cases in the UK, which seem to have become increasingly common. Lawrence, a gifted mathematician, famously won a place at Oxford University in 1981, at the age of 14 years. Her father accompanied her to university, attending lectures and looking out for



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her welfare. The media would periodically focus on her, discussing the pros and cons of her situation and relationship with her father, like a shadow, the object of scorn and admiration, by turns. It is difficult to find data on these cases and unclear whether the incidence is increasing, decreasing or constant.

<sup>viii</sup> Gross is the leading researcher in terms of radical acceleration. For other types of acceleration, see, for example, Duke, Purdue and the work undertaken at Johns Hopkins University (reported in Heller et al, 2000).

<sup>ix</sup> Initial information from personal communication with the National Association of Gifted Children, July 2001, reinforced by journal.

<sup>x</sup> Renzulli's Schoolwide Enrichment Model is the most significant empirically verified approach to enrichment, see Renzulli and Reis 2000 for a thorough exposition of this approach.

<sup>xi</sup> Reference here is to 'Cutting Edge' television documentary March 2003 and a spate of newspaper articles in tabloids and broadsheets (Channel 4).

<sup>xii</sup> A radical restructure of schools using learning networks was proposed by Illich in his 1971 seminal publication, 'Deschooling Society'. Some aspects of his vision for education would complement the ideas of this thesis.

<sup>xiii</sup> I have experience of such days, having run series of workshops on a variety of themes. These were always open access and inclusive, but certain workshops were tailored toward the highly able who were invited specifically to attend. Activities for parents and families proved most successful and teachers reported learning more about their own and others' abilities.

<sup>xiv</sup> In this instance, 'sophistication' is defined as work with more complexity, and 'novelty' as 'work which is unique to the regular curriculum, but which has some interest to gifted students (e.g. the study of the stock market and its operations)'. (Gallagher, 2000:689)

## Chapter 6 Critical Thinking Skills Programmes

### 6.0 Introduction

Following the definition in Chapter 2 emphasising intellectual aspects of high ability and concerns raised in the previous chapter (5, concerning provision) a review of critical thinking skills programmes is an obvious direction to take. This chapter considers thinking skill programmes as a possible approach to dealing with the highly able pupil in school, reviewing advantages and potential problems (6.1).

Because the government supports the inclusion of 'teaching thinking' in the National Curriculum (NC), commentators rarely raise questions as to whether or not this is either achievable or worthwhile. Governmental endorsement is characterised by the key report authored by McGuinness (1999) and for this reason it is a central focus of this chapter, forming the structure for discussion of key issues within the teaching of thinking debate (6.3 and 6.4.0-6.4.2).

In sections 6.5.0 to 6.5.4, I describe the programmes and then conclude by exhorting policy-makers to be cautious in their recommendation of under-examined strategies.

(Claims are considered in this chapter in sections dealing with each different programme. The whole of the next chapter is devoted to the Philosophy with Children programmes, with a section on their suitability for the able— 7.7.)

### 6.1 A perfect solution for the highly able?

There are several possible reasons why critical thinking skills programmes could be the perfect solution for the highly able. Firstly, the programmes



can be conducted on a stand-alone basis and can be followed without interfering in usual lesson requirements. Secondly, some materials require little teacher input or monitoring, largely designed in a way that would lend them to independent study and sometimes even self-assessment. Lastly and most importantly for the highly able, the programmes are often made up of open-ended tasks. Their flexible structure, adaptability and open-endedness can engage pupils who often reach the ceiling in other tasks

However, contrary to some claims, the programmes cannot be equally applicable to all abilities.<sup>i</sup> (Claims are considered in this chapter in the sections dealing with each different programme and the whole of the next chapter is devoted to the Philosophy with Children programmes, with a section on their suitability for the able – 7.7.) Also, programmes are of variable quality and it is difficult for teachers to assess their efficacy. For the programmes to be successful, practitioners will need training to understand the materials and processes of the programmes, even where they are eventually used independently by pupils.

## 6.2 'From Thinking Skills to Thinking Classrooms'

Thinking skills programmes have been well-received by teachers partly because they make use of pedagogy teachers would have chosen anyway, if not so weighed down by National Curriculum requirements.

The enthusiasm for thinking skills as a solution to our difficulties with the curriculum stems partly from concern that what is offered in schools today fails to keep up with the current ideas about effective work practice, leisure pursuits and the desire for good-quality relationships.  
Haynes 2002:39

In addition to concerns that the current curriculum seems to fall short in meeting the needs of pupils, teachers can be frustrated by an emphasis on quantifiable targets and the associated raised status of curriculum

subjects perceived as objectively measurable. Practitioners know that some aspects of learning are not manifested immediately as a visible outcome. The nature of thinking makes it difficult and inappropriate to measure with standard methods. This, of course, lowers its status in the eyes of those who champion the drive for ticking boxes in checklists and meeting imposed targets.<sup>ii</sup> Philosophy for Children is a critical thinking programme in which this issue is apparent:

Some of the most important benefits of philosophy will not be quantifiable. During discussion there occur those magic moments whose value is beyond measure. How can you quantify that moment when a very articulate child sitting in the corner of the classroom thinking and not communicating very much suddenly has an idea and is able for the first time to articulate a very thoughtful contribution to a discussion?  
Fisher 1998:245

Lack of confidence in imaginative pedagogy coupled with an over-stuffed NC has led teachers to seek out new ways to provide challenge whilst not interfering with required subject teaching. They want pupils to become effective learners and sometimes turn to thinking skills programmes to meet this need, particularly when the focus is on challenge for the more able pupil. Some create their own schemes, but this practitioner-led research is difficult to maintain and disseminate without substantial funding.<sup>iii</sup>

Teachers look to academic research and the government to maintain the quality of programmes that make their way on to the market. So, what are the academics and policy-makers saying about these programmes? Answering this question is important as it demonstrates how policy becomes enshrined and how we managed to arrive where we are in thinking skills, following recommendations that unfortunately seem to lack rigorous underpinning.



Advice is available on the DfES website, often the first resource accessed by a wide audience of teachers, where it is possible to see the government's outline and interpretation of thinking skills. In consulting the site, users would rightly expect to be presented with a careful exposition of the area, a wide-ranging and comprehensive taxonomy of skills supported by a rationale for the choices made. This is not what is encountered. The DfES website notes:

The National Curriculum states that by using thinking skills, pupils can focus on 'knowing how' as well as 'knowing what' – learning how to learn. The following thinking skills complement the key skills and are embedded in the National Curriculum:  
Information-processing skills / Reasoning skills /  
Enquiry skills / Creative thinking skills / Evaluation skills.

Nowhere on the website is there any explanation of how such a list was determined and when the ideas are further broken down into what is obscurely termed a 'metadata system', there seems to be a leaning towards certain curriculum subjects. Here, for example, is the set of sub-skills for Enquiry:

Asking questions / defining problems / questions for enquiry / choosing equipment / tools / planning research / predicting outcomes / consequences / carrying out research / drawing conclusions / testing conclusions / evaluating process / improving ideas.

There is no suggestion of philosophical concepts, or of co-operative work, no focus on listening and no mention of time for reflection and contemplation, implying that 'enquiry' is best suited to scientific, geographical or other empirical subject areas. Clearly, the National Curriculum is not going to be able to cover every type of thinking, but the website could at least nod in acknowledgment of inevitable gaps in the list. It would be acceptable to assert that what is being presented is not a definitive taxonomy, but the comprehensive result of careful choices made

for the curriculum by qualified researchers and practitioners in a complex and controversial area. (Scepticism is to be found in the philosophical literature, which continues to worry away at the conceptions so often taken for granted by the broader educational literature.<sup>iv</sup>)

Perhaps it would be more fruitful to seek advice from a pertinent government report published prior to the inclusion of thinking skills in the National Curriculum. This leads us to Carol McGuinness' influential review of thinking skills programmes, commissioned by the DfEE in 1998 (published 1999) and described as 'excellent' by the School Standards Minister.<sup>v</sup> The report concludes that thinking is made up of a range of skills that can be taught, and that these are generalisable, and therefore transferable. This leads McGuinness to recommend the teaching of thinking skills in schools, with a particular emphasis on the 'infusion' method, which is the one she adopts for her own classroom materials.<sup>vi</sup>

Unfortunately, the report seems like a wasted opportunity to confront the tricky questions plaguing thinking skills. Thorough exposition and analysis built on sturdy foundations with rigorous analysis of empirical and theoretical evidence could have resulted in a balanced proposal, with thinking skills presented as a useful addition to the classroom teacher's pedagogic toolkit, rather than a universal solution.

Even a cursory glance at the report reveals some rather irritating errors that hint at a lack of rigour.<sup>vii</sup> More seriously, the report lacks critical analysis of basic premises and underpinning theory, somewhat undermining McGuinness' authority. There is no real discussion of the nature of thinking, a rejection of the importance of subject knowledge and a lack of clarity about whether the nature of thinking is an attitude, a disposition, a strategy or a mental ability and no attempt to tackle even the well-known criticisms of the concept of thinking skills by John McPeck.



First in a list of five aims, McGuinness asserts that one of the purposes of the review is to :

...analyse what is currently understood by the term 'thinking skills' and their role in the learning process

Para 1, p3

The other four aims focus on practical applications and it is not clear that any of these aims is thoroughly accomplished in the report. The programmes examined in the report suppose the existence of thinking skills without question (for example, Sternberg 1984, and authors of practical resources such as Fisher 1998, Cam 1999, Lipman 1974 and Adey and Shayer, 1984). Without any foundation, McGuinness alleges:

...the idea of thinking-as-a-skill continues to have both theoretical and instructional force. Firstly, it places thinking firmly on the side of 'knowing how' rather than 'knowing that' in the long standing philosophical debate about the nature of knowing. And secondly, much of what we know about skill learning can be usefully applied to developing thinking – being explicit about components of the skills, learning by observation and modelling, the importance of practice, feedback and transfer of learning.

Para 2, p4-5

These confused claims and simplistic presentation of complex ideas warrant further examination. The next sections of this chapter take the issues in turn, as they constitute key contentious aspects of the wider debate and are neatly encapsulated in the report, although inadequately tackled. They are as follows, with the section references noted in parentheses:

1. Thinking-as-a-skill is uncontested and is to do with 'knowing how' rather than 'knowing that' (6.3).

2. Developing thinking is like other forms of skill learning: (a) it is made up of components (6.4.0); (b) learning is through observation and modelling, with practice and feedback (6.4.1); (c) there is transfer of learning (6.4.2).

(Sections 6.3 to 6.4.2 concern general issues. Relevance for the highly able is considered in sections 6.5.0 to 6.5.4, concerning specific programmes.)

### 6.3 'Thinking-as-a-skill is uncontested and is to do with *knowing how* rather than *knowing that*.'

McGuinness asserts the existence of thinking skills, claiming 'theoretical and instructional force', for dichotomising 'knowing how' and knowing that'. She does not substantiate this statement and seems to be suggesting that thinking is an activity at which we are able to improve, and that knowledge is an unnecessary aspect of this development, since the skill of thinking can be taught independently. (In section 6.5.1, programmes that claim to teach 'context-free thinking' are considered.)

However, theoretical and practical reasoning are intimately bound together. Steve Johnson for example, considers their separation 'educationally unhelpful'.

It may, for instance, divorce beliefs from actions, and drive a wedge between mental processes, which are taken to be active, and knowledge, which is taken to be inert.  
2001:6

Advocates of thinking skills programmes do not always ignore the role of knowledge, however. Higgins and Baumfield (1998) specifically identify the importance of knowledge and understanding, particularly in their discussion of the expert and the



novice. They note that expertise is defined through subject knowledge and experience and maintain that novices need both knowledge and general skills in order to develop mastery. Some of the programmes however, do separate knowledge and skills as emphasised in the conclusion of the report, where McGuinness notes that teachers 'experience difficulty keeping the twin perspectives of thinking skills and topic content simultaneously in view' (para 10.11 p 29). This sounds a warning bell, suggesting that thinking skills programmes could encourage teachers to consider knowledge and action as independent of one another, which is not the case. They are closely connected:

...practical reasoning depends on theoretical reasoning,  
because thinking out what is to be done relies upon thought  
about what is the case.  
White, 2002:110

In addition to this worry, Johnson considers that McGuinness' characterisation of thinking-as-a-skill, mistakenly reifies thinking, through:

...the act of wrongly treating an act as if it were a *thing*. [...]  
For example, because it is meaningful to talk of someone  
who thinks well as being a skilful thinker, we are tempted to  
believe that there is a skill to be identified, isolated and  
trained for.  
Ibid:14-5

This is certainly how thinking skills are typified by some theorists, including de Bono (cited in Johnson, p15 and discussed here in section 6.5.1) and is a key aspect of the McGuinness report. Teachers and other theorists sometimes use 'skill talk' in a more thoughtful manner, however. Siegel and Bailin, for example, find the description of thinking-as-a-skill acceptable, 'as long as it is taken as referring to thinking that is skilled in the sense that it

meets relevant criteria' (2003:182). These criteria include the application of theoretical reasoning to practical situations, avoiding the separation of 'knowing how' and 'knowing that' implied in McGuinness' characterisation. Siegel and Bailin emphasise that merely 'fostering in students the ability to assess the probative strength of reasons' would be insufficient to meet their criteria, which specify both 'the *ability* to reason well and the *disposition* to do so' (op cit). They note that 'a given thinker may have the ability but not (or not systematically or routinely) use it' (op cit:183).

The development of positive dispositions is also emphasised by White, who explains why teachers use 'skill talk':

Thinking is an activity. It is something that goes on in the mind. It is an occurrent phenomenon. But it is something at which children can improve. The activity can get better with practice. This is why thinking is sometimes characterised as a skill. It has a continuant as well as occurrent side to it. Part of the educator's task is to build up children's thinking skills through engaging them in thinking activities. [...] We want them to use their skills on a more regular basis, to get into the *habit* of thinking clearly about what they are to do and believe. We want to develop thinking *dispositions* in them. 2002:104

Perhaps to avoid accusations of over-simplification, such as those of Johnson, recent literature moves away from 'skill-talk'. For example, Baumfield (2001) uses the phrase 'teaching for learning', which incorporates experience, social context and knowledge, rather than a simple polarisation of process versus content. This may be a more useful depiction, but would not escape Johnson's criticism of thinking skills as falling into the error of the 'naming fallacy'. This is when a category or label, such as 'analysis', is wrongly interpreted as evidence for the 'existence of a general skill or ability' (Johnson 2001:16). The description 'analysis' can be



applied accurately to a variety of actions, but this should not be extended, into a stand-alone thinking skill called 'analysis'. The skill could never be exercised independently of a specific context and as such would be a different skill each time. Analysis of algebra is distinct from analysis of architecture, political argument or a dance step. A person can be reasonably described as thinking analytically, without the type of thinking being mistaken as a general skill.

...references to skills, particularly in the adjectival and adverbial forms, can be understood as indicating, not inner entities or possessions, but rather thinking that meets relevant criteria.  
Siegel, 2002:183

However, the naming fallacy is certainly the case with the government taxonomy and the work of de Bono, where long lists of skills are presented with no basis for their inclusion other than the category for which they are named. McGuinness even states that 'what is included and excluded can be arbitrary' (para 3.3, p5).

Further claims about the nature of thinking skills are now explored, based on McGuinness' statements that they are like other forms of learning as they are:

- (a) made up of components;
- (b) learnt through observation and modelling; and
- (c) transferable.

#### 6.4.0 Thinking skills are like other forms of skill learning as they are:

##### (a) made up of components

It is assumed that thinking skills can be taught by breaking processes down into discrete sub-skills. The temptation is thus to

develop lists of competences (such as the list provided by the DfES 'information-processing skills, reasoning skills' etc), but this impoverished approach, ignores the context for the skills, the role of knowledge and the development of good habits and dispositions.

Numerous attempts to identify and categorise different kinds of thinking have followed from the drive to expand and improve knowledge creation and to remove obstacles to learning. What is it that expert thinkers do? Perhaps if we knew what it is that expert thinkers do we could use the knowledge to help children further their skills. Can the essence of the experts be captured and taught?  
Haynes, 2002:39

This could perhaps be accomplished by breaking down thinking into composite parts. This is problematic, demonstrated by Johnson's criticism of McGuinness' tendency to reduce skills into a series of components, suggesting it may have a

...baleful influence if it leads to unsuitable approaches to teaching' 'Come young master Einstein, enough of these flashes of insight, think things through stage by stage.'  
2001:6-7

The light-hearted example is taken in the manner intended, but the point remains that some pupils' performance may well be enhanced by using strategies to consider steps that can be taken to make a choice, or present an analysis. It does not follow that able pupils would be forced along a particular fixed route and denied the opportunity to work in the way that best suits their needs. There would be very few teachers demanding that a pupil should abandon his excellent insights and instead use a stepwise approach. The example could be turned around. What if the rejection of the teaching of thinking skills resulted in a far more 'hands-off' approach? Pupils drowning in knowledge need to organise what



they have been taught in order to answer an essay question. 'You know all the dates and events, now sit there and think. You're bound to have a flash of insight soon.'

Johnson also asserts that mastery of the parts of a task will not guarantee mastery of the whole task (ibid:7), taking issue with those who find that 'teaching rules and principles is essential'. Whilst I agree that it would not be useful to over-emphasise sub-skills and take no account of broader issues, I do not think many practitioners would want to follow any particular method with unswerving dogmatism. In learning, there are times when breaking down components is indeed useful. No sensible practitioner would consider teaching the physics of cycling before the practice (as Johnson suggests on page 7), but there are many cases when rules and principles are valuable to know. For example, knowing the function of the clutch pedal in a car can help a novice driver understand how to change gear and make decisions about this until it starts to feel natural. Similarly, no-one would consider mechanical reproduction of the right notes in the right order to be the same thing as really playing music, but there are moments in learning a new piano piece or a difficult arpeggio when full attention must be paid to 'thinking what one is doing with one's fingers'.

Even amongst those who advocate thinking skills, there is argument about a taxonomy of such skills and it is naïve to suggest that this is clear and uncontested. McGuinness refers to several 'taxonomies' but does not evaluate their worth (section 3.3, pp 5-6). Amongst the selection is the 'framework' of multiple intelligences theory but it is not clear that this constitutes a taxonomy of thinking, in the same way that a list of 'sub-skills' counts as a taxonomy. There is also a list headed 'high quality thinking', confusingly referred to as both a '*characterisation* of thinking'

(p5) and as list of '*types of thinking*' (p6). The reader is unsure as to whether the list is an explanation or description.

She then notes:

Developing thinking has created its own conceptions for learning and has shifted from the thinking-as-a-skill metaphor to ideas of a thinking curriculum, thinking classrooms and learning communities.  
Para 3.8, p7

It is unclear what 'developing thinking' means here – is it a movement, or some kind of organisation? Is it an impetus that has come from research? And is a 'thinking curriculum' supposed to mean a curriculum designed to enhance thinking, perhaps a 'curriculum for thinking'? Unfortunately, obfuscation such as this is easy to criticise, rendering any positive points the report might make rather hard to defend.

It would seem that by failing to tackle sticky central concepts head on, the DfEE report has been left open to easy pot shots.

6.4.1 Thinking skills are like other forms of skill learning as they are:  
(b) learnt through observation and modelling;

McGuinness notes that learning to think is like other kinds of skill learning and can be accomplished through 'learning by observation and modelling, with practice and feedback' (p5). This is dismissed by Johnson as suitable for gardening and carpentry, but not for thinking: 'we cannot observe a thinker's thinking skills!' (p8). Well, of course it is impossible to see thoughts, but it can definitely be valuable to observe expert thinkers in action. An essential part of my doctoral programme has been attendance at weekly philosophy seminars in which students are exposed to experienced



professionals discussing complex issues. They ask and field questions, make connections, clarify terminology, probe and worry at concepts and ideas and present constructive and destructive criticism. Students are also given a platform at these meetings and as confidence and knowledge grow, individual student participation increases. We are indeed observing the thinker's thinking skills and just because thoughts 'do not fit a common model' (p8), it is still a useful process.

Johnson also disagrees with McGuinness' endorsement of 'the importance of practice' (p5). He uses de Bono's weak analogy of 'mental muscles' and asserts that 'the arithmetical-circuit training of simple sums seems to prepare one only for simple sums' (p8) although he presents no evidence for this statement. He dismisses the use of practice in intellectual pursuits, saying that 'we can neither initiate nor control' understanding (p9). Practice in understanding is a difficult idea and very different from practising a tennis serve, drum roll or calligraphy stroke. Nevertheless, it is possible to improve certain aspects of understanding through practice. The seminars noted become increasingly meaningful for students who concentrate on form and structure of argument, which can only come with a sense of comfort and ease with the discussion format. This comes from practice, experience and feedback.

#### 6.4.2 Thinking skills are like other forms of skill learning as they are: (c) transferable.

The seductive idea that thinking skills are transferable across domains has dominated discussion in the field for many years. If it could be demonstrated that a core group of skills relates to all key subjects, it would

be clear what should be taught in schools and even, possibly, how such teaching should occur. White reminds us that the vagaries of educational fashion have brought this old concern to current attention (op cit 113).

The conceptual error that leads people to consider thinking skills as transferable is identified by Johnson as the 'generalising fallacy' which:

...consists in putting a task competence under the heading of a wider, perhaps an extremely wide, task descriptor and assuming that if a person has mastered the task competence then, *ipso facto*, she can do whatever falls under the wider descriptor.  
ibid

A teacher committing this error with a three-year-old, for example, could wrongly assume that their ability to classify shapes according to colour would transfer to an ability to classify shapes according to size. There are links between the two tasks, but there is no guarantee that a child with a well-developed concept of colour will have a similarly advanced concept of size. The specificity of thinking to different domains is also highlighted by White (2001:99-114). He shows that effective philosophical argument for example, may not be relevant to economics or science. The most widely cited critic of the notion of generalisability of thinking skills is McPeck, who states that 'thinking is always thinking about something. To think about nothing is a conceptual impossibility' (1981:3). McPeck is vague, however, in pinning down the kind of 'activities' that thinking could be about, but suggests more generally that a broadly based liberal education would provide children with what they need to become critical thinkers.

It seems that thinking skills cannot be transferable as they must always be within a specific context and each context will differ, making the skill different each time. However, Higgins and Baumfield (1998) argue that domains of knowledge are closely related and that the onus is on their



detractors to prove that there are no connections between fields (e.g. McPeck, 1981; Barrow, 1987; Johnson and Gardner, 1999). Even though fields of learning are distinct, there are shared aspects that can be highlighted by teachers. Subject areas such as mathematics and physics, or biology and chemistry are closely connected with knowledge from the fields helping to inform one another, as well as sharing some similarities in methods used to approach tasks and problems.

Paul Hirst's influential forms of knowledge theory for example, considers both the distinct nature and the similarities between fields. He argues that each form of knowledge has its own logic and can be distinguished by four key features: shared core concepts; distinct logical structure; distinctive expressions testable against experience; and particular techniques for exploring and testing its statements. He also notes though, that domains are related:

It was no part of the thesis [...] that the forms of knowledge are totally independent of each other, sharing no concepts or logical rules. That the forms are inter-related has been stressed from the start.  
1974:89

Elliott goes further identifying 'mental powers', claiming they underlie the domains:

...the Forms of Knowledge owe their origin, character and achievements to the nature and operations of mental powers, and this is a reason for understanding the mental powers as the most fundamental development of the mind.  
1975:51

The difficulty with this view is that some of the examples are not necessarily powers to be taught and learnt, but have more to do with basic conditions of living ('retention and anticipation' p48;

'involvement and ambition' p49). Although thinking skills are a logical possibility, Johnson and Gardner claim there is no evidence for their existence, although they do concede that they have never considered 'there is anything contradictory in the idea of general thinking skills' (1999:436).

Siegel and Bailin agree that thinking skills differ across domains, but emphasise that:

...it simply does not follow that nothing general can be said about the activity of thinking, conceived as the general activity of which all particular episodes of thinking are instances. That particular episodes of thinking always have particular content is perfectly compatible with there being general thinking skills or abilities that are applicable to a wide range of domains, subjects, or contexts.  
2003:184

They identify arguments that are 'applicable across a range of reasoning contexts' (p184), suggesting similarities in different types of fallacies, for example. That they recognise the value of subject content contradicts Johnson's suggestion that supporters of thinking skills dismiss 'the importance of school subjects' (2001:36). Siegel and Bailin present a specific definition of critical thinking, explaining how it can be set apart from other 'types of thinking' that may occur in a taxonomy. Critical thinking is to do with the *quality* of thinking, and this could therefore have some general currency across domains.<sup>viii</sup> This is definitely a different understanding of general thinking skills from the confused definition in the McGuinness report and some of those presented in published programmes.

The notion of transferable thinking skills as a list of competences is criticised by Johnson, but this conception is only presented in the



McGuinness report and theoretically weaker critical thinking skills programmes. In CoRT, for example, de Bono makes bold claims about transfer, but authors of FIE and CASE are far more cautious. Even if their premise of transferability is wrong, they have built the notion of 'bridging' into the programme, demonstrating that any transfer or broader applicability can only be made to work if it is made an explicit focus. They do not claim that children will spontaneously transfer learning.

Johnson goes on criticising the teaching of thinking skills saying:

By reducing thinking to a checklist of skills, a vital fact is ignored: that education should engage with the personality of both teacher and taught, and that teaching is not a technology but a moral activity involving complex relationships which are in principle irreducible and unpredictable.

2001:36

Johnson is right to criticise McGuinness for failing to develop her point that 'developing higher order thinking may be as much to do with creating a disposition to be a good thinker as it has to do with acquiring specific skills' (para 3.7, p6). Other thinkers though, have focused on this area in detail, for example, Siegel and Bailin, who clearly recognise the complex relationships and moral context highlighted by Johnson. They consider helping children develop positive dispositions to be a generalisable aspect of teaching thinking, applicable across a range of academic domains. They identify the following dispositions:

...valuing good reasoning and being disposed to seek reasons, to assess them, and to govern beliefs and actions on the basis of such assessment. [...] open-mindedness, fair-mindedness, independent-mindedness, an enquiring

attitude, and respect for others in group inquiry and deliberation.  
2003:183

White also emphasises that the acquisition of skills should be accompanied by the development of dispositions for their regular and habitual use, although this is only one aspect of a fuller understanding of the nature of thinking (op cit, p104 and p99).<sup>ix</sup>

In sum, therefore, it is true that there are some generalisable aspects to thinking, but the importance of context, subject areas and dispositional aspects must be taken into account. In closely related fields skills can sometimes transfer, but this should be made explicit and children should not be expected to be taught skills in a vacuum and automatically apply them across subjects.

#### 6.5.0 The Thinking Skills Programmes

The subsequent chapter (7) considers the thinking skills programme known as Philosophy with Children (PwC). It is examined in some detail, and contextualised here through a brief presentation of information about a range of different programmes, highlighting contrasting and contradictory understandings underpinning the teaching of thinking. There are numerous programmes available designed for a variety of users. Some emphasise the able child, whilst others implicitly include them; these aspects can be somewhat fuzzy, with differing interpretations of key concepts, for example, abstract thought. The programmes are often described as falling into three main categories: general; subject specific; and infusion (all quotations in the next three paragraphs taken from McGuinness, *ibid*:7).

##### a) The General Approach



Programmes under the 'general' heading use either context-free or context dependent techniques, but are always based on specifically designed materials. They are based on a concept of cognition as 'driven by a general central processor' and aim to intervene and ameliorate thinking through developing this processor.

b) Subject Specific

The second method, 'subject specific', considers good thinking to be best developed through specific subject areas and is 'based on the view that high quality thinking is inextricably linked with the knowledge structures, the methods of enquiry and ways of thinking associated with different disciplines or domains.'

c) Infusion

The third way of thinking about thinking is the 'infusion method' in which opportunities for developing different skills are identified through the existing curriculum. Every subject would be used as a vehicle for teaching thinking skills and the National Curriculum would be a 'curriculum for thinking' and lessons would be developed 'where thinking skills and topic understanding are explicitly and simultaneously pursued'.

These three categories are not very clear and some programmes seem to overlap, however. For example, Cognitive Acceleration through Science Education (CASE) seems to fall into both (a) and (b), aiming to affect cognitive development (a), through concepts taught in science (b). In the report, Philosophy for Children is categorised as a 'general' programme (a), although Lipman never made claims that it would intend to achieve the cognitive changes central to Feuerstein's Instrumental Enrichment (FIE) and to de Bono's Cognitive Research Trust (CoRT). These can both be categorised as 'general' programmes, but Lipman emphasises the development of habits of thinking (Fisher, 1990:156) rather than the

‘structural changes’ emphasised in FIE (cited in Coles and Robinson, 1989:87). Nowhere does McGuinness mention the development of habits in terms of the general approach. Philosophy for Children could also be considered a subject-based programme if the focus was learning about philosophy, or even an infusion programme, depending on its interpretation and realisation.

The following three sections (6.5.1-6.5.3) outline programmes in each category and briefly review underpinning theory, bearing the needs of the able in mind.

#### 6.5.1 The general approach: ‘Feuerstein’s Instrumental Enrichment’ (FIE) and the ‘Cognitive Research Trust’ (CoRT)

FIE was designed primarily for children with severe learning difficulties, including retarded performers deemed unteachable by mainstream schooling and is focused on structural cognitive modifiability. The programme is premised on the belief that ‘the cognitive structure of the brain can be changed by enabling people to learn how to learn’ (Coles and Robinson, op cit:87) and ‘more than 100 studies’ confirm claims for its efficacy (p.92). Amongst students and teachers it has been ‘generally well received’ (Maclure and Davies, 1991:46).

It presents as well grounded in Vygotskian and Brunerian theory, as well as Feuerstein’s own views, and is clearly constructed. The materials have been adapted for wider use, including the highly able (such as Blagg et al’s, 1988 ‘Somerset Thinking Skills Course’). The open-ended nature of the tasks makes them appealing to teachers looking for activities with high ceilings for able pupils, but I have yet to see any specific data on FIE or STSC and the highly able.<sup>x</sup>



FIE does not make use of subject knowledge, but this is not because Feuerstein thinks it is irrelevant, but because he considers his target children initially need to master some basic strategies to help them think. De Bono, however deliberately eschews subject learning, with disdain.<sup>xi</sup> His Cognitive Research Trust (CoRT, 1973) is a 'context-free' programme, mentioned in McGuinness' report (although inexplicably not examined in any further detail beyond being listed on page 7). This programme has become a lucrative global business through its apparent applicability to a wide general audience of business and corporate clients as well as educational establishments and high sales for novelty books, such as 'Mind-bending Puzzles' (1994).<sup>xii</sup>

The programme consists of a series of strategies designed to develop a toolkit of skills for use with problem solving and investigative tasks. Tools can be taught easily to children or adults and sessions are diverting and enjoyable, based around tasks such as 'PMI' which entails weighing up the 'Plus, Minus and Interesting' aspects of fictional thought-games such as 'What if all cars were yellow?' or 'What if everyone wore a badge to indicate their mood?' The theoretical underpinning of the CoRT programme is very shaky, however, and there is little empirical support for de Bono's claims. Positive claims made by Edwards, for example, are lacking in appropriate rigour in examining the research tools used to evaluate the outcomes.<sup>xiii</sup> De Bono seems confused about his own concept of thinking, using a range of muddled metaphors:

Intelligence is like the horsepower of a car. Thinking is like the skill of the car driver. (1995:iii)

Thinking is defined as the operating skill with which intelligence acts upon experience. (1992:iv)

...thinking will be regarded as a kind of internal vision which we direct at experience in order to explore, understand and

enlarge it. It is the deliberate exploration of experience for a purpose. (1976:32)

The brain is like a car engine. (1970:vi)

What happens in the brain is information. And the way it happens is thinking. (1969:18)

An obvious criticism of CoRT concerns the lack of evidence of automatic application of the thinking tools in different contexts; it is insufficient merely to assume that building a repertoire of sub-skills will lead to better thinking. Although de Bono argues that following CoRT rigorously will result in this transfer, no supporting evidence exists. There is little provision for learning how to apply the skills to real problems, and no substantiation either, of how the activities benefit the able, although the website claims that CoRT can be used successfully by 'any age, any type of thinker' (2002, from website), despite lacking differentiation within the tasks. In earlier writing he is quite rigid about the pace and length of sessions (1976), and it is unclear how this would take account of a range of abilities. I have found the materials quite useful with groups of children of similar abilities, less so in mixed groups.

McPeck finds de Bono's work unexamined by academics, which is surprising, considering the nature of his claims, but at the same time unsurprising, considering the non-academic nature of his writings (unsubstantiated claims, no references, rejection of 'the verbal tradition in education', etc., from various references, including 1976:97.) He notes a 'curious mix of explication and rhetorical persuasion that de Bono uses to promote his ideas' (1981:120), and also finds much to criticise in de Bono's mind models, some of which I have noted above.

There are simply too many types of thinking, manifest in diverse skills, to permit us to infer a single generalized ability for their respective achievement. This is not to deny the



inherent merit or usefulness of de Bono's educational prescriptions but merely to point out that his model of the mind is at cross purposes with his prescriptions and cannot serve as a foundation for them.  
Ibid:104

Ultimately, Mc Peck suggests that the methods only really foster the development of divergent thinking and creativity, rather than 'thinking' (ibid:105).

#### 6.5.2 The subject specific approach: Cognitive Acceleration through Science Education (CASE)

This method seems to have impressed the government, with widely reported success as demonstrated by the CASE project (Adey and Shayer, 1989), in which children's cognitive development is accelerated through specific methods of teaching secondary school Science. CASE was originally intended to help pupils with average or below average ability, but has since been taken up by a range of schools. The most recent claim for its success has been Shayer stating that where there is 'a relatively able intake, schools might expect that between 70 and 80 per cent of their students would achieve grades A-C at GCSE' (Times Educational Supplement, 23 Feb 2001). Similar programmes in geography ('Thinking Through Geography' Leat, 1998) have been established independently, but CASE and allied programmes dominate the subject specific field.<sup>xiv</sup>

Authors Adey and Shayer are the only researchers who have undertaken empirical studies of the effectiveness of CASE and unsurprisingly they have found the programme valuable. The McGuinness Report describes CASE as 'one of the most successful and well-evaluated programmes' (Para 6.2:17) citing the authors' self-recommendation as evidence for adoption of CASE.<sup>xv</sup>

Case is based on 'pillars of cognitive acceleration' (originally three pillars, now six, 2001:40), and the materials are designed to accelerate the process of moving through Piaget's stages of cognitive development, from concrete to formal operations. This is considered as a natural maturational process that can be speeded up through directed tasks. There are problems with the underpinning stage theory (briefly considered in the following Chapter, section 7.3), but even if this is accepted, it seems that the aims of CASE are unlikely to help the able child. The premiss of the programme is that children can be cognitively accelerated and the highest level to attain is formal operation thought. Able children are already functioning at this level if they are in advance of their average peers. There is an emphasis on meta-cognition though, which could be helpful to the able child (Freeman, 2000), and specifically the able underachiever, whose performance-ability gap is marked.

Adey and Shayer echo the aims of programmes described as 'general' in the section above (6.5.1) in their definitions of 'good' thinking and explanations of how thinking develops. They accept a notion of general intelligence but do not mind how it is framed or defended.

...the process in which people are engaged when they are able to solve a difficult or challenging problem and which results in an improvement in a person's intellectual power. (op cit:36)

...empirical data supports the hypothesis of a general cognitive processor which can be positively influenced by appropriate intervention strategies. (op cit:103)

Whether we model the underlying general intellectual function in terms of IQ, working memory capacity or on Piaget's *structures d'ensemble* is a matter of fine-tuning. (2001:3)



Obviously CASE uses Science, and CAME Mathematics, but exactly how important is subject matter in developing the cognitive powers described above? Adey and Shayer value subject knowledge, but 'reject the notion that science might claim a unique position for the development of thinking skills' (1994:79). This, coupled with the proliferation of programmes in other subject areas, both demonstrates the importance of subject knowledge and raises questions about the validity of any assumption that thinking skills can be generalised. In earlier editions of CASE, generalising skills explicitly across subjects was not a priority as evidence for general acceleration was considered sufficient (1994:91). The 2001 version, however, incorporates 'bridging' (a term used by Feuerstein in the 1980s) as a 'pillar of cognitive acceleration'.

In general, the efficacy of cognitive acceleration programmes seems to lie in the motivation and increased interest resulting from innovative pedagogy. This implies teachers reviewing their teaching methods, encouraging children to talk about areas of misunderstanding and specific matching of tasks to abilities. For the more able pupil, advanced tasks within the subject area are useful, although probably no more effective than well executed differentiation.

### 6.5.3 Infusion

Infusion 'exploits naturally occurring opportunities for developing thinking within the ordinary curriculum' (McGuinness, *ibid*:para 7, p19) and is the method underlying McGuinness' own programme, Activating Children's Thinking Skills, (ACTS, 1997).<sup>xvi</sup> With infusion, every subject area is used as a vehicle for teaching thinking skills, as recognised on the National Curriculum website. At the time of writing (2003) there is still a message promising 'From May 2001, you will be able to use National Curriculum online to search for opportunities to promote thinking skills' and some material promoting the ACTS programme.

The ACTS programme was undertaken with only seventeen teachers and research findings are based on a review of their experience of 'experimenting in their own classrooms' over an eight month period and after two days of training (McGuinness, op cit:para 7.1, p20). No indication is given about the level of ability targeted by ACTS, but one of the findings is that 'children expected to be pushed more' (op cit). This benefit was identified through teachers' evaluations, although 'children's learning gains were not monitored' (op cit). Other findings are presented without explanation of the terms used. The researchers (the author et al) note that:

Content instruction is invigorated thus leading to deeper understanding; teaching for thoughtfulness is supported across the curriculum; transfer of learning can be more easily promoted and reinforced at other stages.  
ibid:19

Anecdotal evidence is presented as confirmation of these conclusions and teachers' comments are quoted to verify the findings. I do not doubt the teachers' views, but find this data insufficient to warrant the promotion of the programme by the government. This is particularly the case when recommendations are not made for other programmes that have more compelling empirical evidence and equally valid teacher testimony.

If this method is indeed effective, the advantages are clear. All that is required is a shift in pedagogy and adaptation of methods and materials, rather than a radical rethink of the curriculum. These changes can be accomplished by teachers, although time and resources for training must be allocated, and attention paid to the effects of radical pedagogical changes. This may include some kind of modification of power, towards the teacher as facilitator and co-enquirer. McGuinness recognises this, noting that:



...classrooms need to have an open-minded attitude about the nature of knowledge and thinking and to create an educational atmosphere where talking about thinking – questioning, predicting, contradicting, doubting – is not only tolerated but actively pursued.  
Op cit:15

She also acknowledges the need for teacher development and attending to the ‘ethos of schools as learning communities’, although how such guidance and support would be provided is unclear.<sup>xvii</sup>

As with the other programmes, the key discernible positive factor appears to be the way teachers focus on their pedagogy as a result of following recommendations.

#### 6.5.4 New kids on the block

New additions to the catalogue of available programmes were obviously not available to be reviewed by McGuinness, but they introduce additional issues and demonstrate the diversity of methods for teaching thinking. The new additions have not yet been subject to empirical examination of their effectiveness, but are advertised at government sponsored conferences<sup>xviii</sup> and form the subject matter of journal articles in both theoretical and practice-based circles, including web-chat and information for Inset providers. There are several that now need discussion and these include the World Class Arena (WCA) and Accelerated Learning / Neurolinguistic Programming (NLP).

WCA is a recent innovation and forms part of the Gifted and Talented strategy, as the materials are ostensibly aimed at the highly able (see 6.1 above for discussion of this confusion). There is substantial funding from the Qualifications and Curriculum Authority (QCA) and an explicit focus on testing, through the World Class Tests (WCT). So far, around 12,000

children have undertaken tests, in mathematics and / or problem solving.<sup>xix</sup> The tests are contextualised in a web-based scenario called the World Class Arena (WCA), which provides support for teachers, parents and pupils. The tests are available worldwide (at least in the countries that have joined the scheme). This notion of a global arena for high ability implies that cross-cultural core aspects of giftedness must clearly exist and be measurable, which is a contested notion, although no exploration of this is undertaken in the Arena.

Pupils are entered for the tests by their parents and there is a fee to cover administration. The test must be carried out at a registered centre, usually a school. The tests are completed on a computer and all practice materials are distributed on CD-ROM. Pupils without access to computers are unable to participate at this time. Practice tests, support materials and the test fee are only available to those who can pay, benefiting the affluent able and those with motivated parents or teachers.<sup>xx</sup> Whilst the materials are good (if narrow), the issue of access remains a major problem. Potentially positive aspects of WCT and WCA have yet to take hold significantly, unlike the US competitions such as the Olympiad and the Odyssey of the Mind, both of which are reported to be useful for the able (Reed et al, 2000).

NLP is at the opposite end of the thinking skills spectrum. Where WCTs are predominantly about test performance, NLP is about changing the way people approach life; the way they think and act in all domains. It is designed for all abilities, but like some of the other programmes mentioned, the open-ended, somewhat unusual tasks, are attractive to teachers struggling to meet a broad range of needs. Many of the tasks are also self-explanatory, requiring the minimum of teacher supervision and allowing pupil autonomy, satisfying the hunger of the curious learner. The tasks can also help with the demands of the underachiever as they tap



into unconventional ways of learning, possibly unlocking a suitable technique for a pupil with a learning difficulty. NLP is a cluster of strategies that purport to increase efficiency in thought, problem solving and approach to learning. They include dietary supplements, use of music, motivational methods and paying attention to the physical environment. Concept maps, or 'mind maps' serve for note taking (such as those created by Buzan<sup>xxi</sup>) and memory hooks and games can improve memory competence and promote good organisation of ideas and activities.

Some able children find the techniques free them to work in ways they find more appropriate to their 'thinking style', but this can cause difficulties when they need to re-adapt to school learning. Able underachievers benefit from what amount to study skills strategies and have reported that sessions are less patronising than school-based SEN, which makes them more likely to attend with a positive attitude.

The WCT and WCA do have on-going research by independent consultants<sup>xxii</sup>, as the QCA is undertaking continuous evaluation of their efficacy, which is appropriate, since they are providing funding. NLP is more of a 'movement' that has its roots in business efficiency ideas and has spread branches into the educational world. Techniques are harnessed by SEN teachers, as they tend to use unusual methods such as pictures and colour, which can help students with learning difficulties or unusual approaches to work such as children with dyslexia and / or Asperger's Syndrome. Neither of these newer programmes has yet engaged formally with debates about issues such as transferability. If they are to be recommended, this needs to be taken up.

## 6.6 The impact on teachers

The most valuable changes that thinking skills programmes seem to effect concern pedagogy. The following comments about FIE are typical for a range of programmes:

The children were consciously thinking problems through ... the teacher wondered whether working with the materials had alerted her to the nature of the problems and changed the way she worked.  
Maclure and Davies, 1991:46

Blagg's findings also emphasised improved teacher skills above anything else (1989), a contention supported by Fisher (1990:154). Sharron shows the direct link between this and teachers supporting children of different abilities:

Traditionally they have catered for the middle ability corps and allowed those with learning difficulties and high abilities to cope under inexpertly defined and managed 'differentiated' regimes.  
2001:37

ACTS and CASE research findings echo these notions and McGuinness recognises that success of these programmes is 'due in no small measure to the well developed teacher training and support' (op cit:para 9, p 27). Overall, it is clear that the programmes help teachers reconsider their classroom performance and think carefully about how children learn. Subsequent pedagogical changes have far-reaching consequences and it may be that this is the key positive factor of the programmes, regardless of method, aims or structure.

## 6.7 Conclusion

Thinking skills programmes have become increasingly important on the national and international scene and need close examination of methods, aims and underpinning theories. For the able, they hold



more promise than they deliver. Aspects such as an emphasis on the meta-cognitive and on study skills can be of practical value, but these are normally not central aims of the programmes. Most useful is the way teachers adjust their pedagogy to account for the shift in role that accompanies teaching thinking skills and this is not tied to any single programme.

Conceptualising thinking as a skill, or range of sub-skills that can be taught individually and divorced from subject matter, is far too simplistic an approach. Some skills form part of what we call 'thinking' and these can be developed and fostered in school. They must be accompanied by the development of dispositions and taught within the context of appropriate subject knowledge if they are to be valuable. Some aspects of learning thinking are related across disciplines, and where this is the case, it should be made explicit. The importance of individual contexts should not be underplayed.

Much of the support for thinking skills programmes is driven by passion for a successful pedagogy that may not be replicated by different practitioners or in different situations. There is also a lucrative business in designing and selling programmes, but a lack of open debate about underpinning issues and quality of research. It is, instead, one programme's fan club versus another's, and the loudest voice generally wins.

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<sup>i</sup> An example of this would be the re-release of Edward de Bono's materials from the 1970s and some of Tony Buzan's study skills work from the 1980s, now available for 'everyone'. Such adaptations differ from, for example, Blagg's adaptation of Feuerstein's work, in which the entire programme is rethought and recast, rather than merely repackaged.

<sup>ii</sup> For an interesting extension of this argument see Best, 2000.

<sup>iii</sup> Government agendas determine how funds are distributed for research and this does not favour the practitioner. For example, the influential McGuinness Report (1999), notes



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the vital need for translating research into practice, but makes no mention of a reversed relationship where ideas for research are born out of practice. A similar research-practice divide is developing in Higher Education. Academics who wish to publish in practitioners' journals are encouraged not to do so, focusing instead on peer-reviewed publications that count towards measures used to determine budgets (currently the Research Assessment Exercise, or RAE). Peer-reviewed journals are mostly read by academics and professionals actively engaged in further study, whilst the less renowned publications typically have a wider audience, if not an audience in closer contact with children and classrooms. Vital new research therefore fails to reach the audiences who most need to engage with fresh ideas. Similarly, academics fail to keep up to date with the needs of practitioners and practice-based research continues to decline in status and value. An interesting new initiative has been introduced by the Gifted and Talented strategy unit at the DfES (2002) that may help to address this issue. Key stage 1 teachers have been funded for research projects with able pupils. A network has been established to allow for dissemination of this work that has been completed to a high standard and overseen by a steering committee co-ordinated by Brunel University. Funding for continuation of the project is uncertain.

<sup>iv</sup> Steve Johnson is described as a 'gadfly' in the journal *Teaching Thinking* (Summer 2001) with reference to his article in the previous edition.

<sup>v</sup> Press release from 4<sup>th</sup> May 1999 where it was noted that 'findings will be fed into the NC Review' This report can be read at [www.nc.uk.net/learn\\_think](http://www.nc.uk.net/learn_think) accessed in April 2001. No data was available as to the number of teachers accessing the site, but in a personal communication I was told that teachers find the report 'very useful when they are choosing which programme would be best for their school' (May 2001).

<sup>vi</sup> McGuinness opts for the ACTS project the Activating Children's Thinking Skills project (ACTS), whose title seems to imply that thinking skills are somehow innate and dormant, awaiting the stimulation of a planned programme to galvanise them into action.

<sup>vii</sup> Such as calling Matthew Lipman 'Martin Lipman' (5.4, p13), misinterpreting Murrells' work with story books as 'a pictorial version of philosophy' (5.4, p14) and using the disparaging term 'cottage industry' to describe academic research on children's understanding of scientific concepts (6.2, p17).

<sup>viii</sup> Siegel advances four justifications that underline the importance of this area: Respect for persons; Self-sufficiency and self-direction; Role of critical thinking in rational academic traditions; Role of critical thinking in democratic life (1988).

<sup>ix</sup> The fuller understanding entails distinguishes between thinking as an occurrence and as a continuant, i.e. as an activity and a belief. It also understands thinking as intentional, as an activity, as involving concepts and as a skill (2002:99).

<sup>x</sup> Some critics note that the serialistic and analytical approach could be counter-productive for some careful, able workers. The method is appropriate for those who need support in building these strategies, 'but not good for those pupils who were already over reflective, perfectionist and anxious about making mistakes' (Jones and Jones, 1992:2). High task ceilings make some activities eminently suitable for the able, however.

<sup>xi</sup> He considers that subject content offers 'comparatively little scope for thinking except of the hindsight variety' (1976:104).

<sup>xii</sup> For a list of companies etc using his work, see his website at [www.edwDeBono.com](http://www.edwDeBono.com).

<sup>xiii</sup> Edwards' work (1991) for example, lacks rigour in examining the research tools used to evaluate outcomes of CoRT activities (cited in Maclure and Davies, eds).

<sup>xiv</sup> Parallel programmes are run in Mathematics and Technology (CAME, 1998 and CATE, 2001) underway as well as the development of materials for younger children at Key Stage 1 ([CASE@KS1](#), 2001) amongst others. This is partly due to the government funded Centre for the Advancement of Thinking, based at King's College and directed by Phillip Adey, from which research can be undertaken and programmes developed.

<sup>xv</sup> In their 2001 publication, amongst eight pages of references, there is no mention of any study evaluating their programme that is not solely or co-authored by Adey, Shayer or



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both (pp196-203). This seems unusual for a well-funded programme running for more than a decade.

<sup>xvi</sup> Whether this can be correctly termed 'infusion' is questioned by Johnson, who points out that 'to infuse' is defined as to 'introduce into one thing a second which gives it extra life, vigour and a new significance' (2001:ibid:4). This is not necessarily demonstrated by the ACTS methodology using the existing curriculum.

<sup>xvii</sup> The Schools' Standards Minister announced that training would be available for teachers in the area of thinking skills. 'The government will ensure thinking skills are addressed in the curriculum and in the guidance on teaching. We will give teachers access to appropriate training in the teaching of thinking skills.' (Morris, 4 May 1999). Such training has yet to be delivered as a coherent national strategy.

<sup>xviii</sup> They are often marketed at the DfES termly Standing Conference and other conferences such as the annual National Association of Able Children in Education (NACE) meeting and the biennial 'Thinking' conference.

<sup>xix</sup> At the time of writing, the examinations and assessment board AQA had just decided to terminate its work with the WCTs and it is unclear who will take over the lead research of the WCT. Smaller partners are still involved.

<sup>xx</sup> Developers of materials have suggested that success in the tests could be a contributing factor in schoolchildren's Curriculum Vitae, now a vital component in the fight for a place in a selective school. This would disadvantage those without access to the test. At the aforementioned thinking skills conference in Harrogate, delegates were split as to their views of the WCTs. There were those who had been looking for exactly the kind of activities and testing structure that was on offer, but just as many were hostile to the very idea of testing, for a variety of reasons. Overriding concerns were for how testing can stifle imagination, channelling pupils into yet more Mathematics, while others worried about issues of payment and pressure both on and from parents. In my view, all of the old arguments about support for the gifted being a factor in the perpetuation of elitism are fuelled through the development of such texts. (Information gleaned from conference sessions and talking to people on the stand.)

<sup>xxi</sup> Tony Buzan's latest publication is 'Mind Maps for Kids' (2003) which takes his concept map ideas from the 1980s and updates them for children. These are popularly used by NLP practitioners, but were not designed for these programmes.

<sup>xxii</sup> At the time of writing, the examinations and assessment board AQA had just decided to terminate its work with the WCTs and it is unclear who will take over the lead research of the WCT. Smaller partners are still involved.

## Chapter 7    Philosophy with Children

### 7.0    Introduction

Of all the critical thinking skills programmes, I have chosen to look at Philosophy for / with Children (P4C / PwC) in detail as it seems the most useful for children of high ability, a view based not only on theory and literature, but also on classroom practice. I have adopted the following definitions:

The abbreviation PwC is used [...] to refer to the practitioners of philosophy with children. The term 'P4C' is used as an abbreviation for the proponents of the 'Philosophy for Children' programme developed by Matthew Lipman and colleagues from the Institute for the Advancement of Philosophy for Children (IAPC) in the USA. 'PwC' stands for a larger group of people than 'P4C' because not all children's philosophy teachers believe the IAPC material is the best educational material with which to introduce young children to philosophy.  
Murrells, 2000:277

PwC is often presented alongside Critical Thinking Skills programmes, and evaluated using the same criteria. A variety of different programmes and pedagogies fall under the umbrella heading, and since they have been gaining momentum worldwide Philosophy for / with Children has become known as a 'movement', implying a shared ideology and a sense of organised group action, perhaps imbued with a sense of evangelism.

PwC has many supporters, mainly in the USA, UK, Australia and Latin America,<sup>i</sup> but also numerous detractors, whose critiques are presented here (7.2 to 7.6).

### 7.1                      What is PwC?

The birth of the P4C movement is uncontroversially attributed to Matthew Lipman, who created materials for children and teenagers in order to help



them develop the dispositions of reasoning required for later study of philosophy at university level. He established a training centre for teachers (IAPC) and teacher education is a key focus of the programme. Lipman cites Dewey as a major influence on his work, particularly in interpreting education as reasoning, encouraging the 'fostering of thinking', and rejecting a model of teaching that is little more than transmission of knowledge (Lipman, summarised in Whalley 1987:69). The P4C programme consists of a series of novels and teachers' notes, while PwC can include a range of materials with stimuli such as news stories, picture books and art.

Many practitioners are now interested in PwC but have departed from some of Lipman's tenets, creating their own interpretations and materials.<sup>ii</sup> Some principles are upheld, however, by advocates of both PwC and P4C. These principles include the aim of effective moral development, as there is a strong sense that PwC is about making children become better people in general, but this is difficult to evidence through empirical research. Some aspects of learning are impossible to quantify and the focus is usually on what can be measured and tested. Improved literacy and numeracy through PwC have been demonstrated in research, but this was never part of Lipman's original agenda.

Another key feature in all types of PwC/P4C programmes is the 'Community of Enquiry'. This is a democratic discussion in which the children set the agenda and the teacher's role is to facilitate a group enquiry. Children are encouraged to think 'logically, critically and creatively, to reason and reflect, and to deliberate with an open-minded disposition' (Haynes, 2002:12).

As a 'movement' some activities on the fringe of PwC carry with them a sense of evangelism, lacking rigorous examination of key principles and

incorporating rather unusual activities. Whilst there is nothing wrong with being unconventional, rationales are needed for all proposals, outlandish or ordinary, but they are seldom provided in PwC. Medical and other evidence suggests that dietary recommendations, meditation and visualisation exercises can be helpful, but to confuse this with an emphasis on critical thinking and reasoning would be a mistake. Critics of PwC have an easy target if they want to discredit the 'requirement' to have children seated on bean-bags and drinking a cup of water every 20 minutes. Certainly, paying heed to the learning environment can be helpful, and must be recognised as relevant, but as incidental rather than as the substance of a programme for teaching thinking.

PwC has practitioners all over the world, with the UK, USA and Australia as leading countries in the developed world. Countries in South and Central America have embraced PwC (particularly Brazil and Mexico), and less developed European countries are also attracted to the pedagogies because of the underpinning notion of developing autonomous thinkers. In order to create a democracy, or to help rebuild a country after a revolution, education must reflect major societal changes, by allowing pupils to learn how to express themselves effectively and this is where PwC can play an important role.<sup>iii</sup>

There are a variety of claims against the efficacy of PwC, from different sources and here I consider the more commonly expressed objections.

## 7.2 Objection 1: PwC is no more than standard classroom discussion work

Teachers employ a variety of techniques to encourage discussion in the classroom, such as Circle Time. Philosophy programmes are very specific about the way in which their discussion differs from these standard classroom techniques. The key difference is the creation of a 'Community



of Enquiry', with specific conventions and guidelines. Techniques overlap significantly with good teaching practice, including: helping the children create their own group rules; sitting in such a way that group members can see one another; talking in turns; respecting other people's views, etc. But with the Community of Enquiry, pupils are also invited to set the agenda, which is less often found in classroom discussion, where teachers hold debates designed to emphasise a predetermined teaching point.

In the Community of Enquiry, the teacher provides a stimulus to encourage pupils to think about what they would like to investigate, agreeing on a specific focus. Then, using a democratic process, the group decides what they will investigate, devolving power and choice to the children. In PwC, once the enquiry is underway, children are encouraged to make their disagreements the focus of the discussion, in a respectful way. Specific techniques help ease this process with guidelines for pupils to be assertive, but not aggressive. An example would be beginning each sentence with 'I dis/agree with x because...'. This makes it acceptable to disagree or agree with anyone in the class, whether they are established friends or just fellow classmates.

This is not always the case in class work, where there is often peer pressure to agree with friends. Here though, the group is working together, pursuing a line of enquiry where children are encouraged to say what they really think, even if they hold an unpopular view. Children are allowed to disagree with one another, but have to show logic and reasoning in their thinking and their contribution should be relevant to the group task of striving to find answers to the questions under investigation.

...the very goal of 'critical thinking' and the goal of the community of inquiry is that of progression forward in the comprehension of an idea that assumes that there is indeed

something to be grasped and that it is more or less graspable. When we sketch out the role of the facilitator. In the inquiry we explicitly detail qualities of thinking that are desirable and worthy of promoting and those that are not. Turgeon, 1998:19

In ordinary Circle Time, the teacher usually encourages pupils to join together, tacitly agreeing that the dominant set of values should be used to help create a common moral code. Children are expected to find examples that agree with the teacher's suggestions (why we should share, not drop litter, allow people to join in our games, etc) and pupils are aware that the sessions are about signing up to common ideals, not explaining how they really feel about issues. In PwC, pupils are encouraged to have their own views, whether these agree with or differ from an obvious or commonly expressed set of values. The ideas expressed by the children should be supported with reasoning and argument. Whalley explains:

It is only by the most careful listening that the teacher will become aware of the range of opinions on a given topic, and be able to devise questions to promote dialogue between the protagonists. [...] The teacher does not so much lead a discussion as facilitate its being led by the group. There is more. It is the teacher's job to notice mistakes in the reasoning that are overlooked by the group, and devise ways of drawing attention to them; to insist that those doing the most talking are also prepared to listen, and to make sure that those who prefer to talk less have the opportunity to express themselves when they wish. 1987, op cit:70

The PwC process is certainly different from ordinary classroom discussion work.<sup>iv</sup>

### 7.3 Objection 2: Children cannot cope with abstraction

This claim assumes philosophy and philosophical problems to have a significant degree of abstraction and that children are unable to engage with this way of thinking. Effective philosophising must involve the ability to



hold concepts in mind and manipulate them with the aim of building logical argument. Issues under discussion can be framed in more or less accessible ways, but will almost always involve a higher degree of abstraction than the usual tasks undertaken in the classroom.

The notion of children being unable to think abstractly stems from Piaget's influential developmentalist ideas, to which there have been objections. Sternberg reports this:

In sum, Piaget's theory asserted that there is a single route of intellectual development that *all* humans follow, regardless of individual differences, although their progression along this route may be at different rates and they may stop off on the way rather than follow the route to completion. Studies contest the invariant sequence of the individual psychological operations within a stage (Dasen 1977) [...] there may be more than one developmental route to the acquisition of some constructs.

Lack of attention to individual differences points to the limited usefulness of the theory in explaining and predicating many aspects of performance.  
1990:180-181 and 190

The replicability of Piaget's tests has been widely discussed, with well-documented criticisms, in particular with the work of Donaldson (1978). More fundamental criticisms of developmental theory can be found in the philosophical work of David Hamlyn, John White and Chris Winch. White rehearses the objections to development as unfolding, by citing Hamlyn (1992:78-9), and Winch notes:

There are two massive problems associated with most developmental theories; the first is that they seek to show what children *cannot* learn at certain ages. The second is that, rooted squarely in the metaphor of organic growth, they find it difficult to account for motivation.  
1998:38

Gazzard summarises the usual responses to Piagetian charges as follows:

1. Attempting to find weaknesses in Piaget's theory (Gareth Matthews);
  2. Interpreting Piaget in such a way that theory can be made to accommodate the possibility of philosophy for children (Hope J. Haas);
  3. Ignoring the discrepancy between practising philosophy for children on the one hand and thinking in Piagetian terms on the other.
- 1985:11

She concludes that it is not as much a refutation of Piaget that is needed, but rather a reinterpretation that allows developmentalism to be only one possible explanation. Freeing an understanding of cognitive development from the developmentalist stage theory allows for the view that 'cognitive growth is predominantly a function of learning' (p13).

...insofar as children are no longer limited in terms of their cognitive capacities by maturation, there is no reason to suspect that given the appropriate information they might not manifest and be proficient in abstract thinking at young ages.  
Ibid

This is certainly a useful framework for thinking about the able child and generously allows for wide individual difference. It is not altogether clear how useful it would be to reinterpret Piaget in order to accommodate this way of thinking about cognitive development, however. Such a rethink would incorporate looser understandings of the ages assigned to stages and an acceptance of a more gradual and messier transition through the stages, for example. I am not sure it is necessary to shoe-horn Gazzard's ideas into a developmentalist framework, but she insists that the Piagetian viewpoint could be 'extended eventually to accommodate this role of education and the consequent viability of philosophy for children' (op cit). I



would prefer, perhaps, to continue to challenge developmentalist understandings of cognitive development.

Many theorists and practitioners agree that Piagetian stage theory underestimates children's ability to abstract ideas. Barbara Tizard and Martin Hughes support this, particularly through their careful examination of children's use of language and the quality of their participation in conversation:

Young children are much less egocentric and illogical than Piaget believed. We found many examples [...] of their awareness of, and interest in, other people's viewpoints. By the age of three or four, we would argue that dialogue is as important as physical exploration.  
1990:19

Richard Kitchener, however, argues that children are capable of only 'concrete' but not 'abstract' philosophy as they are unable to make inferences about underlying principles and White wonders if children can really manage higher order thinking. If the developmental theories are abandoned, it would be a case of taking each child on their merits and this may allow for some people to be capable of reasoning at high levels at an early age. Even with the developmentalist theory intact, it could be argued that highly able pupils just move through the stages at a greater speed than most children. This being so, they would be capable of abstract thought and thus benefit from undertaking PwC activities in development of this aspect of their learning.

Some children do seem to demonstrate firm abilities in abstract thinking. These issues arise again (in section 7.5) as they impact on the concept of 'real philosophy' as involving abstraction.

#### 7.4 Objection 3: Empirical evidence to support PwC is inadequate

Most of the empirical evidence available considers the efficacy of P4C schemes, having been collated by IAPC. Systematically constructed research programmes have not been commonly undertaken in the broader PwC arena and while there is anecdotal evidence and practitioner action research that supports the programmes, little other substantiation can be presented. Where there is evidence, it focuses mainly on general improvements in reading, comprehension and mathematics, and not on reasoning. Pupils have not been tested specifically for philosophical understanding or reasoning, either before or after a PwC programme.

Empirical evidence seems, therefore, to be looking just for transferability, an aspect not really claimed as an aim of the programme. Checking improvements in mathematics and English is not a method used to justify the value of other areas of the curriculum, such as history or art. Why must it be assumed that this is relevant for philosophy?

PwC does tend to spring up where a specific practitioner demonstrates enthusiasm for this particular way of working. Whilst not exclusive to PwC, it is certainly symptomatic, resulting in patchy provision where success is doubtless due partly to the commitment of participants.

Empirical evidence has always been a sticky issue for PwC programmes, as its claims are difficult to verify. A parallel can be drawn with the development of *Sesame Street*, the hugely successful and popular television show of the late 1960s and 1970s, and still thriving today.<sup>v</sup> The show was established to help compensate for language deficits among poor and immigrant children, who were disadvantaged in starting school. Original claims that the show would help children learn about sharing, caring, harmonious multi-cultural living and present different racial groups



with positive role models had to be played down through lack of reliable tests for such wide-ranging goals. What could be examined, however, was children's recognition of numbers and letters and their basic conceptual understanding of positional words such as 'above and below', some simple processes, like baking and melting, and of language associated with typical pre-school curricula, such as the weather, items of clothing, shapes, colours and transport. *Sesame Street* excelled in meeting these concrete objectives, but the research results represent an impoverished notion of the purpose of the programme.

Adults influenced by the programme cite the role models and remember specifically the people from different ethnic groups presented as successful entrepreneurs, and as friends across social and racial divides. In these days of accountability, testing and quantification, more nebulous and complex aspects of interaction and development are difficult to prove. The danger is that things that can't be definitively proved are then discounted as lacking value. PwC and *Sesame Street* have the same problems in this sense, but *Sesame Street* has, of course, reached a far broader audience. In a sense the programme makers have been vindicated in their aims, as anecdotal evidence continues to affirm the success of what was dropped due to the impossibility of definitive testing. It is still unclear, however, how it is possible to check qualitative learning such as moral reasoning, accurately.

Perhaps transcripts of dialogues could be used. Kitchener suggests that it would count as evidence if children:

...questioned on a one-to-one basis about their comments  
[could] elaborate on their views and rationally defend them.  
1990:426-7

Murris suggests that this would be more convincing than the 'one time performances or philosophical one-liners' that Kitchener would not accept as evidence, but also notes that this discounts the value of collaborative thinking ('thinking together like one big head') and that the role of the Community of Enquiry is so important in PwC that it should play a part in assessment (2000:264). Quality of anecdotal evidence and reported dialogues must also be assured, if this is to serve as proof of learning.

Another difficulty with empirical evidence in this area is the impossibility of knowing how well the materials have been both taught and learnt. With such a small number of teachers working in the field and the materials relatively un-tested, there are real possibilities of weak teaching and mistakes arising through misunderstanding of materials, which could be misrepresented as difficulties with ideas.

Issues to do with evidence resurface in the next section (7.5).

There are inherent difficulties with assessing children's progress in philosophy and empirical evidence has concentrated instead on more commonly measured subjects with no direct relation to the programmes being reviewed. Until use of programmes is more widespread and systematic, and independent large-scale studies are undertaken, empirical questions will remain unanswered.

#### 7.5 Objection 4: PwC is not real philosophy

It is difficult to provide a single, clear definition of philosophy, as the field covers a range of activities and material. Gazzard is particularly interested in Lipman's work and presents the following three definitions of philosophy which capture some commonly expressed views:



1. Philosophy as a type of striving associated with seeking to know how to live a better life;
  2. A view which renders it a specific body of problems and/or the history of the ideas of past and present philosophers;
  3. Philosophy as a particular way of thinking most often cast as reflective thinking [...] and critical appraisal.
- 1996:9

The first conception of philosophy as a type of striving was a focus of earlier writings of Lipman, but as Gazzard notes:

...the relationship between reasons for belief and knowledge is controversial [...] the search for meaning is, therefore, not as straightforward as the earlier writings of Lipman and his co-workers suggest.  
Op cit:15

There is clearly a dispositional aspect to this interpretation of philosophy and the IAPC training courses require intensive training that would ensure, as far as possible, that teachers had the right attitude to their work in order to encourage and foster these dispositions.

The second conception of philosophy involves learning about and understanding an important body of work that is generally reserved for degree level work. The accusation of PwC as diluted philosophy is reasonable if this reduced conception is acceptable as a definition. However, PwC is considered as more to do with active participation, with the ideas of great philosophers used as stimulus for developing children's own reasoning. Critics such as Kitchener consider that children should do philosophy in the same way as academic philosophers, although this argument is not used for other curriculum subjects.<sup>vi</sup> Murris suggests it could be fair to consider children's progress alongside novice adult philosophers, but not against qualified academics (2000:262-3).

Matthews considers that children should not be assessed with adult criteria, viewing PwC as different from adult philosophy (1978:71-2) and that philosophical questions 'should not be considered the exclusive province of professional philosophers' (1984:3). This is supported by Walter Kohan:

To impose our creations and our manner of creating them is to impose our experience of the world, and thereby to impede them from reflection on their own experience.  
Op cit:8

Murris rejects this argument as not going far enough to combat the critics whom she accuses of failing to offer sufficient arguments for their notions of 'real philosophy' (2000:266-7).

With reference to the third of Gazzard's conceptions, PwC meets the criteria for reflective and critical thinking. Again, this is as much to do with inculcating dispositions as introducing new subject knowledge. PwC differs pedagogically from other curriculum subjects and is 'real philosophy' in that children are encouraged to develop skills and attitudes that help them reason and that the work 'reflects the dialogic character of philosophical thinking' (1996:276). As there are no definitive answers, the enquiry is genuine, and if teachers use recommended methods, they will facilitate development of discussion. Through being a co-enquirer they help children probe and deepen ideas, not blindly accepting all contributions, but pointing out errors of logic and lack of reasoning and working with the group to aim for finding the truth.

This issue resurfaces below in Objection 5 (7.6) in considering the relationship between enjoyment, motivation and the reality of philosophy.



7.6                      Objection 5: Children lack the concentration and focus necessary for philosophy and are not sufficiently interested in the research and enquiry needed to pursue philosophical questions

For all children, if the task is motivating, increased time will be spent pursuing relevant information in search of an in-depth answer. That this would happen in philosophy is really an empirical question that has little evidence, as the subject is not on the curriculum for young children. The issue is particularly pertinent for highly able pupils, where research demonstrates an unusually high level of concentration and task commitment for their age (e.g. Renzulli, Freeman, Montgomery). For some theorists (e.g. Tannenbaum), intellectual stamina is a defining factor of their high ability and for ordinarily able pupils research continues to affirm that motivation is a key factor in learning.

Some people will find philosophy intrinsically motivating, but it can be made more accessible in the first instance through carefully planned pedagogy. Lipman aimed to make the experience of P4C 'acceptable and enticing' and this resulted in an enthusiastic response. The popularity of sessions is noted in the literature (e.g. Haynes 2002:58-9; Fisher 1998:7; Sapere website, etc) and echoed here by Costello:

[Yet] one of the reasons why the children to whom I have taught philosophy over the years looked forward to our sessions so much is precisely that they enjoyed themselves so much.  
2000:37

This is likely to increase commitment to completing set tasks and pursuing ideas beyond the classroom, but is it really representative of the process of doing philosophy? White does not think so:

Philosophy often brings bewilderment, despair, painful struggles for understanding. [...] presenting philosophy to

children as a fun activity may impede rather than promote any understanding they may come to have of what philosophy is all about.  
1992:77

Many school activities are designed to be enjoyable for children and it is hoped that the cognitive dissonance they experience when learning provides the sort of challenge that keeps them interested in exploring ideas and finding out about their world. Any number of things in a school day will cause frustration and upset: completing a painting, climbing a rope, solving an equation, writing a letter. Hard and interesting tasks are often popular with children and their definition of fun may well include a certain amount of struggle. Naturally, we all have different strengths, and the appeal of philosophy may be no more widespread than that of other activities such as chemistry, sprinting or singing in the choir. Teachers do not necessarily worry about whether their laboratories, starting blocks or conducting techniques are a real representation of the professional version of their activity. It is certain that plenty of children do enjoy PwC, but whether they have a true sense of 'real philosophy', or professional philosophy, is a question yet to be addressed by research.

Some pupils, particularly the highly able, show a remarkable level of sustained interest. Certainly, projects in philosophy can be harder to undertake than in some other disciplines, where a clear end is perhaps more obvious. This however, would not disallow highly able pupils from demonstrating the ability and drive to explore and try and answer difficult questions. Helping hands may be needed to ensure useful investigation. When a child has a humanities project to complete, for example, they are encouraged to persist in questioning, helped to structure their argument, and directed to gather pertinent information. Children are rarely given this kind of help when they raise philosophical questions as teachers and parents know much better how to help pupils with more familiar enquiries.



Without helping pupils to follow through initial interests, it is unclear whether or not they would demonstrate commitment and ability in finding, or moving towards, useful and well-considered answers.

### 7.7 Philosophy and highly able children

As well as being popular with ordinarily able pupils, PwC has a great deal to offer highly able children. Of the objections raised, those concerning children's ability to think abstractly (objection 2; 7.3) and display intellectual stamina (objection 5; 7.6) are irrelevant to the highly able. Objections 1 and 3 (the nature of philosophy and evidence for PwC; 7.2 and 7.4) are empirical issues, and the question as to how PwC compares to 'real philosophy' (objection 4; 7.5) is affected by the pedagogies and systems used, and by the ability of the pupils in question.

Key features of PwC make it suitable for the highly able. They are noted below along with examples from practice:

#### a) There are no ceilings or limits

As there are no absolute answers in philosophical enquiry, the depth of enquiry depends on the abilities of the children. The common cry of 'I've finished already' does not apply. The questions and ideas under investigation are involved and complex, allowing children to develop a better sense of how to follow through an in-depth, challenging enquiry.

A discussion of 'war' with six able nine-year-olds is a typical illustration of this. Having read a newspaper article brought in by a pupil, we considered some issues it raised, as a Community of Enquiry. The children decided on a central question: 'Should you care about war if it doesn't touch your life?' and proceeded to debate and argue, backing up ideas with reason and challenging one another. During the week, half the group sought me out to show me some extra unbidden work they had started (a concept

map on 'war in school' considering what 'war' meant to them in terms of daily friendship battles, playground 'turf wars' and arguments with teachers). The project lasted for a whole term, with the three girls researching and discussing, writing and presenting ideas informally. They said that it was an exciting project because there was no end and they could keep going forever. They were motivated and enjoyed the work.

b) PwC provides opportunities to explore abstract ideas

PwC allows the able to explore complex notions, engaging them in ideas that they may have been discouraged from considering. This lack of encouragement is often due to the constraints of the curriculum forcing teachers to steer away from issues that do not match set targets. However, abstract ideas often tap into particular interests of the highly able, such as questions about the nature of life and death and the existence of God.

Even younger able pupils seem interested in questions that are not easily answered through empirical evidence. I have witnessed and facilitated many Communities of Enquiry where children tackle abstract ideas and respond with good quality answers that demonstrate their appreciation of the complexities of the topics. I have met children interested, for example, in ideas of infinity and the mind-body issue. Merely raising questions such as 'If I have a soul, where is it?' or 'What's the most important thing in the entire world?' may not indicate abstract understanding, but following it up and investigating the idea demonstrates something more substantial. The soul question was raised by Stan (Appendix I vii) and our discussions on the topic lasted the whole year we were together in school, mainly conducted when I was on playground duty, following up research he undertook unbidden in his own time. He started his investigations with the etymology of the word and found out a range of meanings for 'soul' and 'sole'. He was particularly interested in the different spellings for 'sole, a



part of the body you can see, and *soul*, a part of you that you can't see'. Looking carefully at language and its use is a common starting point for philosophical investigations of some concepts and Stan had come to this through his own interests. With encouragement he went on to explore related uses of words such as 'soulful' and 'soul music', and then found himself in the realms of 'spirituality and the soul'. Through reading and discussing he demonstrated an extended investigation of an abstract issue.

c) PwC is particularly useful for underachieving able pupils

As it need not involve writing, PwC can be a great opportunity for children with learning difficulties to express their ability. Success in sessions does not depend upon the usual factors; factors at which these pupils often fail. Creating a Community of Enquiry is a different pedagogy from usual teaching approaches and can prove appealing for pupils who are finding ordinary classes frustrating. Success positively affects self-esteem and this can have a good all-round impact.

One underachieving pupil, Dave, was nervous of admitting his unusual ideas in class. He would always preface his stranger contributions with 'I heard on the radio...' or 'I read in a Sunday magazine...' to avoid being teased. He later confessed that the ideas were his own, but that he was embarrassed to express them as he had been laughed at for their outlandish nature. In the PwC sessions, Dave's weirder ideas were embraced and he began to take credit for his own thoughts in ordinary class sessions, qualifying them with statements such as 'You might think I'm making a silly comment, but hear the whole thing first. I can explain how I thought of it'.

It is through such discussion that many children show flashes of ability that eventually lead to their identification as highly able. Children (such as

those in the appendix) have positively looked forward to sessions, which is untypical (except for André and Doris) and teachers have remarked on the effect of sessions on their ordinary classwork. Recommendations for the underachieving able made by key writers (Freeman, Montgomery, Wallace) match well with the pedagogy of PwC. These include aspects such as meta-cognitive work, an emphasis on unusual ideas, open-ended tasks and engaging with difficult notions.

From the examples in the appendix, Billie (ii) and Charlie (vi) particularly benefited from being able to express their ideas in discussion without the ubiquitous 'write it all up' request that accompanies many tasks in school. Another underachieving able pupil was a talented cartoonist and took to recording some aspects of the discussion in cartoon form. His humour and understanding were clearly visible in the work produced in his own time, without any prompting. His teacher was amazed at the sophistication of his drawing and his ideas that were far more impressive than his typically below average written work.

#### d) PwC challenges pupils who already achieve highly

In this instance, PwC is useful in two ways; by providing challenge for children who are in danger of being bored by easy tasks, and also by forcing teachers and able achievers to rethink their understanding of successful responses to set tasks. Philosophy challenges the 'one right answer' culture of high-achievers and allows different pupils to excel. The complacent able pupil can be unsettled by the achievement of others around them, and by the challenge of having to adapt the way they respond to tasks.

Interestingly, the few dissenting voices often come from those children who are clever in the traditional academic sense. They are puzzled and resentful when they realise that philosophical questions are not amenable to simple,



straightforward answers – even from the teacher! Such children have unfortunately been trained to perceive educational value only in what can be examined and tested. Whalley, 1987:73

The aim is not to perturb pupils, but it is surely better to experience this confusion while still at school, in an environment in which anxieties can be expressed and tackled. Knowing that learning and understanding is about more than merely uncovering a predetermined correct answer is a useful lesson and more closely related to 'real life' scenarios.

Presenting a PwC picture book session is particularly interesting, as high achievers consider it to be far too easy when they are introduced to the session. As the community takes off, they begin to see the potential depth of the activity and are drawn into the discussion. The most puzzled looks and furrowed brows are often on the faces of the able high achievers. I have had some anger from such children who felt threatened by the freer form of sessions. With practice and experience, however, they did begin to participate more readily and all those who expressed dislike eventually grew to enjoy the work.

#### e) PwC is flexible

Practical aspects of PwC allow for its inclusion into the school day with reasonable ease. It can be taught in or out of class, as specific sessions for the able, or with a mixed ability group. Providing extension work for the more adept is simple and need not affect the school curriculum, being run, for example, as clubs or extra classes. As it can make use of a range of stimuli, PwC can be taught virtually without materials or resources.

Sessions always reflect the children's interests and can be adapted by them, to take into account issues of the day, such as addressing international news items as well as local, school and personal issues. As a

Senco, I have had to teach many last minute, fill-in sessions, or run sessions with far fewer, or more pupils than originally anticipated and philosophy can be easily adapted for these situations.

I am not suggesting any particular pedagogy or approach to using philosophy with children as I wish to emphasise its flexibility. Being taught as a stand alone subject is different from being 'infused', teased out of, or connected to other curriculum areas. All of these can be appropriate in different scenarios and I would not wish to favour one method over another. Bearing in mind the criticism of other provision (e.g by Ofsted, 2001) as disconnected and 'bolt-on', it would seem preferable to integrate the work into the school week, but there may be a place for more particular provision.

### 7.8 Conclusion

I remain uncomfortable with the concept of P4C as a 'movement' and feel that the proponents of P4C and PwC will have to take criticisms more seriously if they are to have their ideas accepted in the mainstream. From the early work of Lipman to current available activities there have been significant changes, some of which would definitely count as improvements, but the lack of empirical research is holding back further development. As with any good programme, some aspects are excellent, but some reasonable reservations remain.

I find that PwC is a potentially useful practical contribution to dealing with the highly able. It can enrich the curriculum, or provide extra, out-of-school provision, allowing pupils to remain in mixed classes where appropriate and yet be challenged and encouraged through stimulating activities.

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<sup>i</sup> 'In Brazil alone more than 30,000 children are involved in P4C programmes that are helping to raise the standards of literacy' (Fisher, 2003:33,34 and 37).



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<sup>ii</sup> The Society for the Advancement of Philosophical Enquiry and Reflection in Education (Sapere) was established by Roger Sutcliffe and Steve Williams and is the largest PwC organisation in the UK; Karin Murriss authored 'Storywise' using picture books; Antidote (the national organisation for Emotional Literacy) advocate PwC; Robert Fisher writes very teacher-friendly books with accessible PwC ideas; LEAs such as Northumberland have a strong network of PwC teachers and specialists; the International Council of Philosophic Inquiry with Children (ICPIC) has members worldwide; Philip Cam in Australia and numerous organisations in Latin America and Eastern European countries in particular.

<sup>iii</sup> The organisation IAHE (International Association for the Humanisation of Education) is an example of this. Members are committed to helping post-communist countries use education to build democracy.

<sup>iv</sup> For a thorough explanation of the difference between Circle Time and creating a Community of Enquiry, see Haynes, 2002 and Fisher, 1998.

<sup>v</sup> Produced by the Children's Television Workshop.

<sup>vi</sup> As with other academic subjects, this does not mean that teachers should not have appropriate backgrounds. The IAPC materials require the study of philosophy for teachers.

## Chapter 8 Conclusion

### 8.0 General introduction

Able children are an anomaly. They do not fit traditional models of ability and intelligence and they do not fit standard educational provision in schools. Being clear about what is meant by high ability is difficult. Deciding what resources they require and the level of support they are entitled to receive is also complex, partly because this involves separating the political from the educational. The research field 'is more or less fragmented, with results that cannot be easily compared to one another' (Ziegler and Raul, 2000).

I have made a series of key points in this interdisciplinary thesis, contributing to the debate about what it is fair to do for able children. Gifted education research is predominantly written from psychological perspectives and I made use of these, as well as aspects of practice and analysis of underpinning premises, considering them from a philosophical angle. This has allowed for clarification of commonly used but rarely examined ideas and the connection of theory and research to practice. This concluding chapter summarises the main ideas.

### 8.1 Part One: who are the highly able?

Firstly, I demonstrated the background to the field, showing how the concerns about describing and explaining who the highly able are have significance in a wide range of contexts. Sticky problems to do with excellence, equity and the nature of ability are contested in different countries and have relevance for all children in education, not just the highly able. I have demonstrated my specific interest in the underachieving able child, with reference to some examples of children in school that illustrate the general concerns raised.



Chapters 2 and 3 focused on the nature of high ability and intelligence, using dominant psychological references in the field to endeavour to describe high ability. Some philosophical notions were incorporated in an attempt to clarify language that is often confusing in the literature. It was clearly demonstrated that it is too simplistic merely to equate high ability with high achievement. People with learning problems, disabilities and difficulties arising from cultural difference have often been ignored by researchers of high ability due to the over-reliance on the achievement model.

I criticised a variety of different definitions, highlighting contradictions and confusions and then, focusing on intellectual high ability for the purposes of this thesis, presented my own positive account of high ability along with some potential criticisms. I consider a highly able child to be someone who has significantly greater aptitude for some aspect of intellectual learning than would be considered typical for their age and background. Aptitude for learning is demonstrated through some form of achievement, conventional or unconventional, including notable, isolated incidences that serve as evidence of special ability, but are otherwise difficult to categorise. Such a definition of high ability allows for underachieving pupils to be recognised.

As my definition of high ability focuses on intellectual aspects, in the third chapter I considered the related concept of intelligence, critically reviewing both traditional and contemporary understandings, typically single and multiple-ability viewpoints. After considering common uses of the term 'intelligence' I discussed a series of claims concerning intelligence. I argued that some elements of intelligence could be described as aptitudes, or capacities, but that dispositional elements are just as important. I considered the claim that intelligence is innate to be irrelevant to this thesis and to the question of provision. Intelligence does not seem to be fixed, and although aspects of intelligent performance can be measured, this does not provide a sufficient account of what intelligence could be. I rejected the traditional



concept of 'g', but accept that there are some intellectual abilities and dispositions that can be grouped loosely together under the heading 'intelligence', and this is what most teachers seem to understand by the word.

## 8.2 Part Two: what it is fair to do for able children

Having established the concept of high ability, it became clearer which children were under discussion and the next task was to consider what it would be fair to do for such children in education. I made a morally defensible argument for supporting the highly able through educational provision.

I considered arguments both for and against provision for the highly able. Common arguments against provision suggest it is elitist, and so I considered the notion of elitism, revealing its complexities and concluding that it should not be dismissed as always negative, as in some contexts it can refer merely to high quality. I then considered the concept that provision for the able will increase the gap between rich and poor, concluding that it is possible, but that this issue is beyond the scope of schooling. Ideas of equality were then reviewed, particularly equality of resources, outcome and opportunity. All three were rejected: equality of resources as impractical; equality of outcome as unworkable; and equality of opportunity an unclear idea and therefore too complex to apply.

I then considered five commonly expressed arguments in favour of provision for the able. The idea of providing for the pursuit of intrinsic excellence was dismissed as elitist in the most negative sense of the concept, and only tenuous conclusions can be drawn from the second notion of considering that activities for the highly able will result in benefits for society through more and better economic and social goods. The third contention concerned the effect of the able on other pupils and needed further examination as it is an empirical issue. The fourth idea, that all pupils are entitled to an education beyond the bare



minimum, is a woolly notion, and it is difficult to decide what counts as extra and what should be mandatory. The last of the claims was considered the most reasonable, suggesting that pupils are entitled to an education based on their needs, although it is unclear exactly what is meant by 'needs'.

I then presented my contribution to the equality debate, the idea of providing equality of quality of learning, or equality of challenge, which is applicable to all children. Whilst there is a statutory requirement to attend school, pupils should be allowed to make good use of their time in school. They need to be engaged in their learning and this can only happen when tasks are challenging. For most pupils, the curriculum can satisfy this need for challenge, but the able pupil is often left bored and unstimulated. Pupils must move at their own intellectual pace, or as near to this as is practically possible, regardless of whether that pace is 'normal' for their age. This can be ensured, or at least we can try to ensure this, through careful consideration of the quality of teaching they receive and the level of challenge with which they are presented.

I conclude that the able are entitled to this equality of quality of learning, or equality of challenge. I did not find that provision for the able is elitist, or that arguments for equality of outcome, resources or opportunity imply that provision for the able is unfair. Arguments exhorting the able to have extra resources due to intrinsic academic excellence or for social or economic benefits are interesting, but are not compelling enough to lend support to provision. Some empirical matters could not be decided in this arena, such as whether or not provision for the able could benefit all pupils. Despite the fact that provision will probably be inequalitarian, I decided that pupils should be allowed an education based on their needs and that this would incorporate appropriate challenge.

### 8.3 Part Three: what should we provide for the able?

I then contemplated the nature of provision for the able, firstly through a review of what is typically found in schools, with an emphasis on adopting an inclusive approach to provide for able underachievers also. I explained the common methods of differentiation, through acceleration, extension, and enrichment. Consideration was given to the effects of the provision on the pupils, teachers and the wider school community. Schools need a flexible approach and should ensure pupils are appropriately challenged.

Since programmes of critical thinking skills could possibly fill this requirement they were examined in Chapter 6, as a potential practical solution to the needs of the able. The programmes were contextualised through a critical review of current trends in the thinking skills 'movement', with particular reference to the 1999 McGuinness/DfEE report 'From thinking skills to thinking classrooms'. Some specific programmes were examined and the concept of critical thinking skills as a potential solution in meeting the needs of the highly able was evaluated. I showed how some of the programmes are based on rather shaky theoretical foundations.

I also considered issues raised through the concept of thinking as a skill, through reviewing specific claims made about the development of thinking being like other forms of skill learning, in that it is made up of components, uses observation and modelling and can be transferred. I also briefly referred to some of the newer programmes. In conclusion to Chapter 6, I suggested that the most promising programme for the highly able child is likely to be Philosophy with Children (PwC) and so this is the focus of Chapter 7. In this chapter, I reviewed the major objections to PwC, showing that they are not relevant problems for using PwC with the highly able.

People objecting to PwC have suggested that it is no more than standard classroom discussion work. This I refuted, as well as explaining something of the difficulties of empirical evidence for the



efficacy of the programme. I also showed that highly able children can cope with abstraction and that the charge that PwC is not 'real philosophy' is irrelevant. The last objection was that children lack the concentration and focus necessary for philosophy and are not sufficiently interested in the research and enquiry needed to pursue philosophical questions, which is patently not the case for the highly able.

Having discussed the particular case of philosophy and highly able children, I have not presented PwC as a panacea. I do not consider it the only appropriate provision for the able child, but I do think it is a viable option, with sufficient flexibility and challenge to meet many of the requirements for a workable, practical response to the issue of provision for the able.

#### 8.4 Further Research

Before considering how to take this study further, I will outline some of its limitations. Being interdisciplinary, it has been frustrating not to be able to pursue some aspects in sufficient depth. I could have expanded each of the three parts into three separate theses, but would not have been able to draw ideas together with much clarity. All through working on this thesis, I have been keeping the practitioner in mind, trying to see what would be relevant for the classroom. Without undertaking major empirical studies, it may be that I cannot make claims about practice, which is, perhaps, a limitation of the study. I say perhaps because it is not certain that empirical studies necessarily result in improved practice and it is entirely possible that theoretical work, such as this, may provide a better basis for change. I am not claiming, however, to have answered many questions. I have, I hope, clarified some key issues and raised further debate.

As this is an interdisciplinary thesis, there are particularly wide implications for further research and areas for investigation emanate from each of the three key themes. For example, questions concerning

the nature of high ability and intelligence merit pursuing, as well as empirical work on the efficacy of PwC and further conceptual work on the notions underpinning thinking skills. In my view, the key area for research is how to ensure challenge for the able.

As shown in section 4.4, understanding and defining challenge is complex, as it necessarily has to take personal interests and abilities into account. A review of different conceptions of challenge may well reveal some common factors though, and it would not be surprising if these relate to Vygotsky's Zone of Proximal Development (ZPD) and Piagetian understandings of cognitive dissonance. Traditionally, these ideas are presented as differing considerably in terms of the role of interaction between novice and experienced learners. Cognitive dissonance is often described in terms of task-setting for individuals (or less often, groups), while ZPD tasks relate more to the development of independent abilities that currently need the scaffolding of an experienced peer or adult. This immediately provides at least two models for challenge: activities to be pursued without support, and those that require mentor help. This is, perhaps a simplification, or a false dichotomy, as learning support can be provided in the form of written instructions, of course, and the ZPD requirements do not have to be filled by individual 'live' oral instruction, just as cognitive dissonance can often be best provided by interaction with a questioning teacher.

However, the different concepts of learning provide a basis for contrasting approaches to classroom activities that could be useful in research that will necessarily entail some imposition of, to a degree, false structures, for the purposes of investigation. There is likely to be a place for both styles of challenge, but it would be interesting to see if one is more satisfying than the other. This will depend on both the task and the individual, but there may be a preference for one over the other in terms of depth of challenge. From knowledge and experience of working with the highly able, I would expect children to demonstrate a



slight preference for working alone, not for anti-social reasons, but to allow complete control over pace of learning. Many able pupils spend a great deal of time adjusting their rate of work to fit in with other class members and testify that it is a relief on the occasions when they are permitted to control their own learning.

Detailed research into 'learning styles' is also a possible area for consideration. It is already a common subject for psychological research and focusing more specifically on the highly able may result in helping teachers to tailor tasks to pupil preferences more effectively. For example, some of the workshop activities noted in Appendix IV move at a tremendous pace, providing an overview of a subject and introducing a wealth of new ideas. Others provide opportunities for in-depth study of a single complex idea and whilst some pupils are happy with both approaches, some firmly prefer either depth or breadth. It would be illuminating to find out if this is more to do with different subject areas, age groups, stage of schooling, or individual learning preferences. It is currently unclear whether one or other style is inherently more challenging for the able pupil.

The role of the teacher is possibly of equal importance to the subject matter and nature of task. I have cited several reports into pupils' preferred characteristics for their teachers, and this work could be expanded. Most studies have been undertaken in the USA and cultural difference could be evident if such an enquiry were replicated in the UK. Implications for learning assistants, parent helpers and mentor schemes could also be explored, perhaps leading to suggestions for restructuring some subjects in school more around ability than age. This would impact on differentiation. If, for example, core subjects were taught entirely through flexible ability groups, teachers could minimise the potential social difficulties that can accompany acceleration, whilst providing pupils with activities at appropriate cognitive levels.

Another question raised by this is to do with quantity of challenge. Perhaps it is sufficient to ensure merely that some activities are accurately matched to ensure optimum challenge. Children currently experiencing dissatisfaction, which is becoming disaffection, may be satisfied with the minimum of attention to even just one area of study. This may be enough. Without investigation however, it is an important unanswered question; with direct implications for the cost of provision.

Why some subject areas appeal to the highly able is also an area worth reviewing. A suitable starting point could be an evaluation of enrichment activities, possibly with an audit of provision that has the explicit aim of challenge. It is likely that fields of study with underlying complexities and baffling questions would be popular as they have potential for genuine research. Controversial issues are also a rich source of engaging activities. Investigative and problem solving tasks are obviously popular with the highly able and most subjects can lend themselves to these approaches through careful activity planning. The framing of questions is more important than the subject material itself and elaborate investigations can be undertaken with minimal resources.

Having stated that investigative and problem solving tasks are enjoyed by the able, I should express a caveat with reference to the highly able achiever. Sometimes pupils who achieve consistently high grades in traditionally taught subjects find open-ended tasks disconcerting. Embarking on a project with very little structure or no clear end-point can be distressing to those who like clearly defined boundaries and this also merits exploration.

Similarly, the needs of the underachieving able merit more consideration, particularly in terms of the focus of provision. The dual aims of supporting children with problems and providing challenge are complex to satisfy. For many teachers, the first impulse would be to focus on remediating weakness and helping strengthen areas of



difficulty, but it is possible that a different tactic may be far more effective. Research should consider what would happen if children are afforded the opportunity to pursue a challenging project of their own choosing, perhaps provided with minimal support. In my experience, the learning problem becomes almost irrelevant as the pupil finds alternative ways to express their findings, fuelled by enthusiasm. Research could confirm whether this is a generalisable phenomenon and whether the answer is positive or negative, implications for SEN support follow.

Genuine potential for both success or failure is an essential aspect of challenge. It is inevitably disheartening to set off on a journey doomed to fail and just as empty to merely go through the motions of a simple task with an unimaginative and obvious conclusion. These ideas need significant investigation and clarification if the entitlement of the highly able to equality of challenge is to be taken seriously.

## 8.5 Conclusion

Overall, this thesis has demonstrated the complexities of the field of gifted education, through an interdisciplinary consideration of the nature of high ability and the type of provision that would best serve the highly able. I have shown the entitlement of highly able children to a challenging educational experience, without resorting to elitist or exclusive standpoints, even when this demands provision outside the statutory curriculum.

## Appendix I

### Examples of highly able children

The sketches demonstrate the difference between the pupils, highlighting something of the range of strengths and weaknesses that a teacher could have to face in working with the able child. Their similarities are more difficult to express. As this thesis is not an empirical study, these examples serve only to illustrate the nature of the highly able child in school. All children were assessed and shown to be able through a combination of teacher nomination and verification through educational psychologists, except for Doris and Nina who had no formal measures. Their abilities were extremely visible in the classroom and they were not tested, Doris, due to lack of necessity and Nina because neither school nor family could access the service within their budget allocation.

I have noted the child's age when I first met them. The direct quotations presented are the answers to the question 'Do you think you're good at learning?', which they answered at the age noted in brackets.

#### i) A child with challenging behaviour: Louis, Age 13, Year 8

Louis was most often described as 'cheeky'. He rarely completed homework tasks, skipped some lessons and always had a witty riposte for any comment from teachers about his lack of compliance. As he progressed through school, the humour wore increasingly thin. His obvious ability was undermined by his very low achievement. He frustrated teachers by under performing and although his peers still found him diverting and amusing, he stayed away more and more, angering his parents and causing problems. Louis' flashes of ability were undeniable, but inconsistent.



‘Do you think you’re good at learning?’

‘Yeah, but I can’t be bothered. I can do lots of this work without learning it, but they don’t believe me. I could pass the tests, but they won’t let you do them until you’ve done the practice in class, but I don’t need it really.

[Accurately mimicking his least favoured teacher] “Do number one. Do number two. Look I don’t care if you can do number three, do the others first!” It’s annoying.’ (13 years)

ii) A child with learning problems: Billie, Age 8, Year 4

With some learning and organisational problems, Billie was not working to her potential. Her mother was an older single parent, over anxious and desperate to do the right thing for her only child. Once identified as having both dyslexia and dyspraxia by a private psychologist, teachers in school set about planning provision to help Billie cope.

The psychologist had used the standard Weschler test (WISC-R) to measure IQ and found an erratic ‘spiky score’. This type of test result is typical of able underachievers, but was unfamiliar to the school’s special needs teachers, as they had mainly worked with pupils who had these problems with a more regular, low-scoring WISC-R test result. The one-to-one sessions focused on the difficulties and failed to take into account Billie’s high abilities. Her reading was excellent, but despite this she was required to undertake extra reading, as her weak spelling was wrongly diagnosed as a visual problem, when, in fact, problems were to do with the haste of trying to get her many ideas on paper. No visual problems were recorded on her test score, but the teachers were too busy to create new strategies and tasks.

Billie exhibited low self-esteem and an unusual cluster of difficulties, punctuated by sparks of exceptional understanding and bursts of great ideas. Her particular constellation of characteristics proved too complex to be really helped in just one 40 minute weekly session.

‘Do you think you’re good at learning?’

‘No. I have ideas, but I don’t learn in the right way. My ideas get in the way of the learning because they put me off and I don’t do the learning like I have to do it all. I can learn ideas. But not writing ideas.’ (8 years)

iii) Ideal children: Andre, Doris, both Age 8, both Year 4

Both of these children were all-rounders; good at pretty much every subject, and able to demonstrate outstanding achievement in some. Both excelled in maths and English, humanities and general science. Doris was an accomplished musician and dancer and Andre was a great cricketer and the computing expert who teachers called on when the lab crashed. Doris was the most out going, but both had many firm friends and were liked by teachers, auxiliary staff and parents. They were both star pupils, but had not let success go to their heads. Unlike the stereotype, they were sociable, capable, helpful, humble and friendly. In short, they were model pupils.

‘Do you think you’re good at learning?’

Andre: ‘Not at everything like English and French. I am at maths, though I think it’s hard work too. People say I’m a lucky beggar, but I do have to work as well. I like to do as well as I can.’ (9 years)

Doris: ‘I can learn dances really quickly. It’s my talent and so I have to use it everyday. I can’t learn maths so well because it’s too hard to bother with.



I prefer other things. I think I'm good at learning things I like. Maybe I like things I'm good at learning. I've never really thought about it. That's a good one. I'll think about this later.' (9 years)

iv) An exceptional child: Miles, Age 4, Year 1

Already having a daughter, Miles' parents could see their younger son's giftedness immediately. He could speak at eight months, read before he was two and his school-based achievement outstripped his peers by around three to four years. At the age of nine he passed his GCSE maths and was working with Year 11 pupils when he was still Year 4 age (although accelerated into Year 6). The only way to interest him was to keep him on the Internet, communicating with international chess masters and NASA scientists and to take him to museums, art galleries and special exhibitions as often as possible. His parents received bursaries and charity funds to enable him to attend a school that could meet his needs, but this precociously talented boy was deeply demanding.

There was no subject in which he did not excel, although as he progressed through school he began to be dismissive of some of the more mundane tasks requested of him. Despite a slowing down in completion of tasks, all staff agreed that his startling abilities were exceptional, in particular his mature and knowledgeable responses in oral tasks. Miles had friends and was well liked in general, but his ability was off-putting for some of his peers. This is easy to see from the extract below in which he is being matter-of-fact and honest, but which could equally be read as arrogant.

'Do you think you're good at learning?'

'I'm a really good learner. I can learn anything, and quickly. Of course, there are lots of things I haven't tried to learn and things I'll never get a go

at learning, but the ones I've tried are quite easy, mainly. Lucky for me they're the ones that people think are good. It would be annoying to be really good at learning something like remembering the words to adverts or all the numbers on a page of the phone book, because that's no use because computers will do it for you if you like. I could do that too, by the way. But why would I bother?' (6 years)

v) A frustrating pupil: Nat, Age 14, Year 9

'Lazy' was the word most often used to describe Nat. He would not participate in anything much but pulled it out of the bag for his exams. Teachers would berate him for failing to attend class, emphasising the need to follow the curriculum and complete homework. He would defy them and then excel in tests, proving them wrong, reinforcing his contempt for school and irritating his less able and hard working peers, while infuriating teachers. When compiling the school register for the able, staff argued about the merits of Nat's inclusion. His erratic performance was considered negative, but more than this, even though teachers agreed he made some startling contributions, his lack of effort made him 'unworthy' of inclusion alongside hardworking peers.

When Nat undertook his GCSEs the problems intensified. He refused to complete coursework until the last possible moment and then submitted weak and sketchy responses to set tasks, well below his obvious capabilities. Nat seemed to delight in annoying staff and seemed unperturbed at the prospect of leaving school with qualifications that did not reflect his ability.

'Do you think you're good at learning?'

'[In a mock teacher tone] Well, what do you mean by learning? ... I know lots of things but I've known them for ages, I kind of "got" the learning



rather than doing it. You know, you read something roughly, but the details aren't helpful and you know what it's about without reading it all, anyway. Is that what you mean? You know what the teachers here think of me. That's why I'm here with you doing special needs; because I'm crap at learning. We all know I can't be bothered; I get out of lessons, you write in your folder or tape it all and there's no other ideas to make me care anyway. [As an aside] Is that the kind of thing you need for your folder, or do you want a bit more? You know, the peer pressure or home arguing-with-my-sister-stress or teenage hormone stuff. I could do an eating disorder for you if you want something more dramatic, but no psychology "do these puzzle tests", OK?' (16 years)

vi) An impulsive child: Charlie, Age 5, Year 3

On day one of school, the first activity was to be given a named pencil. This was to be the responsibility of the pupil. In the previous class, pencils were pooled and shared and learning to look after one's own things was part of the process of moving up to the 'big school'. The children were attentive in their pristine, just-too-big uniforms, taking on board the symbolic significance of this new responsibility. Charlie was sitting at the first table of children to receive shiny new pencils. By the time I had reached the second table, there was a loud crack and a collective gasp. Charlie wriggled. He had managed to snap his pencil clean in half.

And so it continued. For a full year, this very bright and capable child demonstrated time and again that personal control was beyond his ability at this age and stage. Even our informal and relaxed classroom was too restrictive and rule bound, making every day a struggle and every set task a battle of wills. Charlie's written work never lived up to his obvious promise and he continued to produce great ideas and unusual top quality oral responses, but little evidence for a portfolio and no learning problems to explain his lack of writing.

‘Do you think you’re good at learning?’

‘Only electronics [not taught at school] and maths and not reading. Also you can learn from TV and books and the Internet and teachers don’t have all the answers. I am not good at cursive (writing). I like games, but I am a butterfingers and Mr Coltrane said I am a curate’s egg, which is good in bits. Are you good at learning?’ (5 years)

vii) An unusual child: Stan, Age 4, Year Reception

Stan would infuriate his mother and teachers by speaking in rhyme, or saying the last word of each sentence backwards. He would play with words all the time and his peers would find it hard to understand him, describing him as ‘odd’ or ‘funny’. He was particularly fascinated by the etymology of words and would tell people whether words had Greek, Latin or Anglo-Saxon roots. He was also a mine of information, spouting obscure general knowledge facts constantly and making word play jokes that only adults would understand. He found it hard to make friends of his own age.

‘Do you think you’re good at learning?’

‘Learning is learning and earning is earning. I have learnt some good things over the years, but there’s a lot I haven’t put to memorisation yet. Can I go back to class now?’ (4 years)

viii) A defeated child: Nina, Age 5, Year 2

Nina seemed unusually serious and sad. She had a happy home life and good relationships with siblings, parents and friends. Nina’s parents were aware of her unusual abilities and did their best to keep her stimulated by providing books and learning experiences, but at the same time, not



making a huge fuss of her so she would develop a healthy social circle and self-concept. Nina initially enjoyed the experience of her Nursery class, but soon grew frustrated at the need to wait for her peers to catch her up all the time. At least in the Nursery she was able to play once she had completed set tasks.

As Nina moved to Reception, she continued to complete tasks well but was interacting less and less with classmates and teachers. The school suspected some kind of problem, but the psychologist they called in diagnosed her with 'boredom' and charged the teachers with the responsibility of keeping her busy with meaningful stimulating tasks.

She skipped Year One and once separated from her friends became even more despondent. Nina coped with the work easily and was soon the first to finish both set tasks and extra work. Her parents noted her increasing quiet at home and at school she became withdrawn and stopped communicating with teachers and children except for responding politely to direct questions.

'Do you think you're good at learning?'

'I don't know. (Long pause.) I am quick at work. Then I sit on the book cushion and think about why I am quick at work.'

'Why do you do that?'

'I have to do that because that's what you must do if you have read all the books.' (5 years)

## Appendix II

### Checklists for high ability

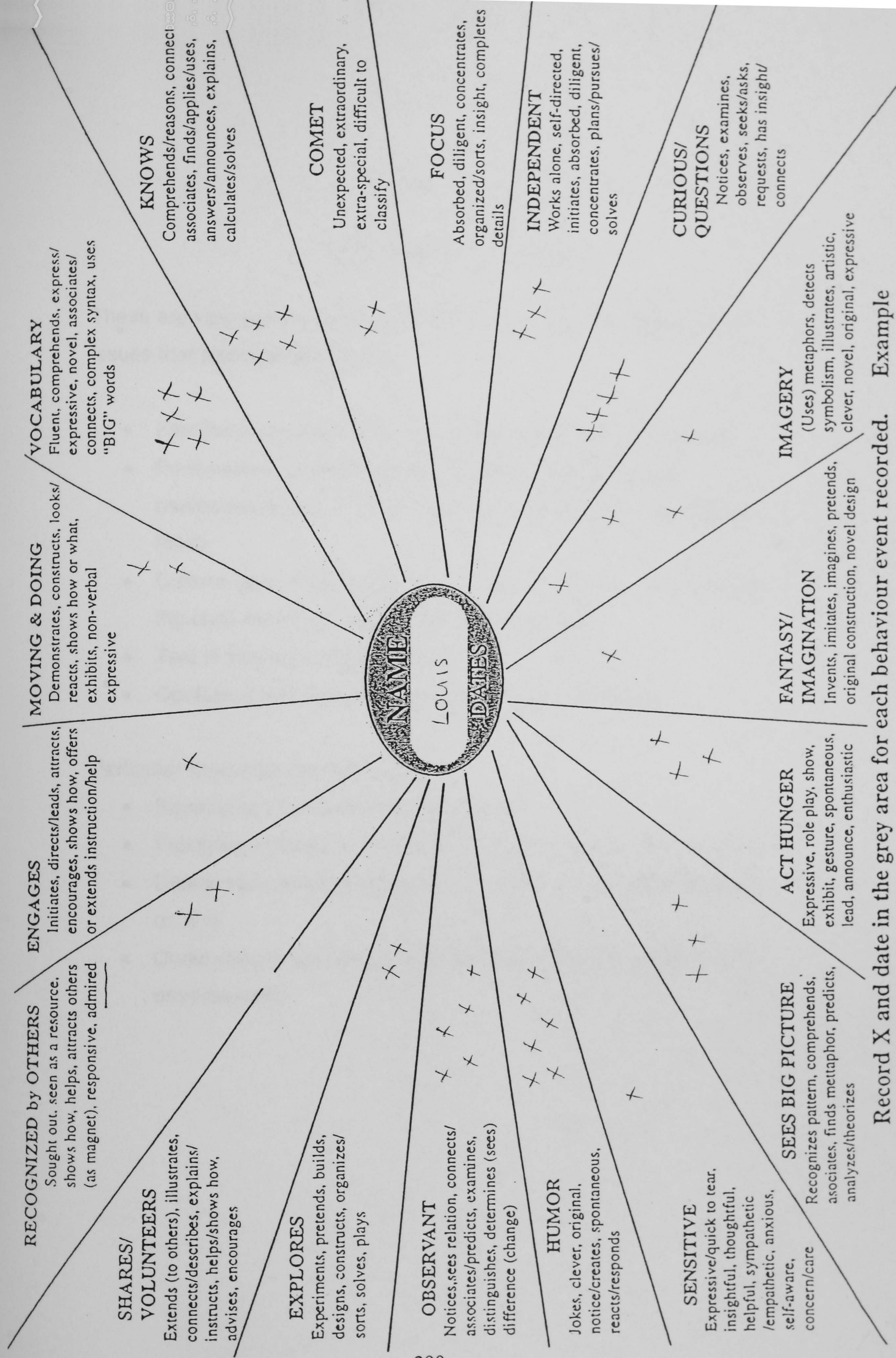
1. Enjoys school work
2. Keen to answer in class
3. Demonstrates wide general knowledge
4. Enthusiastic
5. Excellent memory
6. Good self-regulation (able to monitor own learning)
7. Speed of thought and work better than peers
8. Able to solve problems effectively
9. Prefers complex tasks
10. Can concentrate at will for long periods of time
11. May read, write and speak very early
12. Prefers the company of adults

Louis would only present positively for numbers: 5, 7, 9, 10, 11 (five out of twelve, usually insufficient for a positive identification).

List compiled from a combination of typical factors found in Eyre (1997), Freeman (1998), George (1992), Koshy and Casey (1996).

On the following page is the Nebraska Starry Night, completed for Louis.





Record X and date in the grey area for each behaviour event recorded. Example



## Appendix III

### Issues raised by IQ testing

These are very well documented, but mainly concern the following, all issues that affect performance:

- Familiarity or unfamiliarity with test structure and components
- Performance on the day (both emotional effects such as nervousness, and physical aspects, for example lack of sleep or food)
- Cultural bias: the test uses vocabulary, images or references that the child cannot recognise (see following page)
- Test in second or third language
- Confusing instructions or badly constructed test items

Particular issues for the highly able:

- Reading too much into the test question
- Falsifying answers to cheat the test and avoid change to provision
- Deliberately ignoring instructions to find a more interesting way to do test
- Completing quickly and going back over answers, changing them unnecessarily



Consider these items taken from the 'Black intelligence test of cultural homogeneity' (Williams 1975, cited in Wallace 2000, p42)

1. *Alley Apple* means:

- a) brick
- b) piece of fruit
- c) dog
- d) horse

2. *Black Draught* means:

- a) winter's cold wind
- b) laxative
- c) black soldier
- d) dark beer

3. *Blood* means:

- a) vampire
- b) dependent individual
- c) injured person
- d) brother of colour

4. *Boogie Jugie* means':

- a) tired
- b) worthless
- c) old
- d) well put together

The answers are: 1a, 2b, 3d, 4b.

## Appendix IV

### Workshop programmes provided by GIFT Ltd

#### Examples of courses popular with Y3-4 (7-9 year olds)

##### **Early Castles - A Challenge**

Using information supplied, position, plan and design an early mediaeval castle. The information will include workforce details and costs, as well as prevailing physical conditions. There will be a time limit for the castle's completion.

##### **Rational Games**

What unites Monopoly, football, and a round of poker? And what does it have to do with international arms treaties? We'll look at games' underlying principles which also apply to human interactions and can explain why people sometimes co-operate and sometimes compete. By the end of the day you'll have created your own game and tried your hand at predicting international relations.

##### **Here to Eternity**

The earliest maps go back to at least 450 B.C. From Elizabethan explorers to modern road builders, from astronomers to brain surgeons, all of them use specialist maps to navigate their way in different situations. This is your chance to learn about surveying and mapmaking, what to include (and what not to), how to read and use maps and how to navigate by them. *Bring a calculator.*



## **Body-Building**

Is the heart the best form of apparatus for pumping blood round the body? Are the lungs the best respiration system? Is the skeleton the best protective framework? Can you emulate Mother Nature? You will be required to design and build an organism from first principles using everyday materials. Access to reference sources and discussion will determine the nature of your design.

Examples of courses popular with Y5-7 (10-13 year olds)

## **Illuminated Manuscripts**

In mediaeval times manuscripts were produced by monks spending hours in the scriptorium of a monastery copying the scriptures. To make the work more interesting they developed their own styles of writing and began to illustrate their work with pictures, borders and fancy letters. By the end of the day you will have learnt how to write in Celtic script, made your own calligraphy pen, designed an illuminated letter and put all this together to produce a page from an illuminated book. (If you have an italic pen, bring it with you).

## **The Alchemist's Cauldron**

Or Muddle and Mendeleev....People believe that modern chemistry is derived from ancient alchemy - is this true? The alchemists were trying to turn base metals into gold. Did they ever succeed or is it a myth? Modern chemists search for patterns based on the elements around us. If alchemists had the knowledge we have today, could they have produced gold? Is it theoretically possible to produce gold? Your chance to make a fortune!

## **Freshwater Ecology**

This project shows you how to observe objectively living organisms in their natural surroundings and how to begin to work out their relationships with one another and with their environment using field techniques and methods. Wellington boots will be a necessity (and a towel)!

## **The Secret Magic**

This course will look at extension work based on polyominoes and their practical application, numerical palindromicity, some alternative and speed systems for basic mathematics, the infinacy or not of prime numbers, the magic in magic squares and, if there is time, we shall look at time itself.

## **Mutiny on the Bounty**

In 1797 the crew of a Royal Navy ship, the Bounty, mutinied against its Captain. Was Captain Bligh a hero or a tyrant? We'll look at what life was like at sea in the late 1700s and follow the journey of the Bounty. What were the events that led up to the Mutiny? Why did it happen? You decide which side you would have been on - would you have mutinied or stayed loyal to your Captain? It's your decision.

## **Dinosaurs, Fossils, and Time**

You'll be looking, in terms of post-fossil evidence, at what happened at the end of the reign of the dinosaurs. Recently theories and 'proofs' have abounded (ozone depletion, an asteroid collision, etc.) but they leave some tantalising questions unanswered. We'll look at the problem from a different angle to find some surprising and unexpected results. *"For time is the longest distance between two places."* Tennessee Williams.



## **Revolting Peasants**

The Year is 1381. The Peasants' Revolt is in full swing. How was it that ordinary mediaeval people could dare to rebel when all of the weight of Religion and Custom was in favour of conforming? And why were the counties of Kent and Essex so prominently revolting? We'll be examining primary sources dealing with mediaeval places and people from Lay Subsidy Returns to Manor Court Rolls to The Wilton Diptych.

### Examples of courses popular with Y7-13 (11-18 year olds)

## **Will Power**

Was Richard III really a hunchback? Did Henry V really look like Kenneth Branagh? Who murdered the Princes in the Tower? Find out for yourselves the mix of propaganda and history in Shakespeare's plays. Carry out your own investigations from authentic sources and find out just how much of Shakespeare's 'history' plays is based on fact.

## **The Empty Space**

Return to the imaginative core of pure theatre, away from make-up boxes and fancy costumes. Transfer an empty space into a source of powerful, original drama. This will be a day for those who love to improvise and imagine.

## **World in Action**

The ground beneath your feet seems pretty firm and solid (unless you've ever been in an earthquake), but it isn't! The continents are involved in a lunatic Demolition Derby, forever colliding with each other and being responsible for most of the world (and its seismic troubles) as we know it as they appear and disappear. You will reconstruct the arguments used by the people who discovered this, and maybe end up proving that they got bits of the story wrong.....Where are we really heading?

## **Essexmen**

You are a university postgraduate researching tenth-century Anglo-Saxon charters to discover the identity and succession of the ealdormen of Essex. To do this you have to order, date and verify the authenticity of the charters all within your annual budget. Fame gives you the chance to earn large sums of money - research reaping its own reward! If time and money permit, you may be asked to track down the erstwhile frontiers of the Kingdom and ealdormen of Essex...

## **Murder Most Foul**

Explore a fictional murder scenario, building up character, evidence, solutions through role-play and discussion. Examine and attempt to solve two actual murder cases (Charlotte Dymond and Maria Marten) using primary and secondary evidence, including documents, prosecution and defence statements, newspapers of the time, court transcripts, criminologists' reports, etc.



## **Dadaism**

“What is Dada? Is it art? Philosophy? A fire insurance? Or a state religion? Is Dada real energy? Or is it nothing which means everything? This project will examine the Dadaist Movement, its different forms, its ideas, philosophy, art, and exhibitions. We’ll aim to develop a conception of a Dadaist newspaper, a Dadaist house or anything else you are inspired to produce during the day.

## **Labyrinths**

For millennia people have been fascinated by the idea of a construction in the complicated and bewildering corridor system of which everyone gets hopelessly lost. We’ll look closer at different types of labyrinth, their function, fascination, fabrication and manifestations. What secrets do they hide and are you ready to discover them? Stand by for a very practical a-maze-ing day!

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