Perceptions of dyslexia held by students with dyslexia and their teachers within a secondary school

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Abstract

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This research conducted within a rural, 11-16 all ability secondary school, in the East Midlands, explores how dyslexia is perceived by students with dyslexia and their teachers. An interpretative study it takes the epistemological stance of social constructivism, drawing together salient concepts from literature to synthesise a Conceptual Framework which is used to formulate research questions, inform methodology and act as an analytical tool.

Perception is integral to learning; teachers' perceptions impacting upon pedagogy, interaction and curricular opportunities, whilst students' perceptions affect motivation and academic achievement.

Dyslexia is a complex condition, a disability, presenting in different forms with varying degrees of severity, creating definitional and diagnostic difficulties, misconceptions and debate. Two dominant models of disability exist; a social model and a medical model. The former suggests society disables, whereas the latter views deficits as intrinsic to the individual.

Data gathered through group interviews with students with diagnoses of dyslexia, semi-structured interviews with teachers and policy documents identifies perception as a complex dialectic of biological, psychological and cultural factors.

SEND policy whilst formulated within an inclusive social model promotes a medical model of disability; language perpetuating the notion of the deficient student and affirming socio-historic connections between literacy and

intelligence. Teachers perceive dyslexia through a medical model impacting upon pedagogy; intervention remediating difficulties. Intervention however, comprehended as barrier removal; a social model.

Diagnosis is significant to student perception. Pre-diagnosis socio-historic links between literacy and intelligence were palpable. Diagnosis explains difficulties; literacy no longer a measure of intelligence, the label overcoming the stigma poor literacy skills engender.

Providing a student voice the research, has implications for policy and practice, inviting practitioners and policy-makers to consider barriers to learning and examine practice.

Acknowledgements

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> ‘Assertions about intelligence, cleverness, gifts and talents are only true when our definitions make them so, and we should perhaps be cautious in assuming that our definitions capture the solitary 'truth' out there’
>
> Hymer and Mitchel, 2002, p.10

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Glossary

ADHD	Attention Deficit Hyperactivity Disorder
AfL	Assessment for Learning
ASD	Autism Spectral Disorders
BDA	British Dyslexia Association
BERA	British Educational Research Association
BESD	Behavioural, Emotional and Social Difficulties
BGU	Bishop Grosseteste University
CAQDAS	Computer Assisted Qualitative Data Analysis Software
CASE	Cognitive Acceleration through Science Education
CATs	Cognitive Assessment Tests
CDH	Cerebellar Deficiency Hypothesis
CPD	Continuing Professional Development
CPDP	Continuing Professional Development Policy
DCSF	Department for Children, Schools and Families
DfE	Department for Education
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
ECLIPS	Extended Communication and Language Impairment Provision for Students
EHC	Education Health Check
EHRC	Equality and Human Rights Commission
EoOP	Equality of Opportunity Policy
G&T	Gifted and Talented
GCSE	General Certificate of Secondary Education
GRD	General Reading Difficulty
IA	Inductive Analysis
ICIDH	International Classification of Impairment and Handicap (*World Health Organisation*)
ID	Deductive Analysis
IEP	Individual Education Plan
IH	Inclusion Handbook
Inset	In-service Training (*Within establishment CPD*)
IQ	Intelligence Quotient
ICT	Information Communication Technology
KS3	Key Stage Three (*Students aged 11-14*)
KS4	Key Stage Four (*Students aged 14-16*)
NC	National Curriculum
NIACE	National Institute of Adult Continuing Education
NINDS	National Institute of Neurological Disorders and Stroke
NVIVO	A CAQDAS Programme
Ofsted	Office for Standards in Education
PET	Positron Emission Tomography
PDP	Personal Development Programme
PGCE	Post Graduate Certificate in Education (*A teaching qualification*)

Glossary **continued**	
PIE	Progress in English (*NC criterion referenced tests*)
PIM	Progress in Mathematics (*NC criterion referenced tests*)
SATs	Standardised Assessment Tests
SDP	School Development Plan
SENCo	Special Educational Needs Co-ordinator
SEND	Special Educational Needs and Disabilities
SENDA	Special Educational Needs and Disabilities Act
SIMS	School Information Management System
SIR	SEND Information Report
SLI	Specific Language Impairment
SLT	Senior Leadership Team (*Head, Deputy & Assistant Head Teachers*)
SpLD	Specific Learning Difficulty
SP	SEND Policy
TAs	Teaching Assistants
UNCRPD	United Nations Convention on Rights of Persons with Disabilities
WHO	World Health Organisation

Definitions of terms used within study

Term	Definition within context of study
Ability	Potential for academic success. At secondary school this equates to GCSE examination results (Pre 2017 - Grade C or above, Post 2017 Grade 4 or higher)
Attainment	Level of achievement, as measured against National Standards
Dyslexia	Dyslexia is a specific learning difference, neurobiological in origin, which mainly affects the development of literacy and language related skills It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed and the automatic development of skills that may not match up to an individual's other cognitive abilities Occurring across the whole range of intellectual abilities, dyslexia is best thought of as a continuum, not a distinct category, as there are no clear cut-off points It may co-occur with other SpLDs such as dyspraxia, dyscalculia, dysgraphia, or attention deficit hyperactivity disorder (ADHD) Dyslexia can result in behavioural, emotional and social difficulties (BESD) Symptoms of dyslexia can be mitigated by specific intervention
Group interview	A carefully planned discussion with a group of participants to obtain perceptions on a defined area of interest
Literacy	Acquisition of skills required to read, write and spell

Preface

Beginnings

> 'The handwriting looked like a spider on 'speed' had crawled through an inkwell spreading eight inky foot prints in its wake. The writing was indiscernible. I checked the cover of the book. No, surely I was mistaken? This book could not belong to Jeff the bright articulate student who had sat before me only hours earlier'
>
> Reflective Journal, 2009

Critical life changing moments have the ability to etch themselves indelibly into the memory. This memory and my interest in dyslexia were formed when the long term absence of a colleague necessitated time-table changes to ensure that students in external examination classes were thoroughly prepared for impending examinations. Concentrating upon these new examination classes, I failed to access the Special Educational Needs and Disability (SEND) Register for a Year 7 class I would teach once a week.

On reflection, it was clear I had assumed Jeff (aged 11) a bright articulate student who communicated his understanding and knowledge lucidly would possess similarly high literacy skills. I subsequently identified Jeff, a student with dyslexia, as meeting the majority of the criteria for being gifted and talented (G&T) in science i.e. makes connections between facts and concepts; asks questions; hypothesises; speculates; uses evidence and creative ideas to question other students' ideas and draws conclusions, and was met with both scepticism and opposition from colleagues about his placement upon the school's Gifted and Talented Register.

I have frequently wondered had I identified Jeff prior to those first lessons as a student with dyslexia, might I have acted differently? Would I have challenged Jeff as openly or as thoroughly with my questioning? Or would I have been more guarded to protect a vulnerable student from the chance of public failure and the subsequent potential for humiliation and ridicule? And most importantly, would I then have identified Jeff as a 'bright articulate student'

meeting the criteria for being G&T in science? This personal reflection on ‘How would I have responded to Jeff?’ (p.204) provided the stimulus for the study.

Although dyslexia might be seen by some as a relatively trivial impairment it confronts many implicit and explicit assumptions about literacy: ‘people who cannot spell are careless or lazy’ by challenging ‘implicit assumptions of a highly positive correlation between literacy and overall ability to learn’ (Riddick, 2002b, p.316).

Chapter 1

Introduction

1.1 Dyslexia

> 'In every country and in every language, a significant proportion of the population struggle to master the skill of reading…and whose problems persist into adulthood…for these individuals the difficulties are often incapacitating, undermining and distressing…The term used to describe this phenomenon, a biologically based condition, is dyslexia'
>
> Elliott and Grigorenko, 2014, p. ix

In 1676 John Schmidt (a physician) used the term 'word-blindness' to describe reading difficulties. The term dyslexia derived from two words, 'dys' - difficulty and 'lexia' words, did not appear until in 1887, when Rudolf Berlin (an ophthalmologist) used it to describe a form of word-blindness found in adults with significant difficulties in decoding written symbols (Campbell, 2011). Berlin argued dyslexia was caused by brain lesions and early investigations into reading difficulties centred upon them being acquired through brain trauma. The idea that reading difficulties could be developmental was not proposed until 1896, when Pringle-Morgan (a physician) described a boy of 14 whom, despite normal intelligence and good eyesight, failed to read, and two generations of a family within which six members were strikingly similar in their inability to read and write, suggesting that problems with reading and writing could be congenital (Shaywitz, 2005).

The Education Act (1993) identifies dyslexia as a Special Educational Need (SEN) and the Special Educational Needs and Disability Review (SENDA) (Ofsted, 2010) categorises dyslexia as a specific learning difficulty (SpLD). Dyslexia can be divided into two types: developmental and acquired (Funnell, 2000). Acquired dyslexia resulting from brain injury or illness (Dyslexia Action, 2010) whilst, developmental dyslexia is a neuro-developmental disorder of biological origin which impacts upon reading and speech processing with a range of clinical manifestations (Frith, 2002). Developmental dyslexia is

estimated to affect 10% of the population. The British Dyslexia Society (BDA, 2016) defines it as:

> '[A] specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be life-long in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities'
>
> 'It tends to be resistant to conventional teaching methods, but its effect can be mitigated by appropriately specific intervention, including the application of information technology and supportive counselling'

1.1.1 Characteristics of dyslexia

The nature and definition of dyslexia is problematic as students with dyslexia exhibit a range of characteristics with differing profiles of strengths and weaknesses. Like many other neurodevelopmental disorders that affect learning, such as attention deficit hyperactivity disorder (ADHD), autism spectrum disorders (ASD) and Asperger's syndrome, dyslexia can be thought of as the behavioural outcome of a number of multiple risk factors, both genetic and environmental (Frith, 2002; Hulme & Snowling, 2009; van Bergen et al., 2014).

Dyslexia can be conceptualised as a SpLD affecting students for whom reading achievement is below that expected on the basis of their age and IQ (Snowling, 2013) and usually becomes apparent when students begin to learn to read. The central characteristics appear to be problems with word decoding, which subsequently affects spelling performance, reading fluency and comprehension. However, dyslexia is not that straightforward as the form and degree exhibited by an individual manifests itself in varied and often contradictory ways (Snowling, 2013; Elliott & Grigorenko, 2014). It is frequently comorbid with other SpLDs such as dyspraxia and dyscalculia (Mortimore & Dupree, 2008; Snowling, 2013), language impairments (McArthur et al., 2000), symptoms of inattention (Carroll et al., 2005), attention deficit hyperactivity

disorder (ADHD) (McGrath et al., 2011) and problems of motor coordination (Rochelle & Talcott, 2006).

Most individuals with dyslexia have difficulty with identifying and manipulating the sounds of language, recognising rhyming words and ordering the sounds in words properly (phonology). They have difficulty in accurately sequencing and memorising visual and/or auditory symbols (graphemes) and remembering the visual form of words (orthography), particularly when these are irregularly spelt, such as 'dough' or 'cough' (BDA, 2015). They often experience difficulty with holding verbal information such as telephone numbers or names as a consequence of difficulties with short term memory, auditory sequencing and phonological processing. The BDA acknowledges that there may be visual processing difficulties as many individuals with dyslexia report visual symptoms.

Students with dyslexia frequently present with a range of social and behavioural problems including demotivation, low confidence and low self-esteem (Burden, 2005; 2008; Glazzard, 2010; Barden, 2011) which may affect teachers' perception of ability. Links between dyslexia and disruptive behaviour disorders are well documented (Burden, 2005), although Terras et al., (2009) identifies that not all students with dyslexia necessarily demonstrate behavioural problems. Barden (2011, p.3) proposes that these behavioural problems are the 'affective consequences of dyslexia' derived from the perceptions of teachers, parents and students with dyslexia themselves of underachievement, or underperformance, relative to their peers.

Dyslexia is classified within the cognition and learning needs category of SEND (DfE, 2015), both Booth and Ainscow (2005) and Ade-Ojo (2012) suggest that some teachers may link the label SEND with lower intelligence resulting in the perception that students with dyslexia possess lower academic ability, which may in turn result in both poorer expectations and outcomes for those students. Making understanding teachers' perceptions of dyslexia important as these affect pedagogy and subsequently student attainment.

Mass education brought with it the expectation that every individual acquires a certain level of literacy, the notion of being ‘educated’ and ‘literate’ have become inextricably bound together (Riddick, 2001). Adverse connotations associated with poor literacy skills having the effect of transforming dyslexia into a disability. Various conceptual models of disability exist, at the extremes these can be characterised as the ‘medical’ and the ‘social’ model (Palmer & Harley, 2012, p.358). The social model of disability advocates that it is the negative attitudes held by society which transform impairments into disabilities. In contrast the medical model views disability as intrinsic to the individual (Palmer & Harley, 2012), requiring intervention and remediation to limit or reduce the effects. Within special education the medical model may also be referred to as a ‘deficit model’ with deficits being intrinsic to the individual. Ade-Ojo’s research (2012) suggests that in adult literacy classes dyslexia is more commonly perceived through a deficit led, medical model rather than a social model. Current educational models of dyslexia focus on remediation using intervention strategies, to address underlying cognitive impairments (Riddick, 2001; Glazzard, 2011) which may promote dyslexia being conceptualised in this manner. A detailed examination of conceptual models of disability is given in Section 2.6.

1.2 The dyslexia debate and its possible role in influencing perception

> ‘Dyslexia is a 'meaningless label’ used by middle-class parents who fear their children are being branded stupid’
>
> Macrae, 2014, Daily Mail

Whilst the term dyslexia might be familiar in educational settings, Williams and Lynch (2010) suggest that it is still generally misunderstood and many misconceptions abound (Mortimore & Dupree, 2008). Estimates of incidence in dyslexia vary from one student in ten (Dyslexia Action, 2010) to the suggestion that dyslexia exists purely as a middle-class myth (Crabtree, 1975; Pollock & Waller, 1994) or an excuse made by a poor education system (Stringer, 2009). The debate surrounding dyslexia is important. Teachers may be aware of the controversy and have formed opinions affecting their perceptions of students

with dyslexia. In their study Gwernan-Jones and Burden (2010) identified that student teachers enter the profession with a set of beliefs about the existence of dyslexia, linked to and modified by, what they perceive to be the normative views held within the teaching profession.

Early definitions and identification of dyslexia concentrated upon a gap between intelligence (IQ) and reading ability (Snowling, 2013). This gap may suggest that students with dyslexia possess above average IQs (Nicholson & Fawcett, 2007), are often more creative (Bradford, 2002), lateral thinkers with attention to detail (Drewe, 2003) and able to think outside the 'box' in an imaginative and innovative way (West, 1997; Brooks, 2004). A diagnosis of dyslexia thus implying a certain level of intellectual ability (Ho, 2004) and giving rise to the view that people with dyslexia are inherently 'bright' (Elliott, 2005; Macdonald, 2009).

The ability to reason is dependent upon fluency (West, 1997; Weggelaar, 2006); the capacity to repeat previous actions, or thoughts, quickly without conscious thought (kinaesthetic feedback). Implicit in this theory is the assumption that 'normal' brains use familiar paths to solve problems and 'short cuts' make processing faster. Weggelaar (2006) claims that because the dyslexic brain lacks fluency it approaches every problem differently, giving rise to creativity but also a longer processing time. Thus fluency may be the antithesis of creativity which requires thinking about elements in unique ways to solve problems differently.

Much has been written about people with dyslexia being more creative and intelligent (West, 1997; Drewe, 2003; Brooks, 2004). A number of websites for dyslexia claim that dyslexia is a *'*gift'*.* However, the context of what has been written and bias of the writer needs to be carefully examined and arguments balanced. The BDA website (2016) has a substantial list of artists, musicians, writers and philosophers who are dyslexic, but if one considers the equally substantial number of individuals not included upon the list, who presumably are not dyslexic, it shows that just like the rest of the population people with dyslexia demonstrate a huge range of creative skills and intellectual ability.

It has been suggested that middle-class parents have used the label dyslexia to redefine their child as bright, but impaired (Elliott & Place, 2004), special, not slow (Gillies, 2005), promulgating another view point expressed by Crabtree (1975) as:

> '[A] middle class excuse for the stupid child … if you live in Acacia Avenue, you are dyslexic, if you live in Gasworks Terrace, you are thick'

giving rise to a common myth that dyslexia is not real; but an excuse made by middle-class parents for a child with reading difficulties who is actually not very bright or is lazy (Pollock & Waller, 1994).

Although dyslexia is recognised under the Equality Act (2010) as a disability unlike most other disabilities diagnosis is not funded by the National Health Service (BDA, 2016). Dyslexia is not considered a medical issue and forms no part of medical training. Whilst schools identify students with literacy difficulties Noon (2010) contends that diagnoses of dyslexia are predominantly parent led and Macrae (2014) identifies that these tend to be found in more affluent areas. Presumably only families with both money and an interest in education are able to pursue a diagnosis of dyslexia making diagnoses more likely to be amongst the middle classes giving rise to a social imbalance, further perpetuating the myth that dyslexia is a middle class excuse for a lazy or stupid child.

A diagnosis of dyslexia removes the blame from the parent in relation to the child's difficulties (Ho, 2004) and allows access to technology and support which would be otherwise refused if the child were simply identified as a low achiever (Ho, 2004). '[A] label is necessary in order to receive additional educational resources' (Elliott & Grigorenko, 2014, p.165). Students in mainstream schools with diagnoses of dyslexia may receive additional support in lessons (TAs), be removed from classes to receive specialist 1:1 teaching and may have ICT devices such as laptops provided. Schools can apply for special adjustments to be provided in exam settings such as additional time and an amanuensis. Additionally when students have left school, a diagnosis can enable them to receive disability support through the Government's 'Access to Work Scheme' which includes funding and mentoring.

Many students with dyslexia may not have a diagnosis and whilst dyslexia occurs across the whole ability spectrum of ability (Rose, 2009; Snowling, 2013) those students with low IQs may have their reading difficulties apportioned simply to general learning difficulties (Crombie, 2002), whilst students with high IQs may manage to hide their difficulties (Kirby, 2011). Kirby (2011) suggests that the diagnosis a student receives depends upon the door that the student goes through. Dyslexia can be co-morbid with other learning difficulties, a student with disruptive behaviour may be referred for ADHD screening and obtain a diagnosis of ADHD, their dyslexia remaining undiagnosed.

The discussion in *'The dyslexia debate'* (Elliott & Grigorenko, 2014) centres upon two arguments: the utility of the term dyslexia, and the validity of diagnostic testing. Elliott and Grigorenko contend that definitions of dyslexia are so broad it is impossible to separate people with dyslexia from those with general reading disabilities (GRD). They claim that the complexity, both conceptual and definitional, indicates that the term dyslexia is not a scientifically rigorous construct. The 'arbitrary boundaries' produced creating unfairness and inequality of provision, with the effect of producing an elite group of students with GRDs, those with diagnoses of dyslexia. Whilst students not meeting all the criteria receive only a basic provision and they call for the term dyslexia to be replaced by the term SpLD.

Whilst acknowledging the cogency of the argument about the utility of the term dyslexia and validity of diagnostic testing, and empathising with Elliott and Grigorenko's stance that 'arbitrary boundaries' create 'unfairness', human beings do not fit neatly into boxes. Methods of categorisation invariably result in 'fuzzy boundaries'. A single label SpLD may still not provide the equality of provision Elliott and Grigorenko seek. The wide ability spectrum, variety and range of learning differences that the label encompasses are considerable. It is possible that teachers will not fully comprehend or identify the enormity of the label and its meaning for every student. There may still be unfairness and inequality of provision. Moreover, students may still continue to 'slip under the net'.

'The dyslexia debate' (Elliott & Grigorenko, 2014), was conceived to assemble and organise up to-date knowledge and stimulate debate. The arguments presented are valid. However, they have been over simplified by parts of the media to 'does dyslexia exist?' this misrepresentation, reaching a wide audience, may influence perceptions of dyslexia.

1.2.1 Is dyslexia synonymous with, or different from, reading disability?

The claim that it is impossible to separate students with dyslexia from students with GRD (Elliott & Grigorenko, 2014) requires further consideration. If it is impossible to separate the two groups, it vindicates Elliott and Grigorenko's assertions that dyslexia is not a scientifically rigorous construct. To investigate this claim it is necessary to understand the skills required to become a proficient reader before comparing difficulties encountered by students with GRD to difficulties encountered by students with dyslexia.

For experienced non-dyslexic readers and writers it is easy to forget how difficult learning to read and write is. Normal reading and spelling develops as speech sounds (phonemes) are mapped onto the graphic letter symbols (graphemes) and vice versa (Wolf & Bowers, 2000). Beginning readers use a sub-lexical strategy to identify words through incremental mapping of graphemes onto individual phonemes. A faster lexical strategy only develops as reading skill improves, when words are recognised as whole units and whole word orthographic representations are mapped onto whole word phonological representations (Aghababian & Nazir, 2000). This lexical route can only be employed when there has been previous exposure to the word and an orthographic representation is stored in the lexical memory. Words that do not have regular grapheme-to-phoneme mapping (exception words) cannot be processed sub-lexically, correct pronunciation cannot be deduced from the orthography of the word, and have to be learnt and stored in the lexical memory.

Words consist of patterns of sounds. However, sounds are not separate units; each influenced by preceding and subsequent sounds. As a fluent reader a person knows implicitly how the sounds merge to form the word, the relationship between graphemes and the phonemes has become automatic. This fluency is known as kinaesthetic feedback (Weggelaar, 2006). When reading aloud, graphemes are translated into movements of the tongue, lips and vocal cords to produce the correct articulation of sounds. Without kinaesthetic feedback these patterns of movements are not recognisable units. A student may know the individual sounds but be unable to put them together like 'trying to building a bridge with no point of support on the other side' (Weggelaar, 2006, p.147).

Reading for understanding is the product of decoding (phonology) and language comprehension (Snowling, 2013). Comprehension requires both an understanding of the meaning of words (vocabulary) and an understanding of sentence construction, grammar and syntax which affects the meaning of the words (Cain, 2010).

Viewed as a two-dimensional model (Figure 1) a deficit in one area (phonology or comprehension), or both of these areas generate three different types of poor reader:

- Poor decoders
- Poor comprehenders
- Poor decoding and listening comprehenders

The two-dimensional model of reading identifies that reading comprehension impairment can occur in the absence of poor decoding, referred to as 'poor comprehenders' these students can decode and spell words accurately but have problems understanding the meaning of what they read. Snowling (2008) identified that social and cultural factors influence the prevalence of reading difficulties; decoding difficulties being more common among students from socially deprived areas.

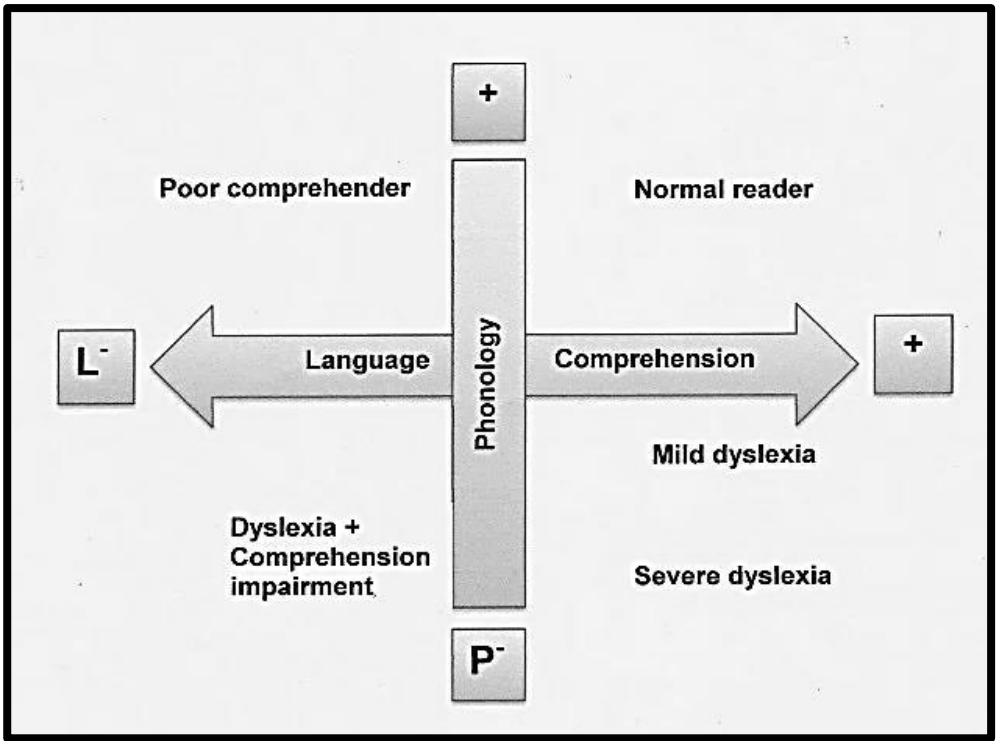


Figure 1 Two-dimensional model of reading
From Snowling (2013, p.13)

Phonological awareness skills at the phoneme level are the most critical for literacy development (Hulme et al., 2002). The central characteristic of dyslexia appears to be a problem with phonology (Snowling, 2000; 2013; Carroll & Snowling, 2004; van Bergen et al., 2011) which affects the acquisition of letter knowledge, affecting spelling performance and producing slow and inaccurate word reading (lack of fluency) generating a 'bottleneck that impedes adequate reading comprehension' (Snowling, 2013, p.7). Individuals with dyslexia continue to use a sub-lexical strategy to identify words through incremental mapping of graphemes onto individual phonemes (Aghababian & Nazir, 2000). Slow progress in reading means students may forget what they have previously read. Inaccurate reading makes the text appear nonsensical, and produces inadequate comprehension.

Phonological awareness at preschool has been found to be a powerful predictor of later reading and writing success. The ability to segment words into syllables, perceive rhyming patterns in words or generate rhyming words (onset-rime awareness), be aware that words are made up of individual sounds

and be able to segment words into phonemes, contributing to successful reading or spelling performance (Gillon, 2005).

Students with GRD, whom Stanovich (1988, p.590) terms ‘garden-variety poor readers’, similarly demonstrate phonological problems. However, Stanovich identifies that deficits also extend into a variety of domains also causally linked to poor reading (e.g., vocabulary, language comprehension), a pattern not generally characteristic of students with dyslexia where deficits are localised within the phonological core, and which are ‘generally more severe than the garden-variety poor reader’ (Stanovich, 1988, p. 602). Although Pennington et al., (2011) identify that not all individuals with dyslexia show phonological deficits. The multi-faceted nature of dyslexia and screening tests which ‘include a wide range of measures, other than the more narrow tools used for identifying reading problems’ (Stanovich, 1996, p. 164) may offer one plausible explanation for this observation.

Whilst there appears to be some differences between students with GRD and those with diagnoses of dyslexia, I agree with Elliott and Grigorenko (2014) ‘fuzzy boundaries’ exist. Methods of categorisation invariably result in arbitrary boundaries, testing may not always be able to distinguish between those students who have dyslexia and those students with GRD.

1.3 Philosophical underpinnings

Historical and sociocultural dimensions, background, beliefs, values and practices influence research (Schwandt, 2000), its organisation and content are undoubtedly shaped by the philosophical assumptions held by the researcher no matter how balanced and critical the intent. Therefore it would be remiss not to acknowledge at the beginning of the study my philosophical assumptions as these unconsciously guide the way knowledge is studied and interpreted and influence the direction of the study (Cohen, Manion & Morrison, 2011; Creswell, 2014).

My own school background has had a profound affect upon my beliefs, values and practices as a teacher; failing the 11^{+} (the selection test for grammar school) has produced a stolid determination to demonstrate my capabilities. Having gained a Batchelor of Science honours degree in Botany and Zoology and a Post Graduate Certificate in Education (PGCE) I elected to teach within the selective system, in schools that previously would have been designated as 'secondary moderns', frequently working with classes comprised mainly of SEND students. I aim to inspire self-belief and encourage students to raise and exceed their expectations.

Trained in the sciences and spending my teaching career teaching scientific methodology to students, I naturally take a traditional, quantitative, post-positivistic approach towards research; to design and carry out valid investigations from which reliable, quantitative, data can be collected, statistically analysed and interrogated objectively; to identify external causal features and offer plausible alternative explanations for data. A paradigm espousing the 'coolness of scientific reason' (Schostak & Schostak, 2007, p.180), the researcher stands firmly outside the research arena, writes in the third person. The subjective personal view-point never appears within the text, data speaks for itself. This outsiderness is at odds with the interpretivist paradigm of this study that firmly roots the researcher at the centre of the study and necessitates the examination of their conceptual, philosophical and theoretical framework. However, I recognise that psychological products like attitudes, beliefs, and behaviours are social categories, constructed and negotiated through dialogue. Knowledge and meaning generated from interactions between experiences and ideas (Creswell, 2014). 'Perception' is not divisible into quantifiable variables to be controlled, manipulated and measured. Relying upon participants' own views; it is 'fluid' (Thomas, 2009, p.90), identifying the fundamental research processes to be interpretive.

The research explores how dyslexia is perceived by students with dyslexia and their teachers, which suggests an inductive approach would be appropriate, being non-prophetic, enabling plausible alternative explanations and patterns of meanings to develop. Fitting this approach the most logical and appropriate

inductive approach would be to gather from literature salient concepts and perspectives (theoretical and empirical) to synthesise a Conceptual Framework, rather than a Theoretical Framework which draws upon a single theory, or a single concept derived from that theory, although both frameworks have similar purposes (Imenda, 2014).

The Conceptual Framework maps out the key factors, variables and constructs identified from the literature and the presumed inter-relationships between them. It provides the argument for the thesis giving structure and clarity, enabling an unambiguous development of the research questions and methodology and affords a lens to examine how dyslexia may be perceived by teachers and students with dyslexia (Punch & Oancea, 2014; Ravitch & Riggan, 2017). However, by acting as a lens, the Conceptual Framework may serve as a boundary; observations falling outside the framework failing to be 'noticed' (Imenda, 2014). Mechanisms to limit these 'boundaries' during data collection and analysis are discussed within Sections 3.4 and 3.6.

The study is interpretive, looking to 'contribute to an understanding of what is going on and to make sense of it' (Thomas, 2009, p.9). It is not predictive, but exploratory and takes the epistemological stance of social constructivism which during the research process generates, or inductively develops a pattern of meanings and importantly it acknowledges the impact the researcher's background and experiences may have upon the research (Creswell, 2014).

The juxtaposition between the inductive world of constructivism and my postpositivistic view-point might appear challenging, but it is complementary providing checks and balances, ensuring data is examined critically, limitations identified, assumptions avoided, and crucially conclusions justified. I recognise that knowledge is provisional; superseded when new information or insights come to light. During research, in the light of new data, theories and hypotheses are modified, improved, or abandoned; an inductive process.

The route of the research pathway is outlined in Figure 2 demonstrating its inductive character. The initial stimulus identified a focus for the study; perceptions of dyslexia. An initial literature search identified comparable studies and critique of literature generated a Conceptual Framework. From which research questions were formulated, and methodology and methods selected to address the research questions. On completion of the pilot study, research questions, methodology, and methods were evaluated against the Conceptual Framework and each refined, formulating the main study.

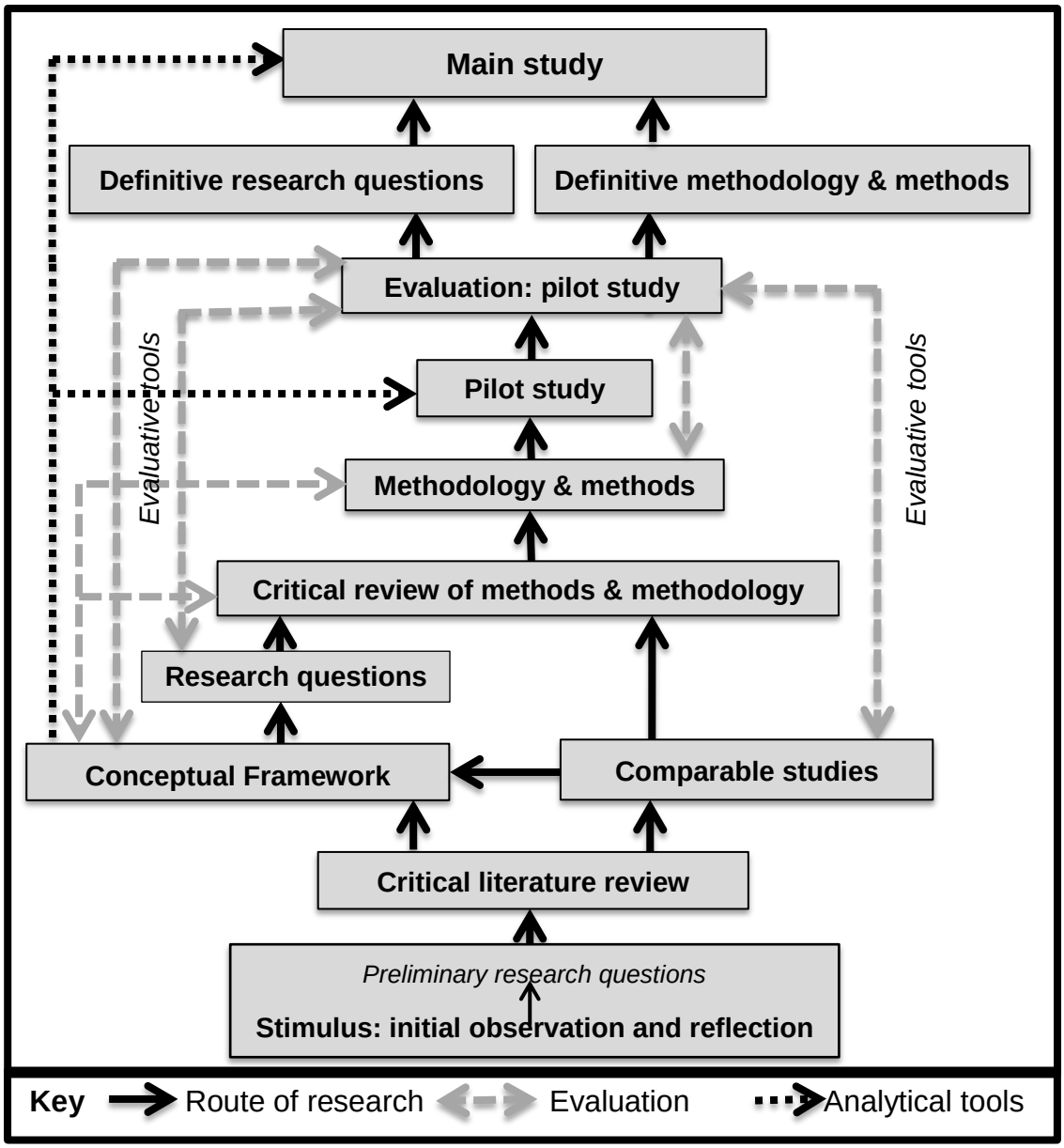


Figure 2 Research pathway

1.4 Conceptual Framework

As previously identified, given the interpretative nature of the study, a Conceptual Framework appears the most logical and appropriate analytical tool to bring structure and clarity to the research, mapping out the key factors, variables and constructs, and presumed inter-relationships between them. The Conceptual Framework provides the argument for the thesis (Punch & Oancea, 2014; Ravitch & Riggan, 2017). The literature review becoming both a product and a process, providing a summary of the 'conversation that already exists in relationship to the topic' (Ravitch & Riggan, 2017, p.30).

Figure 3 identifies the role a Conceptual Framework plays in enabling an unambiguous development of the research questions and methodology, and affording a lens to examine how dyslexia may be perceived by teachers and students with dyslexia (Ravitch & Riggan, 2017, p.16).

As I critically examined the literature surrounding dyslexia to synthesise the Conceptual Framework, I gained further understanding and developed new interpretations; honing the research, developing the research questions and identifying appropriate methodologies.

Using Miles, Huberman and Saldaña (2014, p.25) suggestion the Conceptual Framework was constructed graphically. The entire framework mapped on a single page, obliging me to specify 'bins' to hold discrete phenomena and map likely inter-relationships. However, recognising that the Conceptual Framework is 'simply the current version of the researchers map of the territory' (Miles, Huberman & Saldaña, 2014, p.20) as the study progressed and data was analysed, the Conceptual Framework evolved, becoming correspondingly more differentiated and integrated. Revisions and modifications to the framework form the Conceptual Model which is presented in Chapter 4.

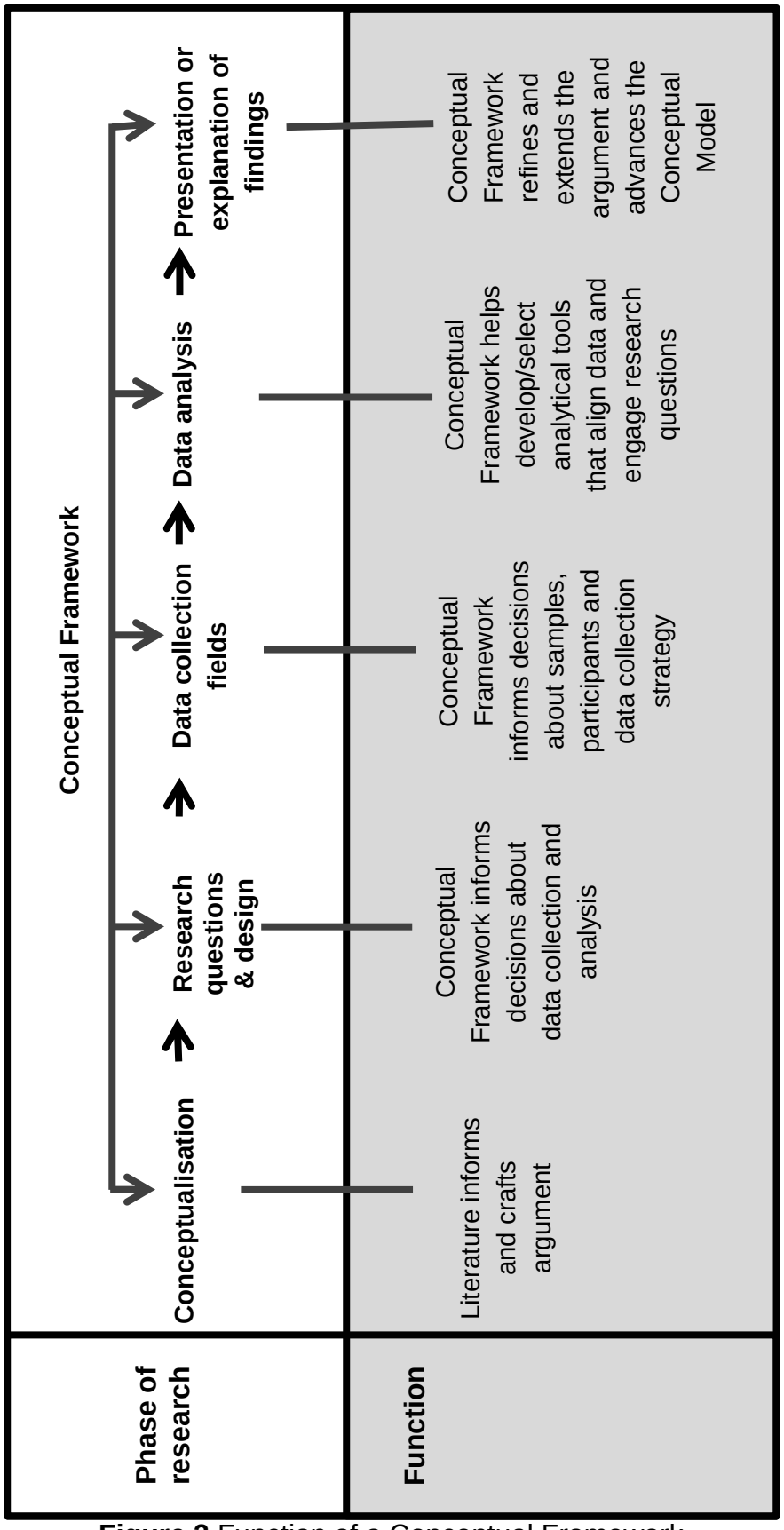


Figure 3 Function of a Conceptual Framework
Adapted from Ravitch and Riggan (2017, p.16)

1.5 Comparable studies

An initial literature search was carried out to examine appropriate methodological approaches to inform both the Conceptual Framework and the pilot study. A World Cat search of peer-reviewed articles limited to the years 2000 - 2012 using keywords: perception; dyslexia; teacher; dyslexic students produced 338 results. The search list was refined manually to include studies using only primary research data that might be considered case studies, which explored perceptions of dyslexia, teachers, dyslexic students, or both. Four studies were identified (Table 1).

Whilst acknowledging these form a limited selection of work they served to inform methodological approaches and more importantly, as a departure point for the literature review. Salient concepts identified within literature, initiating further searches and cycles of reading. Further literature searches for comparable studies were conducted replacing perception with: attitude; view; and assessment.

Author	Area of study	Description	Parameters	Methods	Data Analysis	Findings
Humphreys, N. 2002	Teachers' and students' with dyslexia perceptions of self-concept and self-esteem in students with dyslexia	Small scale study	UK *Mainstream and special schools* *15-18 years* *n ≈ 90*	Questionnaire (*Teachers*) Interviews (*Students with dyslexia and non-dyslexic peers*)	Content analysis	Student perception affects motivation, perseverance, confidence, self-esteem and ultimately academic achievement. Teachers play a significant role in students' perceptions of themselves
Glazzard, J. 2010	Students' with dyslexia perceptions of dyslexia and effect on self-esteem	Small scale exploratory study	UK *Mainstream and special schools* *14-15 years* n = 9	Individual semi-structured interviews (*Students with dyslexia*	Content analysis	Diagnosis of dyslexia increased perceived confidence and self-esteem. Students with dyslexia perceived 'success' equated to 'good' teachers
Hornstra et al., 2010	Teacher attitudes toward dyslexia and the effects on teacher expectation on students' with dyslexia academic achievements	Exploratory study	Netherlands *Elementary grades 2-6* *(Age not specified)* n = 30	Questionnaire (*Teachers*) Computer programme Achievement scores	Multilevel regression *Computer programme MLwiN2.0*	Teacher perception affects interaction. Influences curricular and instructional opportunities offered, which in turn affects academic achievement
Ade-Ojo, G. 2012	Practitioner perceptions of dyslexia, approaches towards teaching and learning, and effectiveness of tuition	Exploration	UK Adult literacy classes *(Age not specified)* n = 18	Questionnaire (*Teachers*) Focus group (*Teachers*)	Conceptual strand of content analysis (*questionnaires*) Discourse analysis (*focus group)* Statistical analysis of codes	Identified perceived links between label SEND and lower ability and literacy and lower ability. Relationship between teachers' perceptions, pedagogy and level of academic achievement

Table 1 Comparable studies used to evaluate methods and analytical tools

1.6 Context

The school is an 11 - 16, rural, mixed ability secondary school in the East Midlands, UK. To maintain confidentiality participants have been anonymised and the school is referred to as 'The Chestnut Academy' which to further comprehension and avoid repetition, in some sections, has been abridged to 'Academy'.

The Chestnut Academy is a non-selective secondary school operating within a selective system where approximately 25% of pupils attend grammar schools. Whilst classified as mixed ability, the reality is that the general standards of attainment of students on entry in year seven (aged 11) is below average, the proportion of students within the top 20% ability band is therefore low when compared to other all ability schools:

> 'pupils enter the school with attainment which is significantly below the national average, some have particularly low levels of literacy'
>
> Ofsted, 2012, p.3

There is a substantial SEND department which includes a sensory impairment unit, and an external provider is based within the Academy buildings. Although, the proportion of students identified as school action plus or having statements of special educational needs, now termed Educational Health Check (EHC) plans, at 6.6% is below the average of 7.3% (Ofsted school data dashboard, 2015).

The Academy operates a banding system (Figure 4). On entry in year 7 (aged 11) students are banded according to Standardised Assessment Tests (SATs) scores in English. Those with the higher scores divided into mixed ability teaching groups whilst those with the lowest English scores, dependent upon numbers, setted into one or two small teaching groups. These smaller groups are supported by two teaching assistants (TAs) and receive a modified curriculum; modern foreign languages being replaced by additional English lessons.

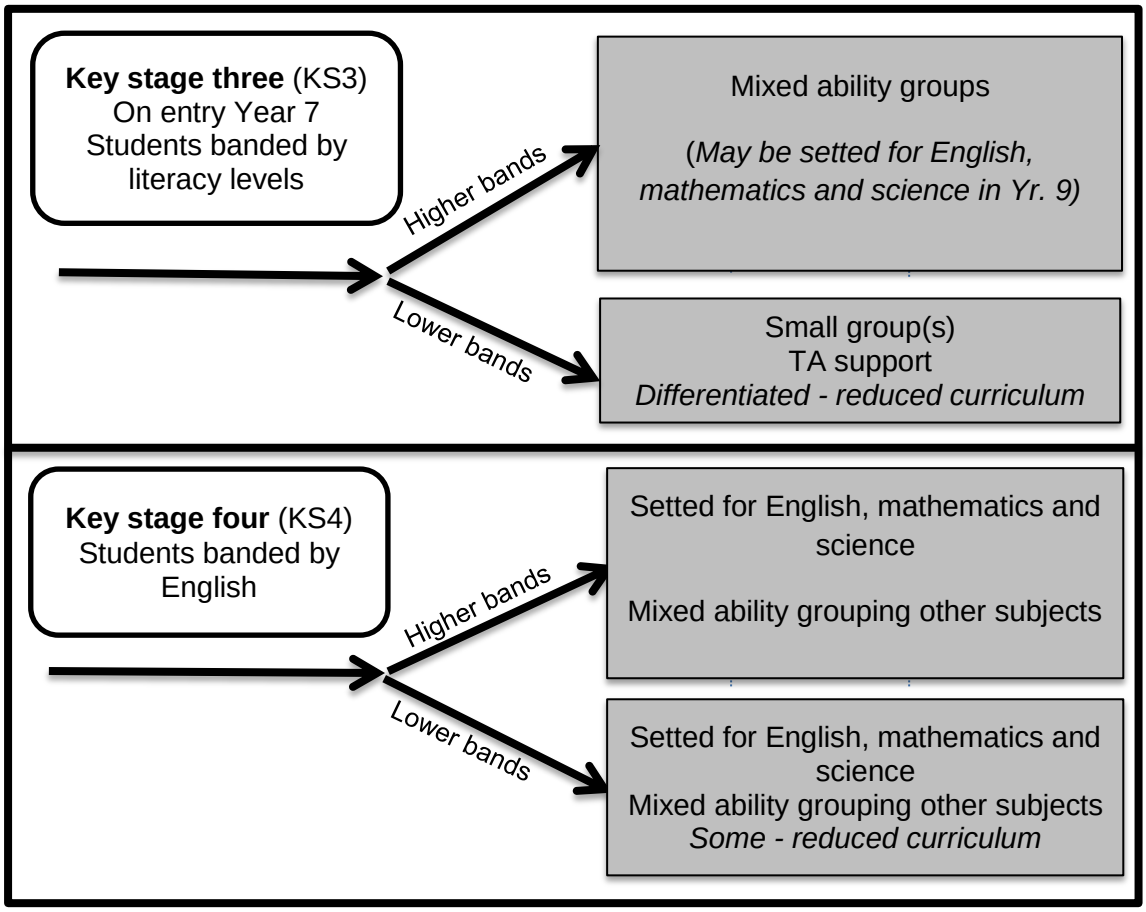


Figure 4 Banding within key stages at The Chestnut Academy

Students are tested termly using National Curriculum (NC) criterion referenced tests in every subject, an information management system (SIMs) is used to track and flag up under-performing students. Prior to 2014 year 7 students took Cognitive Assessment Tests (CATs) which gave a measurement of IQ and were used to both set targets and predict General Certificate of Education grades (GCSE). In 2014 these tests were replaced by external NC criterion levelled tests: Progress in English (PIE) and Progress in Mathematics (PIM) which are taken in the first and final terms of each school year in key stage 3 (KS3) to ascertain NC level, monitor and demonstrate progress.

As students' progress through the Academy and reach key stage four (KS4) (aged 14-16 yrs.) they are banded into two main groups, based upon attainment in English and then setted within these groups for English, mathematics and science. In other examination subjects students are taught within mixed ability groups.

During the course of this study, impending changes to GCSE examinations, students being penalised for spelling and grammatical mistakes, and the abolition of bite-size modules in favour of end-of-course examinations, resulted in emphasis being placed upon improving literacy standards across all subjects. Literacy strategies and strategies for students with SEND needs formed a substantial part of both in-service training (inset) and continuing professional development (CPD) which may affect (favourably or adversely) teachers' and students' perceptions of students with poor literacy levels adding significance to the contextual thumbnail.

1.6.1 Vision Statement

The Vision Statement (Figure 5) appears in both the Academy prospectus and website identifying the establishments proclaimed ethos and aim to generate an enabling inclusive environment. Unique to the Academy, the Vision Statement is a product of staff working groups and whole staff inset which has been ratified by the Senior Leadership Team (SLT) and Governing Body.

> 'Our vision for the School is to raise aspirations and transform lives in a successful learning community. It will be a place where every student's welfare, learning and progress are our core business, a place where teachers can teach and students can learn.
>
> We firmly believe that all students have a right to a personalised education which will equip them for lifelong learning because every student is different, and those differences should be respected. An education should not be applied to students as though they were the product of a machine. Students should leave the School with a wealth of transferable skills which will enable them to progress into further education or employment.
>
> Through effective pastoral care and guidance *The Chestnut Academy* will develop the next generation of citizens and leaders, willing and able to play active roles in their communities. The school will lead out into the world, young people who feel positive about themselves and demonstrate a passion for life, who respect the rights of other people and who are ready to make their mark.'

Figure 5 Vision Statement

The Vision Statement reflects Fundamental British Values (DfE, 2014c), a prevailing culture of fairness, mutual respect and tolerance, the promotion of understanding difference and combatting discrimination:

> ‘Fairness is important to us all in Britain. There are few things against which we react more strongly than a sense of unfairness or injustice. It is because we believe that fairness is important that we have put in place an infrastructure of laws and enforcement mechanisms to defend this principle’
>
> Equality and Human Rights Commission (EHRC), 2015, p.10

1.6.2 Support for students with SEND

Routine testing of reading and comprehension are used to identify students requiring additional help and to monitor progress. Students whose reading age is below nine years receive additional help through literacy recovery packages. These students are withdrawn for 1:1 tuition and may be supported within the classroom by TAs.

At the start of each academic year, during inset the Special Educational Needs Co-ordinator (SENCo) introduces and distributes an Inclusion Handbook to all staff. The Handbook is divided into two Registers: SEND and Medical. The SEND Register individually identifies all students with their SEND needs together with a brief outline of difficulties (Figure 22, p.120). The Handbook includes information sections identifying four broad areas of need and support:

- cognition and learning
- communication and interaction
- social, emotional and mental health
- sensory and/or physical needs

Dyslexia is identified as a Specific Learning Difficulty (SpLD) under the category of ‘cognition and learning needs’ within the SEND Register (Appendix 1).

1.6.3 Support for students with dyslexia

Students with diagnoses of dyslexia are identified separately in the Medical Register within the Inclusion Handbook. Diagnosis having occurred at a previous school, by a specialist accredited through the British Dyslexia Association (BDA).

Prior to 2014 students identified with reading difficulties were screened for dyslexia using a computer programme (GL assessment) which identifies students 'at risk' of dyslexia, producing a profile of working memory, phonological awareness, rapid naming skills and cognitive ability which closely matches the BDA (2016) definition (p.2). GL assessment has been discontinued because it requires a measurement of IQ, previously provided by CATs tests which have been terminated. Students identified as being 'at risk' were not referred for formal diagnosis by the Academy, the information the programme provided being used to inform intervention strategies.

Table 2 provides an overview of the Academy intervention programme with three 'waves' or levels of action, although the 2015 Code of Practice provision amalgamates these into one level ('K' level). Intervention includes:

- small class size with differentiated learning
- TA support
- reading recovery (Accelerated Reader; group reading)
- phonetic strategies (Toe by Toe)
- spelling programmes (Word Wasp; Hornet)

Intervention strategies for classroom teachers for students with SpLD are given within the Inclusion handbook (Appendix 2).

Area of Need	All Students Wave 1	Wave 2 *(Catch up)*	Specific Targeted Approaches	
			Wave 3 *(Action)*	**Wave 3** *(Action Plus)*
Cognition and Learning	**KS3** Band(s) ■ **Differentiated teaching and learning** e.g. use of writing frames, word banks and word walls **Access to technology** e.g. laptop, dictionary	**Group reading** (1hr weekly: 1:5 with TA) **Group literacy** (1hr weekly: 1:5 with TA) **Accelerated reader** **In class support** (1:12 in KS3)	**Toe by Toe** (15 mins, 4 times weekly 1:1) **Word Wasp spelling** (15 mins, 4 times weekly 1:1) **Hornet spelling** (15 mins, 4 times weekly: 1:1) **Personalised KS4 timetable** **Learning Mentor Support**	**Memory Magic** (ECLIPS) **Personalised Language intervention** (ECLIPS)

Table 2 Waves of Intervention: provision overview
From The Chestnut Academy Inclusion Handbook (2015)

If Academy intervention strategies fail, students do not reach the targets set, then outside agencies such as Extended Communication and Language Impairment Provision for Students (ECLIPS) will be engaged. Only following progressive intervention will an EHC plan (previously known as a statement) be sought.

1.7 Insider researcher

Prior to, and for the first year of the main study, I was employed at The Chestnut Academy as a teacher, whilst access to participants and materials was easy (Unluer, 2012). Once my status changed and I became an outsider researcher, access diminished. Having gained the permission from the Academy and written letters to all parents and guardians of students with

diagnoses of dyslexia, only four gave permission and one further group interview conducted. Similarly requests made to staff were declined and access to materials was significantly reduced.

The majority of the data for this study was gathered whilst being an insider researcher with the potential to influence the study. Teacher participants may hold preconceptions about my opinions and the research, which may colour their accounts. ‘Everyone knows what she wants us to say’ (Mercer, 2007, p.21) with a potential to distort the data. Student participants may face a dilemma of tempering the truth, as teacher-student relationships have to continue after the research had been completed; pragmatism may outweigh candour in the power relationship (Mercer, 2007).

Conducting insider research is therefore akin to ‘wielding a double-edged sword’ (Mercer, 2007, p.12). What is gained in terms of the extensive and intimate knowledge of the culture may result in a loss of insightful analysis; a ’taken-for-granted understanding’ of the participants, familiarity, leading to ‘myopia and an inability to make the familiar strange’ (Mercer, 2007, p.12). Although Söder, (1989, p.122) ascertains that social meaning is embedded within a structure that can ‘only be fully understood from the inside’. I would suggest the truth lies somewhere between these two positions, an insider researcher able to access and understand the culture, and also acutely aware of the difficulties and disadvantages this position engenders.

Mechanisms to limit the disadvantages of being an insider researcher are discussed within Section 3.4. My position as an insider researcher also brought with it a number of ethical dilemmas which are discussed within Section 3.5.

1.8 Aims of study

Reflecting upon the assumptions I had made that Jeff, an articulate student, would possess high literacy skills, and acknowledging that I may act differently, towards students with SEND; to protect vulnerable students from possible

ridicule, identified implicit assumptions of a positive correlation between literacy and intelligence, and SEND and intelligence, and perception and pedagogy.

Recognising that perception affects expectation, pedagogy and classroom interaction the study explores how dyslexia is perceived by students with dyslexia and their teachers, to identify factors that influence perception together with an examination of how these may contribute to a Conceptual Model of dyslexia with the purpose of adding to knowledge, informing policy, and improving practice.

1.9 Preliminary research questions

1. How is dyslexia perceived by teachers and students with dyslexia?
2. What factors influence perceptions of dyslexia?
3. Does teacher perception influence pedagogy?
4. Does pedagogy affect expectation and classroom interaction?
5. Are there perceived links between SEND and ability?
6. Are there perceived links between literacy and intelligence?

1.10 Structure of thesis

The thesis consists of a further four chapters. Chapter 2 examines the literature to generate a Conceptual Framework from which the research questions are formulated. Whilst the study does not aim to expand the neuro-biological study of dyslexia, the chapter describes the nature of dyslexia, to lay the foundation stones to the study providing one explanation as to why definition and diagnosis are viewed as problematic; these tensions giving rise to the dyslexia debate which may influence perceptions of dyslexia.

Chapter 3 uses the Conceptual Framework to critically examine methodology, methods and analytical frameworks. Maintaining an interpretivist and constructivist approach, drawing upon comparable studies, the most appropriate methods for the research questions are described and choices

justified. The pilot study and its finding are presented. Following critical evaluation of the pilot study, the research questions, methodology and methods are refined.

Chapter 4 presents the analysis of data and discusses findings, examining how these fit within the Conceptual Framework, or contribute to, the synthesis of a Conceptual Model.

Finally Chapter 5 addresses the research questions and reflects upon the research. Areas for further research are identified and recommendations for policy and practice offered. The chapter concludes with a personal reflection upon teaching pedagogy and response to Jeff, who inspired the research.

Chapter 2

Literature Review: developing a Conceptual Framework

2.1 Introduction

This chapter critically reviews the literature to create a Conceptual Framework, which is used to formulate research questions, inform methodology and act as an analytical tool (Ravitch & Riggan, 2017) to explore how dyslexia is perceived by students with dyslexia and their teachers. Factors that may influence perception are explored together with an examination of how these may contribute to a Conceptual Framework.

The chapter commences with a consideration of why perception plays an important role in the learning process and continues with an examination of dyslexia. Whilst the study does not aim to expand the neuro-biological study of dyslexia, the nature of dyslexia is considered to explain why definition and diagnosis are viewed as problematic, giving rise to the dyslexia debate, which may influence perceptions of dyslexia, and to lay the foundation stones to the study. As definitions play a strategic and critical role in research; shaping planning, methodology, analysis and conclusions, terms must be clearly defined, with explicit reasons for their choice, to enable the logic and reasoning behind the research to become visible and facilitate critique (Hart, 1998). Definitions of dyslexia in literature are examined to generate a working definition for the study.

Reflecting upon my assumption that Jeff (aged 11) a bright articulate student would also possess similar high levels of literacy skills, identified that I possessed intrinsic socio-historic views of intelligence, linking literacy to ability, which mapped out the initial avenues for the literature review. Namely: the effect of perception in the learning process, concepts of intelligence, and concepts of disability. The chapter concludes with the Conceptual Framework and research questions.

2.2 Why might perceptions of dyslexia be important?

> ‘Student performance and behaviour in educational tasks can be profoundly affected by the way we feel, we are seen and judged by others. When we expect to be viewed as inferior, our abilities seem to diminish’ Wilkinson and Pickett, 2010, p.113

Teachers have complex and varying attitudes to inclusion based upon their perceptions (Salend, 2001). The corollary being that perception plays a significant role in the learning process, impacting upon teacher pedagogy, students’ perceptions of themselves and subsequently learning. Humphrey and Mullins (2002) identify that at secondary level teachers play an even more crucial role in academic success for students with dyslexia than their non-dyslexic peers.

A critical component of special education appears to be ‘advocacy’; active verbal support for students with disabilities which is laced with pragmatism: ‘I won’t spoon-feed these students’, they ‘have to learn to survive in the real world’ (Scruggs & Mastropieri, 2015, p.33).

Teachers have a strong influence on a student’s self-concept as a learner (Riddick, 2002a; Glazzard, 2010) and play an important role in aspiration (Riddick, 2002a). Positive teacher expectation has been shown to have a significant effect on student effort and perceived competence (Román et al., 2008) which in turn increases learning and student achievement (Jussim & Harber, 2005; Hornstra et al., 2010).

Teachers’ perceptions of ability affect their approaches to teaching (Ade-Ojo, 2012) modifying how they interact with their students, affecting the curricular and instructional opportunities offered, which in turn affects academic achievement (Hornstra et al., 2010; Humphrey, 2001; 2002). Some teachers may link the label SEND with lower ability (Booth & Ainscow, 2005; Ade-Ojo, 2012). The great majority of students with identified disabilities read well below grade level (Scruggs & Mastropieri, 2015, p. 24). Weak literacy skills, a characteristic of dyslexia, may be linked to an intuitive construction of

intelligence (Mackay, 2006) resulting in both poorer expectations and outcomes for students with dyslexia.

Complaints of unfair treatment and lack of understanding recur in the literature (Osmond, 1993; Humphrey, 2001; 2002; Humphrey & Mullins, 2002; Glazzard, 2010). In his study Humphrey (2001) identified that the majority of secondary students with dyslexia reported extremely negative experiences, being teased or bullied. Whilst Riddick (1995, p.463) alleged that half the students in her study had been called '*thick*' because of their dyslexia.

Crucially, and providing justification for this study, Humphrey and Mullins (2002, p.200) and Glazzard (2010, p.67) identified that students with dyslexia perceived academic success equated to the 'quality of teachers' rather than their own intelligence. Barton (2003, p.11) observes that students with dyslexia need 'teachers who understand the frustration of being smart, yet unable to do what other students do so easily: read, write, spell, and memorise', signifying that teachers' perceptions are important as they shape pedagogy.

The identification of perceptions of dyslexia held by teachers, and understanding how these perceptions might be formed is important as it may enable strategies to further positive perception and reduce negative perceptions to be developed, with the ultimate aim of improving pedagogy.

2.3 Causes of dyslexia

Dyslexia is not straightforward, the form and degree exhibited by an individual manifests itself in varied and often contradictory ways (Elliott & Grigorenko, 2014); the degree of severity exhibited affected by the demands of the environment (Reid, 1999; Pumfrey, 2002; Brunswick, 2009; Bell et al., 2011) and there is no consensus amongst experts on either definition or exact aetiology (NIACE, 2004). Whilst acknowledging the tensions surrounding dyslexia the current study does not attempt to engage in the debate regarding the definition or existence of dyslexia, nor expand the neuro-biological study of dyslexia.

It is important to have an understanding of the most current hypotheses for the causes of, and factors influencing dyslexia as these affect the pedagogy employed to ameliorate symptoms, which in turn may influence teachers and students perceptions. It may also help explain why symptoms are varied and affected by the demands of the environment, making diagnosis and definitions difficult; an argument central to '*The dyslexia debate'* (Elliott & Grigorenko, 2014).

> '[D]efining dyslexia at a single level of explanation; biological, cognitive or behavioural, will always lead to paradoxes. To gain a fuller understanding all three levels need to be joined together and factors which can affect the condition considered'
>
> Frith, 1999, p.200

The definition and explanation of dyslexia has long been problematic (Elliott & Grigorenko, 2014), 'causal modelling frameworks involve three levels of description: behavioural, cognitive and biological' (Frith, 1999, p.192). In the next section the main hypotheses for each of these levels are examined separately and whilst this might suggest each is discreet, it is important to gain an understanding of each before examining how they may plausibly fit together.

The dominant cognitive hypothesis is the phonological deficit theory (Snowling, 2000; 2013; van Bergen et al., 2011), whilst biological (neurological) hypotheses include magnocellular deficit (Stein & Walsh, 1997; Stein, 2001) and cerebellar deficit (Nicholson & Fawcett, 2002). At behavioural level students may display poor reading, writing and spelling (Riddick, 2001) together with a wide range of symptoms.

2.3.1 Phonological deficit hypothesis

Whilst the origins of dyslexia may be conceptualised in different ways, 'the proximal cognitive cause, common to all accounts, is a phonological deficit' (Frith, 1999, p.207) which proposes that dyslexia arises from a deficit affecting the processing of speech sounds in words (Snowling, 2000; 2013; van Bergen et al., 2011). Most people with dyslexia appear to have difficulty with identifying and manipulating the sounds of language, recognising rhyming words and ordering the sounds in words properly (phonology). They also have difficulty in

accurately sequencing and memorising visual and/or auditory symbols (graphemes) and remembering the visual form of words (orthography), particularly when these are irregularly spelt; lacking regular grapheme to phenome mapping (exception words). It is suggested that abnormalities in the language areas of the brain (frontal lobe of the cerebral hemispheres) make it difficult to process sounds within words (Stanovich, 1996; Snowling, 2000; van Bergen et al*.,* 2011).

However, this hypothesis does not readily explain the occurrence of comorbidity with other developmental disorders, including dyscalculia, specific language impairment (SLI), speech-sound disorder, and attention-deficit/hyperactivity disorder (ADHD) (van Bergen et al., 2014) and it fails to account for some of the symptoms of dyslexia, such as problems with visual processing (Stein, 2001; BDA Code of Practice for Employers, 2016), balance and fine motor coordination (Nicholson & Fawcett, 2002; Rochelle & Talcott, 2006; Rose, 2009, BDA Code of Practice, 2016) which appear to be common to many individuals with dyslexia. Furthermore, not all individuals with dyslexia show phonological deficits (Pennington et al., 2011) conversely, not all individuals with phonological deficits have dyslexia (Snowling, 2008). I suggest that the evidence for this hypothesis appears to be based upon circular reasoning, in that phonological weakness is seen as *both* a defining symptom of dyslexia and its underlying cause. Association of observations does not imply causation.

2.3.2 Magnocellular deficit hypothesis

A sensory deficit in the magnocells may be responsible for dyslexia (Stein & Walsh, 1997; Stein, 2001). Magnocells play an important role in focusing attention (visual attention and auditory attention) and are vital in timing both visual events and auditory events (for example the sounds in speech). When listening to speech, the brain not only has to recognise the individual sounds (phonemes) but also has to order them, a process known as auditory attention. Problems with the auditory magnocellular system may mean that individuals

with dyslexia have problems ordering sounds, which in turn gives rise to problems with auditory memory. The inability to repeat non-words (nonsense words) is a good sign of this particular problem (Stein, 2009) and is often cited as a method of identifying dyslexia.

Visual attention, the ability to control eye movements and focus on letters, is an essential part of reading. For example, when reading the word ‘dog’ each individual letter needs to be focused on in the correct order. If attention and eye movements are less steady than they should be, the positions of the ‘g’ and the ‘d’ may become transposed thus ‘god’ might be misread as ‘dog’ or ‘was’ for ‘saw’. When reading the eyes make rapid movements called saccades which change the point of fixation to keep each new word in the text on the fovea, the most sensitive part of the retina. Erratic saccades and longer fixations during reading are more common in people with dyslexia (Hatzidaki et al., 2011).

Deficits in serial search and automatic spatial cuing, the ability to consciously locate an object amongst a complex array of stimuli were identified in dyslexic individuals by Franceschini et al., (2012) who suggest dyslexia may arise from a basic cross-modal letter-to-speech sound integration deficit, as letters have to be precisely selected from irrelevant and cluttering letters by rapid orientating of visual attention before the correct letter-to-sound integration is applied. Dyslexia may not only be caused by auditory-phonological deficits, but also by visual spatial attention deficits. Judge et al., (2013) identified that in individuals with dyslexia difficulty with automatic alphanumeric cuing was confined to one visual field. Participants showed subtle impairments in the right visual field, where a leftward–rightward shift of attention was required possibly accounting for serial search and automatic spatial cuing deficits and concluding that performance on visual attention tasks that activate phonological codes may be constrained by the efficiency of phonological processing, which is so often impaired in dyslexia. Good magnocellular function is essential for stable binocular fixation, and hence proper development of orthographic skills (Stein, 2001, p.12). Deficits in magnocells may cause images to become unstable and reduce processing (Robertson & Bakker, 2002; Skottun & Skoyles, 2006) which

may also account for the visual problems often reported by individuals with dyslexia.

Oculomotor deficiencies however do not identify the origin of dyslexia, nor do they explain other symptoms such as problems with short term-memory but, they may offer a plausible explanation for one of the characteristics of dyslexia; poor word decoding, and they also account for difficulties following and copying text.

2.3.3 Cerebellar deficit hypothesis

The cerebellum plays an important role in motor control and cognitive functions such as the articulation of speech, automatisation of learnt behaviours and attention. A mildly dysfunctional cerebellum can produce articulation problems contributing to the phonological processing deficits exhibited by individuals with dyslexia including the learning of grapheme and phoneme relationships when reading text.

Using Positron Emission Tomography (PET) Rae et al., (2002) identified differences in the shape of the cerebellum of individuals with dyslexia and individuals without dyslexia. Individuals with dyslexia had symmetrical cerebellums whereas those without dyslexia had asymmetric cerebellums. The symmetry in the cerebellum may reflect an increase in the total number of neurones altering the neurological organisation of the cerebellum and affecting phonological decoding and motor skills. Nicholson and Fawcett (2002) identified that in 80% of cases of dyslexia this could be attributed to a cerebellar abnormality and demonstrated that the general performance in people with dyslexia was less well automised compared to people without dyslexia.

Causal links between cerebellar problems, automation, motor and phonological difficulties are modelled in Figure 6. This model accounts for three critical difficulties apparent in dyslexia; writing, reading and spelling. With poor

articulatory skills impairing phonological awareness affecting reading, writing and spelling, and problems with automation of skill and knowledge affecting short term memory and word recognition. Poor quality handwriting, a problem frequently exhibited by people with dyslexia is also readily explained by cerebellar deficit hypothesis (CHD) as the cerebellum plays an important role in co-ordination and automisation of motor skills and writing requires fine, precise automised motor skills.

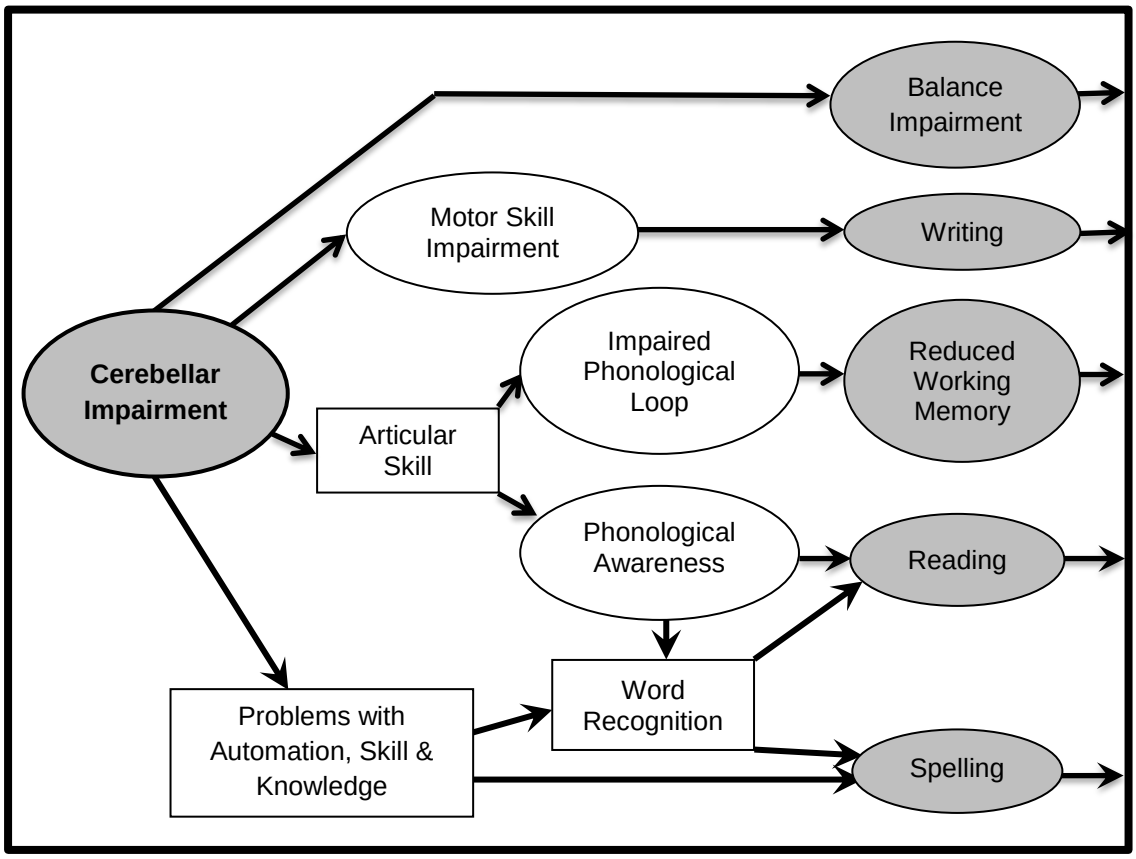


Figure 6 Dyslexia: an ontogenetic causal link
Adapted from Nicholson and Fawcett (1999)

Cerebellar abnormalities may not be the cause of dyslexia but the effect. Brain development is shaped by experience and cerebellar abnormality could be the consequences rather than the cause of developmental difficulties (Bishop, 2002). Intensive practice of a manual skill leads to improved performance and increased cerebellar development. Writing is probably the most precise fine motor skill that most literate adults have to master. Students with literacy problems are likely to write less and hence, be less skilled at wielding a pen or pencil than those who can read and write fluently. If there are cerebellar abnormalities associated with dyslexia, we should not assume it is instrumental

in producing reading deficits (Bishop, 2002). Association of observations does not imply causation. The cerebellum can be influenced by, as well as influence, cognitive and behavioural deficits. The caveat being that because they don't write, the cerebellum of individuals with dyslexia may be less well developed.

Whilst the CDH theory remains controversial, it offers a unifying framework for many of the observed problems exhibited by individuals with dyslexia such as poor phonological processing speed, poor motor skills and difficulties with automaticity (Mortimore & Dupree, 2008). However, it does not explain all the behavioural symptoms of dyslexia and cannot readily explain the occurrence of comorbidity with other developmental disorders, including dyscalculia, specific language impairment (SLI), speech-sound disorder, and attention deficit hyperactivity disorder (ADHD) (van Bergen et al., 2014).

2.3.4 Genetics

Evidence exists for a heritable basis for dyslexia with more than 80% of people diagnosed with dyslexia having a family history (Bradford, 2002) however 'familial links are not always obvious' (Morgan & Klein, 2000, p. 75). The wide range in heritability of dyslexia (Table 3) and discrepancies between the ranges between children and parents, and parents and children, strongly suggests environmental factors may influence susceptibility to dyslexia. As 23 - 65% of children with a parent with dyslexia have the condition, whilst 27- 49% of parents of children with dyslexia are diagnosed as being dyslexic.

	Dyslexic parent	Dyslexic sibling	Dyslexic child
Dyslexic child	23 - 65%		
Dyslexic sibling		40%	
Dyslexic parent			27 - 49%

Table 3 Likelihood of inheriting dyslexia
From Shaywitz and Shaywitz (2001)

Genetic studies 'converged on a conclusion that the aetiology of dyslexia is genetically complex' (van Bergen et al., 2014. p.1) with 'approx. 20 different

genomic regions currently being considered as harbouring candidate genes' (Elliott & Grigorenko, 2014, p.114). Rather than involving a single gene, many genes act probabilistically, each having only a small contributory effect; increasing liability or conversely, protective factors, decreasing liability to dyslexia, by influencing the development of neural systems and cognitive processes (Pennington, 2006). Genes do not code for cognitive and behavioural traits, they code for the structure of proteins and the regulation of gene expression, which in interaction with the environment, guides the building and maintenance of the brain (Fisher & Francks, 2006).

Cognitive and behavioural traits exhibited (phenotypic expression) are the result of genes in interaction with the environment. Parents largely shape their children's childhood environment, but as the child gets older the environment becomes increasingly shaped by outside influences such as the quality of schooling, peer influences and in the case of reading, teachers, reading-instruction methods and access to print and digital media which may account for the range in cognitive and behavioural traits expressed (van Bergen et al., 2014).

No single aetiological or cognitive factor alone appears to be sufficient to cause dyslexia. Multiple cognitive deficits, each due to multiple aetiological factors, need to be present (Pennington, 2006), which results in the range of symptoms displayed and a spectrum of levels of difficulties making definition and diagnosis difficult. Moreover, some of the aetiological and cognitive risk factors are shared with other disorders and as a result, comorbidity with other developmental disorders is to be expected, rather than being something that requires additional explanations (van Bergen et al., 2014). Resulting in Kirby's observation (2011) that the diagnosis a student receives depends upon the door the student goes through. A student with disruptive behaviour may obtain a diagnosis of ADHD their dyslexia remaining undiagnosed.

Pennington's multiple deficit model (2006) infers that the liability distribution for dyslexia will be *'*continuous and quantitative, rather than being discrete and categorical' (p. 404) with the 'threshold between affected and unaffected being

rather arbitrary'. This is reflected in the wide spectrum of behavioural characteristics exhibited by people with dyslexia, which causes difficulty with definition and diagnostic tests, resulting in 'arbitrary diagnosis' which forms the central tenet of '*The dyslexia debate'* (Elliott & Grigorenko, 2014).

2.3.5 Combining the three levels of explanation

The literature mostly identifies dyslexia as a neuro-developmental disorder primarily affecting reading and writing. There is clear evidence for a genetic basis affecting the structure of the brain although ambiguities remain over whether changes to the cerebellum are the cause, or the effect, of dyslexia. The multifaceted nature of dyslexia is due to a complex relationship between genetic and environmental factors, affecting the arrangement and connections of neurones, which may cause problems receiving sensory information through vision or hearing, and or, in retaining, structuring and retrieving information giving rise to the wide range and severity of symptoms.

Figure 7 describes the symptoms of dyslexia in terms of all three levels (biological, cognitive and behavioural) through a synthesis of Frith's three separate causal models (1999): '*Dyslexia a result of: phonological deficit'* (p.203); '*Magnocellular deficit'* (p.205) and '*Cerebral deficit'* (p.206), with elements of the '*Ontogenetic causal model'* (Nicholson & Fawcett, 1999); '*Multiple deficit model'* (Pennington, 2006) and '*Multigenerational deficit model'* (van Bergen et al., 2014).

Using this model the range of symptoms exhibited and differences in severity observed between individuals with dyslexia is explained. Multiple genes acting probabilistically (Pennington, 2006) interact with the environment increasing or decreasing the degree of severity (phenotypic expression) to either or both cerebellar or magnocellular abnormalities (van Bergen et al., 2014). Continuing and progressive interplay over time between biological and environmental factors, taking effect at different developmental stages from conception

onwards (Rice & Brook, 2004), a factor at one stage in development mediated, or exacerbated by a second factor at a later stage.

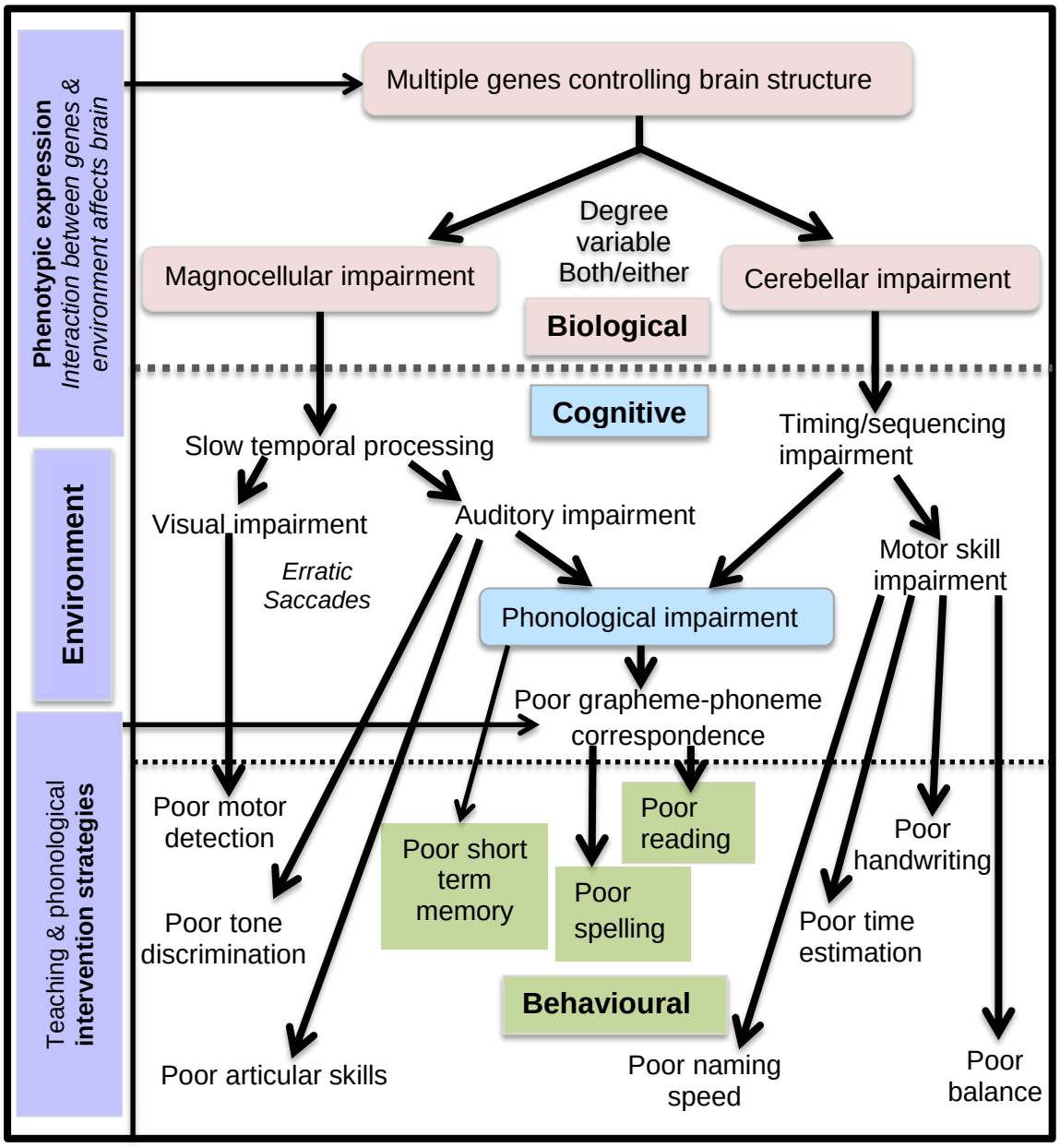


Figure 7 A causal model of dyslexia
Based upon Frith's three separate causal models of dyslexia (1999, p.203-206)

The model identifies phonological deficit, the main cognitive theory for the causation of dyslexia, is a consequence of biological deficit and by recognising that environmental interplay may mediate expression this suggests that phonological strategies, to develop reading and writing can be effective (Frith,

1999) making early recognition and appropriate intervention strategies essential in supporting students with dyslexia.

2.4 Defining dyslexia

Only students with a diagnosis of dyslexia have been included in the study. Diagnosis having occurred through a specialist accredited through the British Dyslexia Association (BDA) making this an ideal starting point for a working definition. However, the BDA definition (p.2) does not identify the continuum of range within symptoms exhibited and co-morbidity with other learning differences suggested within the literature (Mortimore & Dupree, 2008; McGrath et al., 2011). Whilst not acknowledging dyslexia's neurological basis, a biological origin is suggested by the phrase 'It is likely to be present at birth and to be life-long'. The range of cognitive abilities identified within the literature (West, 1997; Brooks, 2004) is alluded to by the phrase 'may not match up to an individual's other cognitive abilities'. Similarly 'mitigated by supportive counselling', suggests that social and emotional problems may be a consequence of dyslexia, but are not directly identified. Dyslexia is a sensitive issue with social and emotional consequences, and it may not be fair to suggest counselling may mitigate these as changing demands of the environment affect the symptoms of dyslexia exhibited (Brunswick, 2009; Bell et al., 2011) which may affect social and emotional problems.

The Rose Report (2009, p.10) identifies that dyslexia 'occurs across the range of intellectual abilities' and notes that students with dyslexia may show 'low self-esteem and disaffection' (p.121) which is supported by Burden (2005; 2008); Glazzard (2010) and Barden (2011). Rose identifies that dyslexia may be 'associated with marked co-occurring difficulties or emotional and social circumstances' (p.51). Other definitions identify that dyslexia is brain based (Snowling, 2000) and more specifically neurobiological in origin (cerebellar deficit hypothesis) (Nicholson & Fawcett, 2002; Rae et al., 2002).

To address the gaps identified by the literature within the BDA definition (2016) a number of definitions have been critiqued (Appendix 4, p. 210). Using

aspects of these definitions and the literature above, a working definition of dyslexia has been produced for the study:

- Dyslexia is a specific learning difference, neurobiological in origin, which mainly affects the development of literacy and language related skills
- It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities
- Occurring across the whole range of intellectual abilities, dyslexia is best thought of as a continuum, not a distinct category, as there are no clear cut-off points
- It may co-occur with other SpLDs such as dyspraxia, dyscalculia, dysgraphia, or attention deficit hyperactivity disorder (ADHD)
- Dyslexia can result in behavioural, emotional and social difficulties (BESD)
- Symptoms of dyslexia can be mitigated by specific intervention

2.5 Intelligence

Intelligence is difficult to define. It is multi-faceted and what is considered to be intelligence varies with culture (Gardner & Hatch, 1989). The Academy Staff Handbook identifies that characteristics of students gifted and talented in science may include among other things, the ability to reason, plan, problem solve, think abstractly, comprehend complex ideas, learn from experience and learn quickly (Appendix 3). Thus intelligence is not merely the acquisition of academic skills involved in book learning, or test-taking, it reflects a broader and deeper capability for comprehending the surroundings: 'catching on', 'making sense of things', and 'figuring out what to do' (Gottfredson, 1997, p.13).

How intelligence is perceived by students with dyslexia and teachers may affect their perceptions of dyslexia. Teacher perception affecting interaction, and influencing curricular and instructional opportunities offered, which in turn affects motivation for learning and academic achievement of students with dyslexia (Hornstra et al., 2010).

Whilst there are multiple intelligences Gardner and Hatch (1989, p. 5) suggest that 'most definitions of intelligence focus on the capacities that are important for success in school' and moreover, 'intelligence is presumed to be a universal, and probably innate capacity', that is the psychological processes involved in linguistic and logical-mathematical symbolism. Intelligence is generally attributed to a range of observed behaviours, particularly literacy and numeracy (Pumfrey & Reason, 1991; Mackay, 2006).

> 'Fluent reading is the passport to learning'
>
> Gibbons, BBC1 Breakfast time, 2015

It may not be unsurprising to find teachers perceive links between literacy and academic achievement and possibly literacy and intelligence as in most subjects in secondary school. The opportunity to learn is dependent upon the ability to read and write. Students who learn rapidly are considered by teachers to be bright, quick or able (Pumfrey & Reason, 1991). In an average school day, a student will spend over half their time engaged in some form of writing (Addy, 2009, p.4) and by the age of 11 students in English secondary schools are expected to write at a speed of 25 words per minute and make no more than five spelling errors per 100 words in order to cope with the curriculum (Montgomery, 2008, p.3). The ability to write fluently at speed has been shown to make a significant contribution to academic achievement. Charter (2000) found that students who wrote quickly could achieve a grade higher at GCSE, regardless of academic ability. Whilst Connelly, Dockrell and Bamett (2005) found that handwriting fluency affected the quality of essays of college students.

Dyslexia primarily affects the skills involved in accurate and fluent word reading and spelling (BDA, 2016) and the vast majority of students with SEND are identified on the basis of limited literacy skills (Mackay, 2006). Elliott and Grigorenko (2014, p.176) suggest that teachers may make 'inappropriate attributions of low intelligence to poor readers' and that 'in these cases outcome may be lowered expectation, leading to reduced teacher efforts to boost [student] performance'. However, the relationship between intellectual

ability and reading may be a double-edged sword as Elliott and Grigorenko (2014) identify that teachers may be less well-disposed to accept a diagnosis of dyslexia when a student is seen as intellectually weak. As early definitions of dyslexia concentrated upon a gap between IQ and reading ability (Snowling, 2013) suggesting that students with dyslexia possess above average IQs (Nicholson & Fawcett, 2007). A diagnosis of dyslexia implying a certain level of intellectual ability (Ho, 2004) and giving rise to the view that people with dyslexia are inherently 'bright' (Elliott, 2005; Macdonald, 2009).

Humphrey and Mullins (2002) suggest that students with dyslexia similarly equate reading skill with intelligence, suggesting they are more likely to perceive themselves as unintelligent based on comparisons with peers:

> 'a pupil unable to sing 'in tune' would never be considered as stupid; however a pupil with literacy problems provokes an entirely different attitude from peers and the general public'
>
> Pollock and Waller, 1994, p.3

Self-evaluation emerges largely within a social framework of reference (Davis et al., 2009). It is the individual's judgement of competence compared to significant others (Schmitt & Allik, 2005). Comparison against significant others is contextual; dependent upon whom or what the significant others may be and the social reality in which the individual finds themselves. A student's evaluation of competence is relative to the perceived ability of peers. Peer groups providing important information about relative standing in a given area (Rinn et al., 2010).

2.5.1 Constructs of intelligences

Constructs of intelligence diverge as to whether intelligence is perceived as fixed and innate, of biological origin (entity theory), or the resultant of education and effort upon biology (incremental theory). The different constructs resulting in distinct psychological and motivational frameworks for learning (Dweck, 2000). Students with an entity theory may view effort as sign of low intelligence, act defensively to conceal deficiencies, and may pass up opportunities to learn

if there is a danger that they will do poorly. In contrast, students with an incremental theory of intelligence tend to believe effort is good, something that builds ability. Students with an incremental theory of intelligence are more likely to be focused on learning, and becoming smarter; a mastery oriented response (Dweck, 2006).

Constructs of intelligence also influence students' reactions to failure. Students with an entity theory believe failure signifies a lack of ability and may display a lack of persistence. Whilst students with an incremental theory believe that failure reflects more readily on their effort and their study or learning strategies. Reacting to challenges and setbacks with persistence, they increase their effort and seek new learning strategies (Dweck, 2006).

Hornstra et al., (2010, p.516) identified that whilst some teachers believed 'learning disabilities were a permanent characteristic of a student' (entity theory) others held more 'flexible beliefs' (p.516) considering themselves to be responsible for their students' achievements, regardless of any disability (incremental theory) (p.516). Subsequently interactions varied between teachers and their students depending upon the belief (construct of intelligence) held. Teachers with an entity theory 'interacted with their at-risk students less frequently and at a lower cognitive level' compared to those teachers holding an incremental theory or 'flexible beliefs' (p.516). Beliefs of teachers regarding students' disabilities may thus be affecting their instructional practices and 'may also affect expectations teachers hold for students with learning disabilities' (p. 516).

2.6 Conceptual models of disability

Dyslexia, as noted earlier, is recognised as a disability under disability legislation (Equality Act, EHRC, 2010). Perspectives on disability diverge, viewed either as a 'scientific, medical and psychological construct or as a social construct' (Ade-Ojo, 2012, p.625). However, Palmer and Harley (2012) suggest that rather than these models being discreet the perspectives lie on a

continuum. Söder (1989) describes three possible social perspectives of disability: epidemiological, adaptability and social construction. Figure 8 uses Söder's descriptions to demonstrate the transition from disability being intrinsic to the individual, to disability being socially constructed. Arrows and mathematical signs indicate the change in degree of each component within the description.

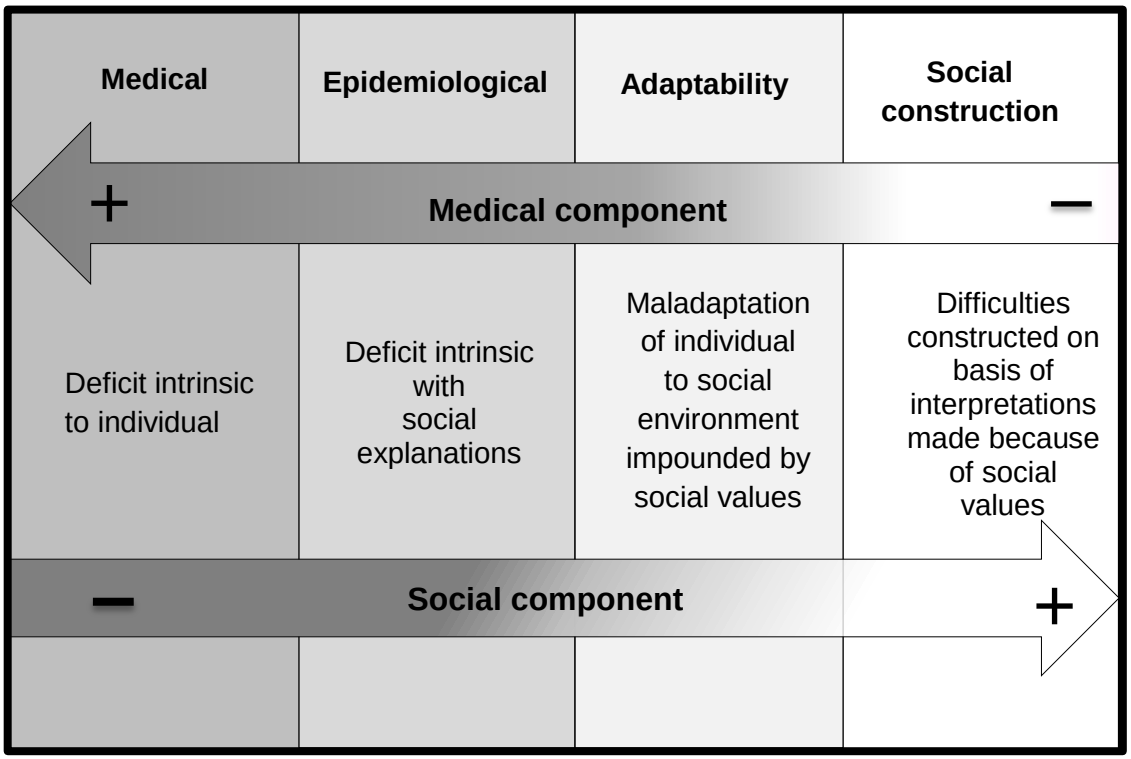


Figure 8 Continuum of conceptual models of disability
Adapted from Söder (1989)

Whilst acknowledging that perspectives of dyslexia may lie anywhere along the continuum, only the extremes, the medical model and social model, will be examined in detail to exemplify the diversity that exists within the continuum.

2.6.1 Medical model

> 'The historical tendency has been to explain disabled peoples' experience in relation to impairment. The ontology has become known as the medical model' Palmer and Harley, 2012, p.358

Disability is perceived to be caused by impairments which lead directly to the loss of bodily and/or social functioning. Interventions are primarily medical, but

include social assistance programmes such as special education (Palmer & Harley, 2012). Ade-Ojo (2012, p.638) suggests that the 'dominant discourse of dyslexia is that of a medical condition'. Justification for holding this medical viewpoint may emanate from dyslexia being 'diagnosed' within hospitals or clinics by educational psychologists, which may gain authentication from both initial accounts of dyslexia originating within the medical profession, the considerable and current medical research into dyslexia and observed differences in structure of the cerebellum of individuals with a diagnosis of dyslexia and those without (Cerebellar deficit theory).

The medical model places 'the locus of disability within the individual' (Swanson et al., 2006, p.27) relying upon 'statistically defined norms' which result in the 'individualising and pathologising of difference' (Reid & Valle, 2004, p.469). Ho (2004) identifies flaws within the model, as scientific or medical labels are not value free and objective observations. Measurement frequently results in data showing continual distribution, with 'cut off' points 'arbitrarily' decided.

> 'diagnoses are often based on our biased or even erroneous assumption that all children learn the same things at the same pace …diagnosis is not merely a clinical observation. Rather it is a social construction'
>
> Ho, 2004, p. 89

Characteristics of students with learning difficulties frequently result in lists, suggesting learning problems are due to:

- below average intelligence
- problems with visual and auditory perception
- limited vocabulary
- difficulties in understanding complex language
- poor recall of previous learning
- inability to generalise learning to new contexts
- lack of effective learning strategies
- deficient self-management skills
- poor concentration
- low motivation
- poor self-esteem
- learned helplessness, or diminished belief concerning self-efficacy
- behavioural and emotional reactions to failure

Within special education the medical model is a ‘deficit model’; ‘deficits’ being ‘intrinsic to the individual’ (Pfeiffer, 2002, p.3), a view point reiterated by Ade-Ojo (2012, p.623):

> ‘[P]erceptions of dyslexia and their [teachers] approaches to teaching learners with dyslexia were informed by a dominant discourse which derives from a deficit model of dyslexia’

The main criterion for eligibility for SEND services necessitates proof of intrinsic deficit (Harry & Klingner, 2007; Elliott & Grigorenko, 2014). Due to an identification process, with multi-wave or multi-tiered strategies, requiring students to fail and fall well behind their peers before intervention occurs. Interventions have to be seen to be unsuccessful before external agencies become involved.

Target-led teaching, school targets and target-led performance management of teachers may exacerbate teachers’ perceptions of deficit within their students. Previously Individual Education Plans (IEPs), and currently pen portraits, although intended to address curriculum adaptation focus on ‘remediating the individual child and in doing so have perpetuated the notion of the deficient child’ (Riddick, 2001, p.226). However, as Ho (2004) identified, deficits in students achievement compared to their peers does not always take into account individual differences in rates of learning.

It may not be surprising to discover that dyslexia and SEND may conceptually be perceived through a deficit laden medical model of disability. Teachers’ perceptions coloured by the metaphor of disease, focusing on so-called weaknesses, or deficits, within the learner, to account for problems coping with the school curriculum. As Macdonald (2009), identifies even parents tend to assume that there is something wrong with their child if school progress is unsatisfactory.

2.6.2 Social construction model

‘Disability is wholly and exclusively social’

Oliver, 1996, p.35

Oliver’s social model of disability was developed in the 1980’s as a means of explaining the fundamental principles of disability to students, to translate into their everyday work with disabled clients and their families. However, Oliver acknowledges that the model ‘took on a life of its own’ becoming ‘the big idea’ in ‘newly emerging disability equality training’ (Oliver, 2013, p.1024) and being used by disability rights activists, who used it as a ‘vehicle for developing a collective disability consciousness’ in their fight against architectural and physical barriers to access (Oliver, 2013, p.1024).

The social model, an inclusive model, suggests that it is society that disables, by designing everything to meet the needs of the majority, who are not disabled. Attitudes towards disabled people create unnecessary barriers to inclusion. Individuals are disabled by discrimination and prejudice, rather than their impairments. Disability is a social restriction placed on individuals with impairments by society. Viewed as a social, rather than an individual construct, social change is seen as the primary remedy (Palmer & Harley, 2012) and is the responsibility of society, rather than the disabled person. A viewpoint endorsed by the UK Government: ‘UKG embraces the social model of disability’ (Office for Disability, 2017, Para. 2).

> ‘it is not individual limitations, of whatever kind, which are the cause of the problem, but society’s failure to provide appropriate services and adequately ensure the needs of disabled people are fully taken into account in its social organisation’ Oliver,1996, p.32

The social model distinguishes between impairment, disability and handicap. Impairment being the loss or lack of some functioning part (organ or mechanism) of the body, whilst disability refers to a society that discriminates, disadvantages, and excludes people with impairments. Handicap refers to the social consequences of either impairment or disability by failing to make appropriate accommodations and giving preference to those without impairment (Barnes, 2009).

Proponents of the social model ‘use the distinction between impairment and disability in a radically different way, that of ontological (or social) constructionism, drawing a line between biological properties and the social dimensions of disability’ (Anastasiou & Kauffmann, 2013, p.444). The ‘problem is no longer intrinsic to the individual but firmly located within the way that society identifies and removes physical and conceptual barriers, to ensure social fairness and equal opportunities’(Anastasiou & Kauffmann, 2013, p.444). Shakespeare and Watson (2002, p.26) advocate that ‘the conceptual division between impairment and disability upon which the social model rests is false’ asking the question ‘where does impairment end and disability start?’ ‘Impairment and disability are not dichotomous, but describe different places on a continuum or different aspects of a single experience’ (p. 32) and whilst impairment is often the cause or trigger of disability, disability may itself create or exacerbate impairment.

The social model so strongly disowns individual and medical approaches it risks implying disability is not a problem (Shakespeare & Watson, 2010). Anastasiou and Kauffmann (2013, p.452) similarly argue that by choosing to theorise only on sociological grounds, the social model denies a part of the person with disabilities existence, producing a ‘narrow caricature’, and they conclude that ‘disability is neither the sole product of the biological nor societal conditions’. Oliver (2013, p.1025) maintains that the social model does not deny the problem of disability, but locates it squarely within society. The social model is nothing more than a ‘tool to improve peoples’ lives’ (p.1025).

The social model identifies that labels have the potential to perpetuate misconception and reinforce stereotypes and supports an anti-labelling approach to disability. Söder (1989, p.119) contends that disability is, ‘in the eye of the beholder constructed according to socially anchored values and beliefs’ and whilst the ‘label might from the point of the labeller, be seen as a neutral, descriptive or scientific diagnosis, in fact, it is something much more, it places the person in a category loaded with social meanings and preconceptions’. But this argument is built upon the assumption that labels are always negative and carry stigma. The studies of Humphrey and Mullins (2002)

and Glazzard (2010) suggest this is not necessarily true, in their studies the label ‘dyslexic’ enabled students to explain their difficulties and had positive effects upon self-esteem and motivation, although this result may be due to the age and lack of social experience of the students who participated. Macdonald (2009, p. 273) suggests that ‘children should not be labelled with dyslexia because this encourages parents to understand their children’s educational difficulties as a medical (rather than social) problem’. This however is at best an attitude, the central message being that society should avoid classifying students as dyslexic, as this amounts to a form of labelling.

2.6.3 Comparing the medical and social models

The conceptual model of disability held has consequences for teaching pedagogy and expectation affecting student motivation for learning and academic achievement (Hornstra et al., 2010). The main differences between the social and medical models are summarised in Table 4.

The social model identifies that the problems faced by disabled people are a consequence of external factors and seeks to remove unnecessary barriers to inclusion. Social attitudes create barriers and this model advocates proactive action to change society whereas, the medical model focuses upon the individual as the problem; placing the emphasis on their impairment and remediation rather than altering society.

Viewed as a medical disability, dyslexia may be perceived as an innate irreversible, neurological handicap (Nicholson & Fawcett, 2002; Rae et al., 2002), an inability to read at the level of one’s age or intelligence level and intuitively linked to low ability (Booth & Ainscow, 2005) implying an inevitability; a limit to what can be achieved in terms of teaching and learning (Ade-Ojo, 2012) poor academic achievement being due to deficits within the student. Viewed as a social construct the onus for academic achievement is placed upon the school and teaching staff to produce an inclusive enabling environment.

	Social Model	Medical Model
Causation	A social consequence of external factors	Individual deficit when compared to statistically defined norms Individualising and pathologising of difference (Reid & Valle, 2004, p.469)
Viewed as	A social creation Assumes the need to prove disabled are oppressed (Shakespeare & Watson, 2010)	Disease or disorder of 'biological' origin Categories based on World Health Organisations international classification of impairment and handicap (ICIDH)
Perspectives	Progressive Inclusive	Reactionary Exclusive
Resolution	Accept impairment Enabling environment Remove disability barriers	Remedy impairment Rehabilitation Medical prevention Cure
Associated language (Shakespeare & Watson, 2010)	Self-help Affirmation Discrimination Behaviour Rights Politics	Medicalisation Adjustment Prejudice Attitudes Care Policy

Table 4 Comparison: social and medical models of disability

For individuals where impairment shows no visible medical complications, such as dyslexia, it may be possible to view disability purely as a social creation, an artefact of the increasing demand for high levels of literacy (Shakespeare & Watson, 2010). Dyslexia is characterised by difficulties with reading and writing and the expectation that every individual acquires a certain level of literacy has the effect of transforming dyslexia into a disability.

Whilst models are useful tools, they have the disadvantage of making issues appear clearer cut than they actually are. In reality, most people probably sit

somewhere along the continuum, using various aspects of both social and medical model.

2.7 Policy

Government legislation provides the context from which school policies are conceived and teaching pedagogy formulated. Authors such as Shakespeare and Watson (2010) and Anastasiou and Kauffmann (2013) identify the prevalent model of disability in UK policy legislation to be the social model, a claim validated by the Office for Disability (2017, Para. 2) 'UKG embraces the social model of disability'. However, Ade-Ojo's research (2012) suggests discrepancies between models of policy and models of practice.

The medical model of disability, which categorises students by type of disability or disorder, is 'long enshrined in education legislation' (Warnock, 1978, p.42). Prior to the Warnock Report students with disabilities were often considered as 'uneducable'. Many labelled as 'maladjusted' or 'educationally sub-normal' and educated in separate schools (Warnock, 1978, p.42).The Warnock Report (1978) fundamentally changed the concept of special educational needs, introducing the ideas of continuum of need, an integrative (inclusive) approach and espousing concepts of positive attitudes, equality of provision and inclusivity. The move away from the dominant conceptual model of disability, the medical model, suggests Oliver's subsequent social model reflects a turning point in society's attitudes to disability.

Seminal government decisions which strengthen the right for mainstream inclusion for students with SEND and those which improve provision for, and raise achievement in, these students are summarised in Table 5.

Year	Document	Key points
1978	Report to the committee of enquiry into the education of handicapped children and young people (*Warnock Report*)	Introduces term Special Educational Needs (SEN) Identifies a continuum of need Integration of SEN students
1981	Education Act	Defines SEN provision and needs within mainstream schooling
1988	The National Curriculum (DfES)	All students to follow a common curriculum (National Curriculum)
1993	Education Act	Code of practice identifying and assessing special needs for all schools
1997	Excellence For All Children (DfEE)	Literacy and numeracy initiatives
2001	Special Educational Needs and Disability Act (SENDA)	Outlaws discrimination against SEND students in schools, colleges and higher education
	Special Educational Needs New Code of practice	Strengthened rights to mainstream inclusion for SEND students
2004	Removing Barriers To Achievement (DfES)	Raising expectations for SEND pupils in mainstream schools
2009	Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties (*Rose Report*) (DCSF)	Identified dyslexia as a developmental difficulty of language and cognition Early identification and intervention strategies Personalised learning based on Assessment for learning (AfL)
	The United Nations Convention on Rights of Persons with Disabilities (UNCRPD)	Government ratification of UNCRPD Social model central to documentation
2010	Equality Act (Equality and Human Rights Commission)	Strengthened rights of SEND students
2014	Children and Families Act (DfE)	Includes children, parents and young people in assessment process Replaced existing two school-based stages ('*School Action'* & '*School Action Plus'*) with one category Replaced Statements with single Education, Health & Care (EHC) assessment/plan EHC runs from birth to 25 y
2015	Equality and Human Rights Commission	Endorse social model and recommended its use by all government departments

Table 5 Summary of Government documents and decisions influential in developing the modern SEND framework

Whilst conceived within a social framework, many of these documents use terms associated with medical model, clearly responding to deficits within provision and achievement of students with SEND and advocate intervention and remediation. '*Support and aspiration: A new approach to special educational needs and disability'* (DfE, 2010, p.30) identifies 'health visitors are well placed to identify children who need extra support' and 'health professionals are crucial to identifying children's needs early' (1.12). These compensatory and deficit approaches emphasise the need for learners to conform rather than celebrating their differences, adopting a 'within-child' view of the problem, and views difference and diversity as problematic; a medical model of disability (Glazzard, 2011).

The '*Children and Families Act*' (DfE, 2014b) contains elements of both models; formulated within a social model of disability, identifying a vision for students with SEND to be 'the same as for all children and young people- that they achieve well… and lead happy and fulfilled lives' (p.11). It focuses on intervention and remediation: 'where a child continues to make less than expected progress, despite evidence based support and intervention' (p.88); 'provide intervention' (p.54); 'specialist support from Health visitors, educational psychologist' (p.84). Section 69 requires schools to provide a yearly SEN Information Report outlining 'provision for students with SEND' and 'how the curriculum is adapted' suggesting difficulties with learning are intrinsic to the individual and require remediation, rather than barrier removal.

It is suggested that organisations and policies can be easily evaluated to determine which conceptual model they use according to whether 'they focus on barrier removal', or they 'focus on medical intervention and rehabilitation' (Shakespeare & Watson, 2002, p.15).

Oliver (2013, p.1025) accused special education of 'hegemony' over inaction to remove barriers. Given the long established systems of written examinations, school league tables and performance managements, to change to 'flexible learning curricula that accommodate learning diversity' (Ho, 2004, p.84), may seem impracticable, easier to change, and improve, provision for a minority

than to change a system for everybody. The issues surrounding SEND provision are complicated, ‘disability is a complex dialectic of biological, psychological, cultural and socio-political factors, which cannot be extricated except with imprecision’ (Shakespeare & Watson, 2002, p. 32).

Whilst the content and conceptual model of school policy (derived from Government policy) may be factors influencing teacher perception, language of policy may also play a significant role in affecting perception.

2.8 Language and perception

Living languages are dynamic; words and meanings change. In his study of language and policy Foreman (2005, p.50) suggests that nowhere is this more apparent than in documents and articles on disability. Terms like mental retardation, mental deficiency and educationally sub-normal superseded by terms such as learning disabilities, learning differences or learning needs. He argues these changes are more about using language accurately. To convey ‘correct meaning’ and create ‘positive attitudes’ rather than avoiding language that generates ‘negative stereotypes’ (Foreman, 2005, p.58). However it is inevitable that given time, this ‘neutral terminology’ will itself develop negative connotations, as it acquires the emotional impact of the disability. Words that were, at one stage neutral themselves becoming laden with meaning. Phraseology within documents on SEND has similarly undergone change. The most striking being the adoption of people-first language, whereby the person precedes the disability. Documents generally refer to a student with dyslexia, rather than a dyslexic student.

The change in policy documents in the use of language and terminology, is documented within the Warnock Report (1978) as it traces the history of SEND provision, identifying formative documents such as the Education (Handicapped Children) Act, (1970), and the Education (Mentally Handicapped Children) (Scotland) Act (1974), which use terms such as ‘feeble-minded children’ and ‘blind, deaf, defective and epileptic children’ (p.14). These earlier

documents lacked people-first language and are laden with negative stereotypes, disclosing the prevalent attitudes held towards people with SEND. The Warnock report identifies that deeply ingrained in earlier educational thinking was the idea that two types of children exist, the ‘handicapped and the non-handicapped’ (p.42). The use of the terms ‘children’ and ‘handicapped’, infer a lack of autonomy; the lack of self-determination without any rights to make informed decisions about their education. Warnock recognised that a description of handicap conveyed nothing of the type of educational help and provision required: ‘the complexities of individual need are far greater than the dichotomy implies’ (p. 43). Children should not be seen in terms of a particular disability, but by all the factors having a bearing on educational progress.

People-first language and neutral terminology first appear in the Warnock report (1978) which recommended the adoption of the term 'children with learning difficulties' (p. 338) to describe those previously categorised by the Education Act (1944) as ‘educationally sub-normal’, and whilst the majority of the report is written in people first language, the title of the report includes the phrase: *‘*enquiry into the education of handicapped children and young people’. Whilst identifying the reports remit, it highlights earlier educational thinking and the lack of people-first language.

Changes to disability laws (SENDA, 2001) and greater awareness of discrimination have seen the replacement of the terms child or pupil by the term student, to encompass all learners and imply a greater level of self-determination. Adopting people-first language referring to a student with dyslexia*,* rather than a dyslexic student, whilst appearing inconsequential, changes the focus of the disability to just one of the student’s many characteristics rather than being the main aspect of their humanity (Foreman, 2005) with the aim of reducing emotional impact and negative connotations whilst emphasising the person is first and foremost, a person.

Conversely and significantly, the simple act of separating the person from the disability implies that the disability is inherently bad*.* Comparison of documents for students considered to be gifted and talented (G&T) support this

association. Failing to adhere strictly to ‘people-first’ language they use terms such as: ‘G&T pupil’s’ (DCSF, 2009, p.3); ‘gifted and talented learners’ (DCSF, 2008, p.3); ‘able children’ (DCSF, 2008, p.5); ‘Gifted and talented population’ (DCSF, 2008, p.30). These lapses away from people-first language may be an attempt to make the documents easier to read, as failing to observe the general rules of English grammar whereby adjectives follow nouns or pronouns people-first language is awkward and repetitive. However, these inconsistencies infer that when the difference is seen as a positive attribute, possessing no stigma or negative connotation, it is unnecessary to separate the person from the label. Whereas, terms such as disability, SEND and dyslexia, necessitate a separation of the term from the person, which arguably implies these terms carry stigma.

The National Federation of the Blind condemned the use of ‘people-first’ language, dismissing the idea that the word person must invariably precede the word blind as ‘totally unacceptable and pernicious’ claiming that ‘it is overly defensive, implies shame instead of true equality’ and results in the exact opposite of its purported aim (Jernigan, 2009).‘People first language’ separates the disability from the person in an attempt to identify the person is first and foremost a person, but the language clumsy and laboured, emboldens the disability. Inconsistences in language used for ‘positive’ attributes only serve to emphasise the negative connotations attached to disability which is exemplified by the subtle differences observed between documents for students with SEND and G&T students that infers deficit in students with SEND, and affords an argument that nuanced and deficit-laden language may lead to dyslexia being conceptualised through a medical model.

2.8.1 Labels

Language and labels have the potential to perpetuate misconceptions and reinforce stereotypes which may lead to stigmatisation giving the individuals involved (student and teacher) negative expectations. The belief that by abolishing labelling abolishes stigmatisation and discrimination is contentious,

‘labels on their own do not necessarily lead to stigma’ they simply ‘encapsulate or distil stigmatisation that already exists’ (Riddick, 2002b, p.305). Labels are not necessarily negative. Some are used as a positive declaration such as ‘black’ or ‘gay’, or to assert positive differences such as deaf or dyslexic (p. 306). Assigning a label establishes ‘eligibility for provision’ and ‘civil rights protection’ (Ho, 2004, p.86).

The suggestion that individual’s needs can be identified without reference to a body of knowledge is idealistic. The assumption that highly trained experienced professionals will have the time to closely observe and investigate each student’s needs is optimistic. Similar behaviours can be exhibited for a variety of different reasons, environmental and/or within-student (Riddick, 2002b, p. 306). Further, the difficulty with dyslexia is that it is a hidden disability; the nature and degree varying, and because individuals respond in different ways, different students present with very different behaviours.

Does the label dyslexia increase or decrease the individual’s experience of stigmatisation? Riddick (2002b, p.307) suggests that many individuals with dyslexia expend considerable energy in covering up their difficulties, a strategy termed ‘passing’, to hide aspects of themselves which they think they may be stigmatised for. Identifying that those who thought dyslexia was perceived negatively by others, were reluctant to use the label dyslexic in public whereas those who saw it as having positive connotations, were willing to use it in public. How ashamed or unashamed of their difficulties the individual was, appeared to be a further factor which influenced the degree of reticence.

Riddick (2002b) found that the majority of adults and students with dyslexia were quite emphatic that the label was important ‘I’d rather know I’ve got dyslexia than let them think I was an idiot’ (p. 309) and ‘it helps me understand’ (p 310). Similarly in Glazzard’s study (2010) students felt it helped understand their difficulties and did not attach any stigma to the label.

The crucial question is whether a label enhances or detracts self-perception and its perception by others. Whilst ownership of a label may provide self-definition and personal understanding it may not be perceived as helpful within the public arena.

2.8.2 Language used to describe dyslexia

Words such as problem, difficulty, and inability each bearing undertones which infer deficit frequently recur in definitions of dyslexia:

- '[A] learning difficulty' (BDA, 2016)
- 'difficulties with written language' (DfEE, 2000, p.1)
- 'a problem with reading' (Davies, 2009, p.1)
- 'an inability to read at the level of one's age or intelligence level' (Ade-Ojo, 2012, p. 626)

The Rose Report (2009) epitomises the use of deficit-laden language describing dyslexia as: 'a reading disorder' (p. 2), 'a difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling' (p.10). The suggestion of deficit is further compounded by Rose noting that there are 'serious and long-term effects of dyslexia' (p.14), requiring 'high quality interventions for children with literacy and dyslexic difficulties' (p.1) and suggesting that for some students with dyslexia 'skilled, intensive, one-to-one interventions' will be required (p.14).

The BDA Code of Practice for Employers (2016) identifies that dyslexia:

> 'is a combination of abilities and difficulties that affect the learning process in one or more of reading, spelling and writing. It is a persistent condition. Accompanying weaknesses may be identified in areas of speed of processing, short-term memory, organisation, sequencing, spoken language and motor skills. There may be difficulties with auditory and /or visual perception. It is particularly related to mastering and using written language, which may include alphabetic, numeric and musical notation'
>
> 'can occur despite normal intellectual ability and teaching. It is constitutional in origin, part of one's make-up and independent of socio-economic or language background'
>
> 'Some learners have very well developed creative skills and/or interpersonal skills, others have strong oral skills. Some have no outstanding talents. All have strengths'

Whilst it might not impact upon teachers or students with dyslexia perceptions, the differences between the BDA definition (Section 1.1, p.2) and the code of practice for employers are illuminating. The Code of Practice hints that the label SEND infers stereotyping such as lower ability: 'despite normal intellectual ability and teaching' and social stigma such as lower socio-economic status: 'independent of socio-economic or language background'. It is keen to attribute positive characteristics; 'all have strengths' and not apportion blame, 'despite [normal] teaching' and 'constitutional in origin' alluding to a genetic origin.

The nuanced language contained within all these documents infers deficit, providing evidence for an argument that deficit nuanced language contributes towards dyslexia being conceptualised through a medical model. However, the meaning of a text is not necessarily intrinsic to it. Poststructuralist theories suggest that meaning is 'the product of a system of differences into which the text is articulated' (Apple, 2000, p.191).

> 'It also raises serious questions about whether one can fully understand the text by mechanically applying any interpretive procedure. Meanings then can be and are, multiple and contradictory and we must always be willing to 'read' our own readings of a text, to interpret our own interpretations of what it means'
>
> Apple, 2000, p.191

Thus, there is not one text, but many. Any text is open to multiple readings. This puts into doubt any claim that one can determine the meanings and politics of a text by a straightforward encounter with the text itself. It seems that answering the questions of whose knowledge is in a text is not at all simple, inferring that how dyslexia is conceptualised has socio-cultural dimensions.

2.9 Continuing Professional Development

Whilst content, conceptual model and nuances of language in policy documents may influence perceptions of dyslexia, policy dissemination may similarly affect perception and whilst CPD might be considered primarily as a method of developing skills and advancing new knowledge it is not merely the type of professional knowledge being acquired that is important, but the context

through which it is acquired, which may affect how teachers respond, influencing perception and attitudes (Kennedy, 2005).

Apple (2000) examined teachers' responses to information presented in text identifying three potential responses: dominant, negotiated, or oppositional. In a dominant response, information is accepted at face value. In a negotiated response, particular claims may be disputed but the overall tendencies or interpretations are accepted. Whilst in an oppositional response, the dominant tendencies and interpretations are rejected, although within the institutional confines of a school there are constraints to an open oppositional response (Apple, 2000). Whilst Apple's study examined text, similar responses may be evoked by any presentation of information**.** Kennedy (2005) identifies that the particular model of CPD used may influence teacher perception and response, identifying nine models of CPD which fall broadly into one of three categories: transmission, transitional or transformational. The main features of each model, arranged in order of increasing teacher autonomy are summarised in Table 6.

The CPD model selected to disseminate policy with its differing levels of autonomy may similarly evoke differing responses by teachers to the material presented. If in-house training, is transmissive rather than transformational. Reactive rather than proactive, and teachers perceive a lack of autonomy. It may evoke a reaction verging towards a negotiated or oppositional response, resulting more in resistance to change, rather than an outward challenging response. It cannot be assumed that what is 'taught' is learned and put into 'practice'. Teachers are not empty vessels into which knowledge can be poured. They do not passively receive information, they actively mediate and transform material provided based upon previous experiences (Apple, 2000).Thus there is no guarantee that policies and strategies disseminated through inset will be fully implemented within every classroom. The implications being that it is important to choose a model of CPD for dissemination of policy and strategies for inclusive education that increases teacher autonomy with the ability to transform practice more widely.

Model	Main features	Purpose
Training	• Dominant form • Delivered by 'experts' who determine agenda • Delivered 'off-site' • Standards based view of teacher development	Transmission
Award bearing	• Programme of study – usually but not exclusively validated by universities	
Deficit	• Designed to address perceived deficits in school or teacher performance • Set in context of OFSTED or performance management	
Cascade	• Individual teachers attend courses and disseminate knowledge • Skills focussed. • Knowledge given priority over attitudes and values	
Standards based	• Accountability creates a system of teaching and teacher education that can generate and empirically validate connections between teacher effectiveness and student learning • Behaviourist perspective of learning • Focussing on competence of individual teachers and resultant awards at the expense of collaboration and collegiate learning	Increasing capacity for teacher autonomy Transitional
Coaching/ mentoring	• School context • Shared dialogue • Confidentiality as opposed to accountability • One-to-one relationship • Dependant on the underpinning philosophy - transmission or transformative concept of CPD	
Community of practice	• Involves more than two people • Does not necessarily rely on confidentiality	
Action research	• Main aim practitioner development and transformation • Asks critical questions of practice • Significant capacity for transformative practice and professional autonomy	Transformational
Transformative	• Combination of practices and conditions • Proactive and conscious approach to support educational change	

Table 6 Models of CPD
Summarised from Kennedy (2005)

2.10 Conceptual Framework

A critical review of the literature provides the argument that how dyslexia is perceived is due to an intricate interaction between many factors which include: perception of language, constructs of intelligence, constructs of disability, government policy from which school policy is derived, and mechanisms of policy dissemination (CPD) which may influence perceptions of dyslexia in students with dyslexia and their teachers.

Figure 9 is a diagrammatic representation of these factors and their presumed relationships. To enable the model to be constructed on one page, some of the information within factors, which Miles, Huberman and Saldaña (2014) term ‘bins’ has been reduced. Arrows represent the direction of influence each factor may possess. The Conceptual Framework is not a single linear representation as suggested by Ravitch and Riggan (2017), but more complex to represent the number of factors which may be influential. ‘Bins’ have been positioned to reduce the number of arrows crossing. Position is not hierarchical, no one factor more influential than another shaping perceptions of dyslexia.

Over the last two decades, reflecting Fundamental British Values (DfE, 2014c), government education policy has prioritised inclusive education (Table 5, p.53). School policy is a consequence of government policy and the culture and ethos to which the school aspires. Documents are perceived as reflecting the normative views held within the school, their content and language having the potential to influence teachers’ perceptions of dyslexia. School ethos influences how students respond towards their difficulties, affecting their perceptions of dyslexia.

Language and social meaning are pivotal to this study. Language may be perceived as inclusive and enabling, or negative and discrepancy based, suggesting irreversible and inherent disability (Harry & Klinger, 2007).

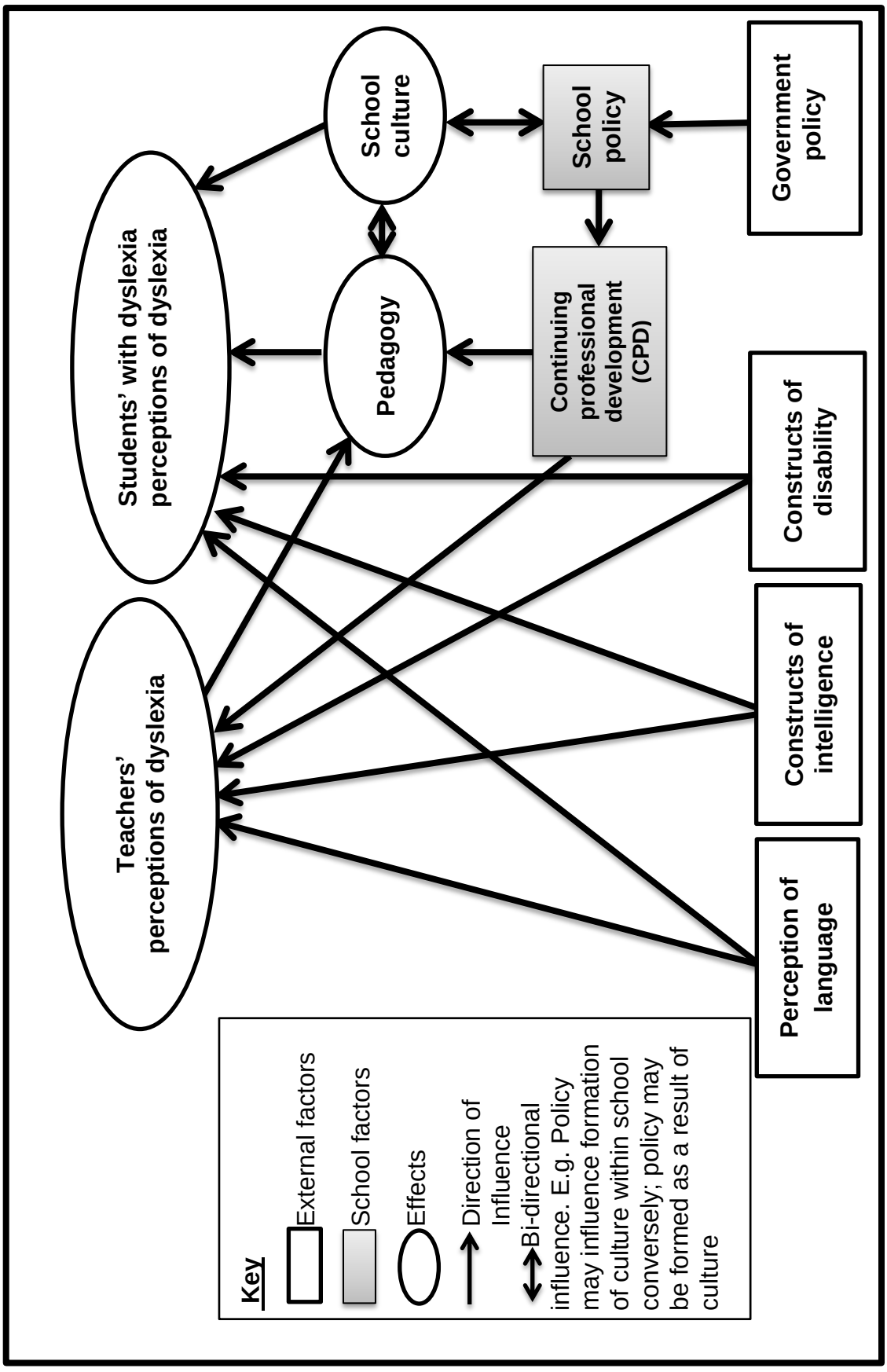


Figure 9 Conceptual Framework: factors influencing perceptions of dyslexia

The construct of disability in which policy is written has the potential to influence both teachers' and students' perceptions of dyslexia. Policy written within a medical model of disability identifies a biological cause, difficulties innate, students possessing individual deficit compared to statistically defined norms necessitating intervention. Whereas, policy inclined towards a social model of disability, identifies difficulties as a resultant of society, necessitating barrier removal. Viewed as a medical construct, dyslexia may be perceived as innate and irreversible, implying a limit to what can be achieved in terms of teaching and learning. Whilst a social model of disability, views difficulties as the resultant of barriers created by society, and a pedagogy of barrier removal releasing potential.

Whilst multiple intelligences exist: 'most definitions of intelligence focus on the capacities that are important for success in school' (Gardner & Hatch, 1989, p. 5). Dyslexia generally affects literacy. Proficient literacy skills have been shown to make a significant contribution to academic achievement (Charter, 2000). Constructs of intelligence may be influenced by relationships between literacy and potential academic outcome. Further, whether intelligence is viewed as fixed and innate, an entity model or the result of effort and the environment, an incremental model, may affect teacher's pedagogy and response toward student difficulties.

Students constructs of intelligence may emerge largely within a social framework of reference (Davis et al., 2009), their judgement of competency against peers, an inability to read at one's age level intuitively linked to low ability (Booth & Ainscow, 2005). How students view intelligence, whether as fixed or incremental, may affect their response to difficulties and pedagogy.

Whilst acknowledging teachers mediate and transform materials provided during CPD, reflecting past experiences and philosophical assumptions. Content of policy and mechanisms of policy dissemination may influence how teachers perceive students with dyslexia, affecting pedagogy and interaction. Policy and CPD promoting proficient literacy skills as essential for academic achievement may have the potential to re-inforce socio-historic links and

encourage teachers to perceive students with weaker literacy skills as less intelligent (Riddick, 2001).

2.11 Research questions

Using the Conceptual Framework the preliminary research questions have been revised to:

1. How is dyslexia perceived by teachers and students with dyslexia?
2. What factors influence teachers and students perceptions of dyslexia?
3. Does teacher perception influence pedagogy?
4. Does pedagogy affect expectation and classroom interaction?
5. Are there perceived links between literacy levels and ability?
6. Does the label dyslexia infer low ability?

2.12 Importance of perception in learning

> 'There is considerable research evidence to support the contention that a person's attitudes toward a particular individual or group will have a significant effect upon the way in which that person is likely to act'
>
> Gwernan-Jones and Burden, 2010, p.67

In their study of student teachers' attitudes to dyslexia Gwernan-Jones and Burden (2010) identified that teachers enter the profession with a set of beliefs about the existence of dyslexia. Their actions toward students with dyslexia reflecting these beliefs, their own perceptions of competency together with what they perceive to be the normative views held within the teaching profession.

Gwernan-Jones and Burden (2010) identified that attitudes and norms, shaped by personal beliefs and values, can be influenced by the beliefs of significant others, they conclude on a cautionary note, identifying that despite student teachers positive attitudes towards students with dyslexia, if newly qualified teachers enter a teaching profession, or individual school with negative or intolerant attitudes toward students with dyslexia then it is quite likely that their motivation will be undermined, particularly in the face of a limited skill base

(p.80). Suggesting that CPD, and school ethos may influence pedagogy, interaction and expectations of students.

Teachers perceptions of students with dyslexia, affect their approaches to teaching, interactions and expectations (Glazzard, 2010; Hornstra et al., 2010). Research on teacher expectation, defined as judgments about individual students regarding their academic potential shows teacher expectation exerts a small but significant effect on student achievement (Jussim & Harber, 2005; Hornstra et al., 2010). Further Hornstra et al., (2010, p.527) identified that 'past student achievement affected [teachers'] expectation and attitudes', 'teacher expectations may thus mediate the relation between teacher attitudes and student achievement' (p.519).

Teacher perception in turn has a significant effect on student effort and perceived competence. Student perception affecting: motivation, perseverance, confidence, self-esteem and ultimately achievement (Román et al., 2008). Students with dyslexia tended to attribute success to external factors rather than internal factors. Factors such as teacher quality rather than to their own intelligence (Glazzard, 2010; Humphrey & Mullins, 2002), demonstrating what Peterson et al., (1993) terms as learned helplessness.

In Glazzard's study (2010) students emphasised the importance of teachers understanding their individual needs, stressing the value of teachers being flexible in their teaching approach and making adaptations to their normal classroom practice, and the value of developing effective relationships with their teachers.

Teachers are significant others who contribute to a student's self-esteem (Humphrey, 2002).Highlighting that negative teacher attitude towards students with dyslexia or teacher resistance to the existence of dyslexia may have a detrimental effect upon students' achievement. Given the importance that perception may play in learning outcomes for students and the ambiguity surrounding the understanding of dyslexia itself. How dyslexia is conceptualised as a barrier to learning may be important to both the

understanding of dyslexia itself and may add further understanding to a wider context, that of inclusion for SEND pupils.

2.13 Originality

The epistemological stance of the research is interpretivist and constructivist, drawing upon literature to produce a Conceptual Framework (Figure 9, p.64) which is unique to the study, and used to frame the research questions and act as a lens to interpret and analyse data (Miles, Huberman & Saldaña, 2014; Ravitch & Riggan, 2017). Following data analysis and critical evaluation a Conceptual Model, unique to this study, is synthesised (Section 4.5.3, p.182). Whilst I acknowledge both the Conceptual Framework and Conceptual Model may be of most direct relevance to this research, Pring (2006, p.42) ascertains that 'concepts are necessarily general in their application' identifying that concepts of the framework may be transferrable, or serve as a catalyst initiating further research (Imenda, 2014).

A number of diagrams and schematics used to formulate the argument have been synthesised from narrative descriptions or through a combination of theoretical models, making them original to the study, for example:

- Figure 7 (p.39) 'A causal model of dyslexia' synthesised through combination of several theoretical models: Three of Frith's causal models (1999, p.203-206), Nicholson and Fawcett's '*Ontogenetic Causal Model'* (1999), Pennington's '*Multiple Deficit Model'* (2006) and the '*Multigenerational Deficit Model'* (van Bergen et al., 2014) to demonstrate that it is a combination of genes and environment which give rise to the diversity and range of the symptoms exhibited making definition and diagnosis of dyslexia so problematic.

- Figure 8 (p.45) 'Continuum of conceptual models of disability' synthesised through combination of Söder's description of three social perspectives of disability (1989) and the medical model of disability to

illustrate Palmer and Harley's (2012) convictions that perspectives of disability lie on a continuum.

A number of diagrams and tables, original to the study, are used to facilitate explanation of concepts and findings and present these succinctly. A small exemplar list follows, chosen to illustrate the range of types produced:

- Figure 2 (p.14) Research pathway
- Figure 13 (p.103) Analytical framework
- Figure 19 (p.109) Measures to provide authenticity and credibility
- Figure 20 (p. 117) Inconsistent terminology
- Figure 51 (p.170) Overlaying the Conceptual Framework onto group interviews
- Figure 58 (p.181) Integration and synthesis of analysis from all data sources
- Table 1 (p.18) Comparable studies used to evaluate methods and analytical tools
- Table 13 (p.91) Example of condensed codes from group interviews
- Table 16 (p.100) Data collection methods
- Table 17 (p.114) Inductive analysis of documents: frequency of axial codes

Chapter 3

Methodology

3.1 Introduction

The aim of this study is to explore how dyslexia is perceived by students with dyslexia and their teachers, and examine possible factors that influence perception together with a consideration of how these contribute to a Conceptual Model of dyslexia.

The epistemological stance of the research being interpretivist and constructivist, comparable studies were drawn upon to critically examine methodology, methods and analytical frameworks against the research questions and Conceptual Framework.

In Section 3.4 methods are described and evaluated, the most appropriate selected and their choice justified. The research design one of fitness for purpose.

Ethical considerations and minimisation of risk are intrinsic to the study as participating students are less than 18 years old, and a diagnosis of dyslexia identifies them as being both vulnerable and at high-risk (BGU, 2017). Section 3.5 explains the ethical issues and measures taken to reduce risk of harm resulting from the research.

Section 3.7 chronicles the pilot study and its findings. Following analysis and evaluation of the pilot study, the research questions, methods and analytical framework were further refined.

The chapter concludes with an examination of reliability and validity, and offers an explanation of how the study aimed for trustworthiness, authenticity and credibility.

3.2 Comparable studies

Table 7 an abridged version of Table 1 (p.18) summarises the parameters, methods and analytical methods used in the four studies initially identified within the literature review.

Researcher	Description of study	Country, age group, sample size	Methods	Data Analysis
Humphreys, N. 2002	Small scale study	UK *Mainstream and special schools* *15-18 years* *n ≈ 90*	Questionnaire (*Teachers)* Interviews (*Students with dyslexia and non-dyslexic peers*)	Content analysis
Glazzard, J. 2010	Small scale exploratory study	UK *Mainstream and special schools* *14-15 years* n = 9	Individual semi-structured interviews *(Students with dyslexia*)	Content analysis
Hornstra et al., 2010	Exploratory study	Netherlands *Elementary grades 2-6* *(Age not specified)* n = 30	Questionnaire (*Teachers)* Computer programme Achievement scores	Multilevel regression (*Computer programme MLwiN2.0*)
Ade-Ojo, G. 2012	Exploration	UK Adult literacy classes (*Age not specified*) n = 18	Questionnaire (*Teachers)* Focus group (*Teachers)*	Conceptual strand of content analysis (questionnaires) Discourse analysis (focus group) Statistical analysis of codes

Table 7 Parameters of comparable studies

Case study is one of the principle means by which research in the social sciences is conducted (Thomas, 2011a) although none of the comparable studies identify themselves as a case study. Yin (2012, p.5) suggests there may be many reasons for not identifying a study as a case study, proposing that case study is 'often thought of as a method of last resort'. Whilst Thomas (2011b) advocates the weak sibling status noted by Yin, is due in part to a lack of organisational structure. Case study is often presented as open-ended and untethered, leaving the intending researcher uncertain about structure and method.

Whilst, none of the comparable studies identify themselves as a case study, nor match every parameter within this study, all studies are exploratory, interpretivist, descriptive and detailed, providing rich contextual information examining the complexity involved in real situations matching Simons' (2009, p.21) definition of a case study as an:

> 'in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a real life situation'

The current study, an exploration of the perceptions of dyslexia held by students with dyslexia and their teachers, within a single school, is real-life, unique and complex, indicating a case study may be a legitimate method to choose but requiring closer investigation.

3.3 Case study

A case study is a generic term often given to the study of a singularity (individual or group) conducted in depth within its natural setting using a mixture of qualitative and quantitative approaches (Sturman, 1994; Stake, 1995; Bassey, 1999; Yin, 2009; Creswell, 2014). Using qualitative approaches (Sturman, 1994; Stake, 1995; Bassey, 1999; Creswell, 2014) the case study investigates a contemporary phenomenon within its real-life context (Yin, 2009). Providing rich contextual information (Silverman, 2006; Creswell, 2014), by the exploration of a 'social phenomena through analysis of an individual

case' (Kumar, 1996, p.99). Having a narrow focus, the case study is descriptive and detailed (Yin, 2012). Uses a pragmatic combination of data-collection methods (Swanborn, 2010) and possesses the capacity for understanding complexity within its natural setting (Simons, 1980; Silverman, 2006; Creswell, 2014).

Many different types of case study exist, the diversity a function of the different epistemological starting points from which the research originates. Those with backgrounds of sociology, education, and psychology often see the case study within an interpretivist framework (Thomas, 2011a), whilst those from business and politics tend to adopt an interpretivist holism of case study, addressing it via the identification of variables in a neopositivist framework using scientific models, and deductive logic in which causes (probably) determine effects or outcomes (Creswell, 2014). In contrast, those in medicine and law are inclined to see the case study principally as a vehicle for exemplifying or illustrating novel or archetypal phenomena (Thomas, 2011a; 2011b). However, commonalities exist. In her review of case study (Simons, 2009), identifies that what unites all the definitions is a commitment to studying the complexity that is involved in real situations.

Whilst authors including Hopkins (2009), Cohen, Manion and Morrison (2011) and Yin (2012) identify case study as a method others view case study differently. Simons (2009) argues that it should not be seen as a method, but as a design frame, and not defined by the methods of data collection employed:

> 'Case study is not a methodological choice but a choice of what is to be studied… by whatever methods we choose to study the case'
>
> Stake, 2005, p.443

Thomas (2011a) similarly views case study not as a method. Identifying it as a focus, the focus being on one thing, looked at in depth from many angles. Gerring (2004, p.341) asserts that the case study 'survives in a curious methodological limbo' with practitioners having 'difficulty articulating what it is that they are doing, methodologically speaking'. This methodological limbo is not due to any lack of discussion, but discussion has focussed upon the epistemological status; the generalising power of case study, rather than

'classificatory schemata for intending researchers' (Thomas, 2011b, p.512). To disentangle the threads, Thomas (2011b) proposes a typology of the case study (Figure 10) which maps out the terrain and potential routes concerning subject and object, purpose, approach, and process.

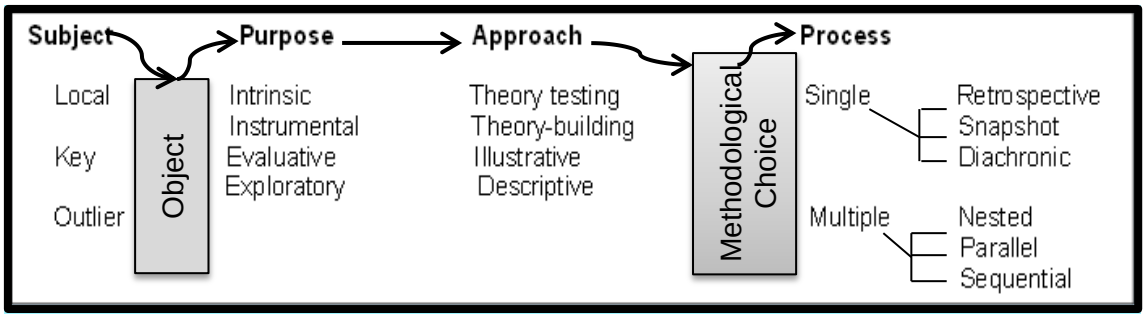


Figure 10 Typology of the case study
From Thomas (2011b)

Offering a clear view of the thinking processes Thomas' typology offers the study an organisational structure, and provides legitimacy for the choice of research design as a case study.

3.4 Data collection methods

Case studies typically combine a variety of different data collection methods (Simons, 2009; Thomas, 2011a). Maintaining the interpretivist and constructivist epistemological stance of the research, data collection methods of the comparable studies (Table 7, p.71) were critically examined and evaluated before any decisions were made. Of the comparable studies three employed multiple-data collection methods, qualitative and quantitative, to examine perceptions. Only one study (Glazzard, 2010) used a single method (semi-structured interviews). Hornstra et al., (2010) combined Likert scale questionnaires, computer programmes and standardised test scores of students with dyslexia to determine whether teacher perception influenced academic outcome. Ade-Ojo (2012) combined focus group interviews with an open-ended survey questionnaire, to compare practitioner perceptions of dyslexia, approaches towards teaching and learning, whilst Humphreys (2002) amalgamated teacher questionnaires and interviews with students with dyslexia. However, in his conclusion he considered that teacher interviews and

classroom observation may have added a further perspective and aided triangulation. Conscious of this and using Thomas's pragmatic advice (2009; 2011a) the advantages and disadvantages of multiple methods together with the viability of the necessary actions required to limit disadvantages, were weighed up before any decisions regarding the selection of methods were made.

In the following section potential methods are described and evaluated, the most appropriate ones selected, and choices justified.

3.4.1 Interviews

Authors such as Hopkins (2009, p.110) identify that interviews provide 'rich sources of data' offering the opportunity for interpretations of events and phenomena (Cohen, Manion & Morrison, 2011), they also afford a mechanism 'to smell human breath and hear the sound of voices' (Thomas, 2011a, p.7) which is consistent with the research aims. Three of the comparable studies used forms of interview to produce data 'rich' with 'thick description' (Gillham, 2004; Silverman, 2006) which made interviews worth evaluating as a potential data collection method.

Unstructured ⟷		Structured
Informal *Open ended.* *Natural* *conversation*	Semi-structured *A mix of* *open and closed* *questions*	Closed quantitative *Verbally* *administered* *questionnaire*

Figure 11 Types of interview
Adapted from Andrews (2003)

There are various forms of interview: informal, semi-structured and closed quantitative (Figure 11). Informal, unstructured interviews, whilst increasing the salience and relevance of the answers, may be less systematic and comprehensive, themes can be missed. Whilst closed quantitative interviews ensure all themes are covered, to enable direct comparison and aggregation of data. However, Jørgensen and Phillips (2002) identify that the structure of this

type of interview may subvert natural interaction and distort meaning. Structured interviews may be overly 'directed and unequal' (O'Reilly, 2009, p.78). Authors such as Thomas, (2011a, p.163) and O'Reilly (2009, p.12), identify that semi-structured interviews provide a 'best of both worlds' approach, avoiding the straitjacket of structured interviews, with the freedom to listen and gently probe with the focus always in mind (Thomas, 2009). Semi-structured interviews are more naturalistic enabling the response and follow up of information, whilst ensuring that all the themes are covered, albeit not necessarily in the same order, or with the same formulations (Jørgensen & Phillips, 2002). Using pre-defined questions formulated directly by the research questions and informed by the Conceptual Framework ensures that all themes are covered whilst guarding against leading participants unduly. The advantages and disadvantages of semi-structured interviews are summarised in Table 8.

Advantages	Disadvantages
Outline increases comprehensiveness of data collection	Outline may constrain and limit naturalness of flow of questions and answers
Respondents answer same main questions, increasing comparability of response	As an insider researcher I may fail to identify the 'taken for granted' ways of knowing
Interview responds to circumstances, allows follow ups and probes	Data organisation and analysis can be difficult
Creates natural discourses that can be analysed	

Table 8 Advantages and disadvantages of semi-structured interviews
Adapted from Hopkins (2009)

As an insider researcher the greatest disadvantage of analysing data from interviews may be my failure to identify the taken for granted ways of knowing. To minimise the opportunities of this arising, it was important that besides respondents verifying transcripts, they also agreed upon, and clarified interpretations. To reduce the 'boundary effects' of the Conceptual Framework an opportunity at the end of each interview was offered for respondents to ask or discuss any salient points they felt had been missed.

3.4.2 Group interviews

Semi-structured interviews were selected as a data collection method with teachers as they enable the collection of large quantities of data focussed upon the human story (Thomas, 2011a) and offer the opportunity to ascertain perceptions of dyslexia. The necessary actions required to limit disadvantages are practicable, and they fit the interpretivist nature of the study which is; to listen and reflect. However, individual interviews with students' with dyslexia were discarded, as these were considered too demanding on students, instead interviews with groups of students were considered.

Literature suggests that interviews with groups of students are less stressful. Students may feel more confident in the company of peers and talk more freely (Hopkins, 2009; Cohen, Manion & Morrison, 2011; Gibbs, 2012), empowering and enabling collective viewpoints to be gained, rather than individuals voicing opinions, generating more data than might be produced from a series of interviews and possibly yielding insights that might otherwise not have been available in straightforward interviews. However, a disadvantage of group interviews is they may require skilful management to prevent individuals dominating (Hopkins, 2009; Cohen, Manion & Morrison, 2011).

The term focus group and group interview are often used synonymously (Gibbs, 2012, p.186). Although, Thomas (2011a) identifies that the two are different. In a focus group the researcher is a facilitator using focus materials, to stimulate discussion; the researcher taking a marginal rather than a pivotal role. Cohen, Manion and Morrison (2011, p.436) similarly note the marginal role of the researcher, interaction not dependent upon on the normal 'backwards and forwards between interviewer and group', reliance placed upon the interaction within the group, yielding a collective rather than individual viewpoint. In contrast in a group interview the researcher is in control of the discussion (Thomas, 2011a). Cohen, Manion and Morrison (2011, p.432) identify that 'group interviews are quicker than individual interviews', supporting Thomas's assertions of the researcher directing discussion.

Timetabling constraints suggested that if students with dyslexia were to be interviewed discussion needed to be directed. Interviews taking the form of a semi-structured interview, albeit with groups of students, would be more time-efficient enabling the main points to be covered with the minimum of disruption to students. Acknowledging that definitional tensions exist, these semi-structured group interviews will be referred to as group interviews, which I am defining as 'a carefully planned discussion to obtain perceptions on a defined area of interest' (Krueger & Casey, 2015, p.2).

Of the comparable studies only Ade-Ojo (2012) used group interviews (focus), and then as a supplementary method to investigate perceptions of dyslexia held by teachers. Table 9 summarises the main advantages and disadvantages of group interviews as they relate to the current study.

Advantages	Disadvantages
Generate qualitative data quickly	Tend not to yield numerical, quantifiable or generalizable data
Empowering groups rather than individuals to voice opinions. Collective perspective	Individuals dominating *Needs skilful management*
Students may be more candid with each other	Contrived
May yield insights that would otherwise not have been available in straightforward interviews	Insider researcher agenda may fail to address participants issues
Discussion can change 'focus' of interview	Need skilful facilitation and a clear agenda
Can be used to triangulate data from more traditional forms	Need skilful facilitation and a clear agenda
Creates natural discourses that can be analysed	Insider researcher may fail to identify the 'taken for granted' ways of knowing
Generates complex verbal and non-verbal interactions	Confidentiality. All within group share information, whether or not it is disclosed outside the group

Table 9 Advantages and disadvantages of group interviews
Adapted from Hopkins (2009) and Gibbs (2012)

Being an insider researcher posed a number of threats to the authenticity and credibility of the data gained: failure to identify issues students with dyslexia wish to discuss, and 'boundary effects' of the Conceptual Framework during

analysis. To ensure accuracy, reduce distortion and possible bias the main points were summarised at the end of each question (Ezzy, 2002; Saldaña, 2009), students were asked whether they agreed with my interpretation and offered the opportunity to ask or discuss any salient points they may feel had been missed. To reduce the 'boundary effects' of the Conceptual Framework students were offered an opportunity at the end of the interview to add anything not covered.

Confidentiality is an issue with group interviews. Gibbs (2012) suggests that because all participants hear the discussion, even if they do not share information beyond the group, it is not possible to ensure confidentiality. The Academy routinely uses 'circle time' (a programme of open discussion on sensitive topics) as a tutor time activity. Students should understand the concept of 'what is said within these walls; stays within these walls'. At the beginning and end of each interview students were reminded of the need for confidentiality (Ethical considerations, Section 3.5).

One of the aims of this study is to identify the perceptions of dyslexia held by students with dyslexia; group interviews were chosen as they offered the most suitable mechanism to explore these.

3.4.3 Documents

Language and social meaning are pivotal to the study. The Conceptual Framework identifies that school policy and mechanisms of dissemination of policy (CPD) has the potential to influence teachers' perceptions of students with dyslexia. The Vision Statement (p.21) provides the context and nuanced language for the study and identifies the Academy aims, an inclusive enabling society. Policy documents; the language used, and how documents portray students with dyslexia are important. Shakespeare and Watson (2002, p.15) identify that policies can be easily evaluated: to see whether they 'focus on barrier removal' (a social model of disability), or 'they focus on medical intervention and rehabilitation' (a medical model of disability). Content analysis of policy documents may provide insights into possible influences on teachers'

perceptions of dyslexia and identify whether documents are open to multiple readings.

Policy is generally delegated by Governing bodies to senior leadership teams (SLT) to both produce and implement. Many policies are statutory although schools may adapt government documents and use internal pro-forma to ensure consistency of style and terminology making them unique to their establishment. Policy documents are regarded as authoritative, accurate, and necessary by Governing bodies and SLT. Teachers are expected to use these documents to organise and structure their lessons. However, based upon experience many teachers mediate and transform materials provided during CPD, this mediation and transformation reflecting philosophical assumptions and past experiences. Further, Kennedy (2005) identifies that the particular model of CPD used may influence teacher perception and response. At the Academy policy contractual hours are disaggregated and allocated to weekly in-service training (inset) forming part of CPD. Policy and changes to policy are generally disseminated during inset and SEND policy dissemination routinely forms part of two initial inset days at the beginning of every academic school year.

The Statutory Schools Policies (DfE, 2014a) requires Governing bodies to hold a SEND policy and provide an '*Equality Information and Objectives statement*' (Equality of Opportunity Policy).The '*Children and Families Act'* (DfE, 2014b, Section 69) requires all schools to provide a yearly '*SEN Information Report*'.
Documents examined:

- SEND Policy
- SEN Information Report
- Equality of Opportunity Policy
- CPD Policy
- Inclusion Handbook

The first three documents are statutory and contain statutory requirements. These, together with the CPD policy and Inclusion Handbook provide evidence of SEND provision and training. Language and terminology of documents was compared to the nuanced language of the Academy Vision Statement, which

identifies its ethos and normative views towards students with SEND, to identify tensions, which may influence teachers' perceptions of students with dyslexia.

All forms of data collection have advantages and disadvantages (Table 10). As policy is solely provided as text, analysis may appear to be straightforward, however, some of the complexities of language may be missed due to my immersion in the culture and to counter this, fellow researchers verified interpretation. Whilst an insider researcher access to documentation was not problematical, on retirement access became restricted.

Advantages	Disadvantages
Identify language and discourse	Language and discourse used open to interpretation. As part of culture, insider researcher I may fail to identify this
Illuminate issues	As part of culture, as an insider researcher I may fail to identify the issues
Identify other peoples' perceptions	As an insider researcher I may fail to identify other peoples' perceptions
Provide background and context	People may be unwilling to share confidential documents

Table 10 Advantages and disadvantages of document analysis
Adapted from Hopkins (2009)

3.4.4 Field notes

As part of the study a diary, which authors (Gillham, 2005; Hopkins, 2009) refer to as field notes was kept. Acting as an aide-memoire, functioning as an on-going record, and providing first-hand information (Gillham, 2005), the field notes helped 'maintain a methodical approach 'and provided an 'on-going description that systematically documents the inquiry', and allowed 'manageable retrieval of data' (Hopkins, 2009, p.105).

Field notes have many disadvantages, materials generated such as transcripts of interviews and analysis sheets were kept separately as encrypted and password protected computer files (Ethical considerations, Section 3.5) whilst

consent forms and other paperwork kept within the diary, a folder, allowed the materials to be located easily, to ‘enable and facilitate third-party examination’ which increases the validity of the study and ‘enable justifiable conclusions to be reached’ (Hopkins, 2009, p.135).

3.4.5 Data collection methods selected

The following data collection methods were selected for the pilot study:

- interviews: semi structured - teachers;
  group interviews - students with dyslexia
- document analysis

Following the pilot study, methods were evaluated and modified for the main study (Section 3.8.2, Refining data collection, p.100).

3.5 Ethical considerations and sample selection

The study was designed to comply with both the Ethical Guidelines for Educational Research (BERA, 2011) and the Research Ethics Policy (Bishop Grosseteste University (BGU, 2017). The research site, a mixed ability 11-16 school in the Midlands, presents a number of ethical considerations. Participating students are less than 18 years old. A diagnosis of dyslexia means they are legally classified as disabled. Both of these factors identify them as being both vulnerable and at high-risk (BGU, 2017). The main ethical issues identified and the measures taken to reduce risk of harm resulting from the research are summarised in Table 11.

The principle data sources of the study are interviews, necessitating co-operation and informed consent of all participants. The basis of informed consent being the notion that ‘participants have all the information they conceivably need to make a decision about whether to participate’ (Oliver, 2011, p. 28).

Ethical issue	Measures taken	References
Age and status of students	Informed consent from parents/guardians and students Written consent Head teacher	BERA, 2011, 18 BGU, 2017, 3.4
Acceptability of research	Application for approval of study gained from Research Ethics Standing Group	BERA, 2011, 9 BGU, 2017, 1
Confidentiality	Names and places anonymised to reduce the risk of individuals being identified	BERA, 2011, 25-28 BGU, 2017, 4.6
Informed consent	Clear and fair description of research given together with potential for publication Parent/guardians consent gained before students approached	BERA, 2011, 11 BGU, 2017, 3.3; 3.4 BERA, 2011,16 ;18 BGU, 2017, 3.6; 3.7
Integrity of material	Permission to use data for thesis and possible publication gained Findings reported accurately	BERA, 2011, 44 BGU, 2017, 3.7 BERA, 2011, 11 BGU, 2017, 4.10
Misconception about data or its analysis	Transcripts and analysis verified by participants Participants debriefed on conclusion of study	BERA, 2011, 31 BGU, 2017, 4.10
Safety of students	School safeguarding procedures	BERA, 2011,16-20; 29-30 BGU, 2017, 3.3
Security of data	All electronic data encrypted and files password protected using a USB Scandisk (SDCZ60-128G-B35) Cruzer Glide with 128-bit AES encryption	BERA, 2011, 26 Data Protection Act (1998) BGU, 2017, 4.5

Table 11 Ethical considerations and measures taken

The study was designed to meet the four elements of informed consent (full information, comprehension, competence and voluntarism) identified by Cohen, Manion and Morrison (2011, p.77):

- full information: aims, objectives, risk and benefits, possible uses of data and safeguarding procedures provided

- comprehension**:** research explained in a manner as to fully enable participants to fully understand the nature of the research

- competence: all relevant information provided to enable participants to make correct decisions

- voluntarism: no coercion, participants freely participate with right to withdraw at any time

All students with a formal diagnosis of dyslexia were given the opportunity to participate in the research. Parent/guardians were contacted first and permission sought for an initial meeting with students to explain the aims of the project. Those students verbally agreeing to the research were given a letter addressed to their parents/guardians explaining the research, its purpose, potential benefits and foreseeable risks, and how these will be managed, right to withdraw, confidentiality and opportunity to ask questions. Those students and their parents/guardians willing to participate gave informed consent by signing a reply slip to indicate their approval. The timetables of students consenting to participate was examined, a common group of teachers who teach those students were invited to participate. Teachers of the students with dyslexia willing to participate were contacted, the aims of the project explained, and a formal letter of consent signed to indicate approval.

> ‘All participants will be given a full understanding of the rules of the game’ Cohen, Manion & Morrison, 2011, p.426

The aims, objectives, possible uses of data for inclusion in the EdD thesis and potential publication, together with safeguarding procedures and the right to withdraw were included in both the information sheets and consent forms (Appendices 5 - 8) and this information was repeated verbally before all interviews were conducted.

Recognising research must not impact upon the normal workload of participants nor cause stress or discomfort. Interviews with teachers were

arranged at their convenience, in a place of their choosing and group interviews were arranged to coincide with the personal development programme sessions (PDP), so as not to impact on academic subjects. No duress was placed upon teachers or students to participate. The right to withdraw at any time with no adverse consequences was made clear throughout the study, although I appreciate that students might find this concept difficult, two students did choose to withdraw before interviews and I was careful in subsequent meetings not to mention the study.

The study was driven by a desire to improve teaching and learning outcomes for students with dyslexia. As an 'insider researcher' I became acutely aware of conflicts of interest, reminding myself that information gathered in interviews is confidential, given in trust, and cannot be divulged to other participants even though it may appear beneficial to the Academy. Although disclosures that might place a student in danger, or identified illegal practises, would have to be referred to the child protection officer, as per The Chestnut Academy safeguarding procedures, as students' welfare takes paramount authority over research.

Whilst I did not conceive of any risk of physical harm arising from the study, because dyslexia may be associated with feelings of low self-esteem and lack of confidence discussions may bring up emotional issues, requiring me to be emotionally aware to ensure no psychological harm arises from the study. To minimise this risk, group interviews were held in a room close to where TAs and the SENCo work so students could withdraw and remain under staff supervision to ensure safety and provide pastoral support.

To reduce any possible stigma attached to participation, students knew in advance where and when the meetings were to be held. Meetings ran the length of a standard lesson. The electronic registration form (SIMs) was completed in advance by researcher. As many students follow individual timetables, removal to participate in activities is common place, these measures should minimise questioning by fellow students.

To reduce traceability all documents used were modified and names removed although, once the work is ultimately published as a thesis, given my uncommon surname, it might be possible to link the researcher to the school. To minimise traceability of participants, in the pilot study participants were assigned a pseudonym of their own choosing which only they and the researcher knew. Teachers were not identified by specific subject specialism. However, during data analysis in the main study, it became clear that contextual clues and idiosyncrasies of speech might make identification of participants by gatekeepers possible. To further minimise traceability in the main study quotes are identified by interview and line number, some have been paraphrased to remove contextual and gender clues. Group interviews are identified by transcription number and data amalgamated to form one anonymised aggregated student (Punch & Oancea, 2014).

Data was handled in accordance with the Data Protection Act 1998 and kept secure by being both password protected and encrypted. The data will be kept secure until a year after the thesis has been passed and then deleted. Students and staff were asked if they consent to interviews being recorded. Audio files gathered on the 'Walkman' were downloaded and transferred to a password protected and encrypted hard drive and the original file on the 'Walkman' deleted.

3.6 Data Analysis

> 'Analysis is laid on the foundations of our understanding about how the world works, what makes it what it is (ontology); and of how we, as human beings, can understand and learn about that world and especially about the world of people (epistemology)'
>
> Brazeley, 2013, p.1

Qualitative research gains its credibility by being meticulous and transparent. Careful planning, attention to detail, openness and reflexivity are mechanisms employed in the study to achieve this goal. As a reflexive practitioner I recognise that there are a number of challenges posed to my analysis. Firstly the reduction in the data acquired (Swanborn, 2010) brings with it a capacity for

data loss, distortion and reduction of complexity (Cohen, Manion & Morrison, 2011). Secondly as an insider researcher my immersion within the culture of the Academy affects my understanding of 'how the world works' (Brazeley, 2013, p.1) with the potential to affect analysis and interpretation. Finally the Conceptual Framework offers an opportunity for boundary threats; anything falling outside the framework failing to be observed.

To reduce possible distortion, transcriptions of interviews with teachers were verified with the participants and annotated where necessary. Interpretation was also discussed and similarly annotated (Ezzy, 2002). With group interviews interpretation was ascertained by drawing together a summary after each section of related questions, and gaining agreement by the group.

To reduce boundary threats from the Conceptual Framework, alternative interpretations were considered rather than trying to fit data into the Conceptual Framework and fellow researchers critiqued coding to reduce the effect of the insider researcher missing the important 'taken for granted ways of knowing' (Saldaña, 2009).

3.6.1 Content analysis

Content analysis provides a strict and systematic set of procedures for the rigorous analysis, examination, and verification of the content of written data and their messages (Cohen, Manion & Morrison, 2011). However, the principle data sources of the study are interviews, group and semi-structured, which might suggest this to be an unsuitable analytical method but Silverman (2001) ascertains that as transcription converts verbal data into text, content analysis is a legitimate choice.

Language and social meaning are pivotal to the Conceptual Framework; the voices of the participants intrinsic to the research questions. Content analysis focusses on language and meaning in context (Cohen, Manion & Morrison, 2011) identifying it as an appropriate methodological choice (Thomas & Loxley,

2007). Content analysis may be approached in one of three different ways (Hsieh & Shannon, 2005). The main features of the different approaches are summarised in Table 12.

Approach	Coding			Application
	Commences from	Occurs	Derivation	
Conceptual	Observation of data	During analysis	Data In vivo coding	To describe phenomena To develop new insights
Deductive or Directed	Theory	Before and during analysis	Theory or research A priori coding	To validate or conceptually extend a theoretical framework
Summative	Keywords	Before analysis Keywords identified	Keywords derived from interest or related research A priori coding	Provides insights into how words used by quantification of usage

Table 12 Approaches to content analysis
Adapted from Hsieh and Shannon (2005)

3.6.2 Conceptual content analysis

Data were analysed through the conceptual analysis strand of content analysis, a data driven coding frame (Figure 12).

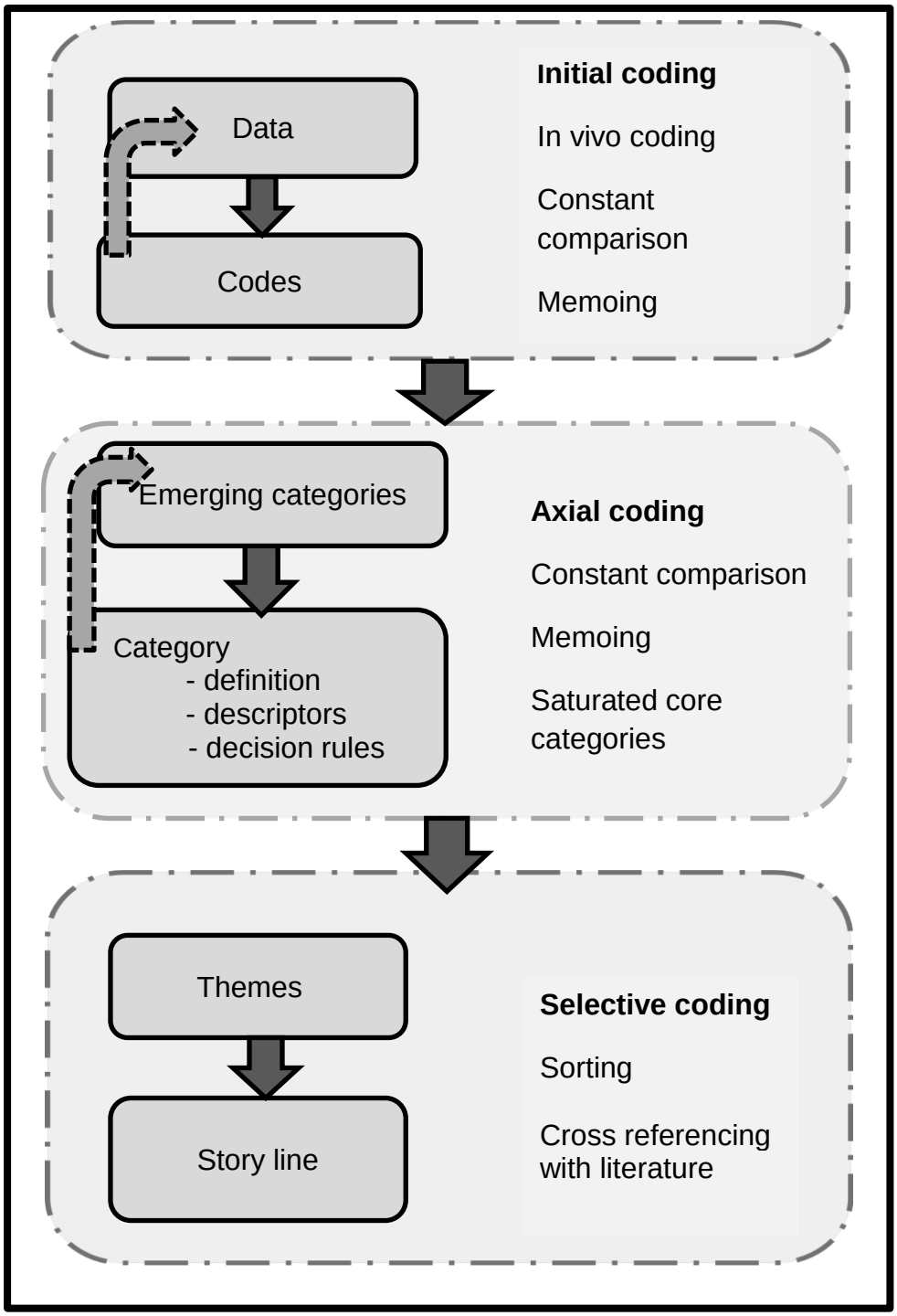


Figure 12 Conceptual content analysis: analytical framework
Adapted from Saldaña (2009)

Although it may appear that analysis was a linear, step-by-step process the analysis was a 'messy', iterative and reflexive procedure, involving the visiting and re-visiting of decision rules, coding, re-coding and constant memoing. Employing in vivo coding to reduce possible 'boundary threats' of the Conceptual Framework which may cause observations falling outside the framework lens failing to be noticed (Imenda, 2014). Whilst completing NVIVO

training, I decided against computer assisted qualitative data analysis software (CAQDAS) preferring to use 'highlighter pens and a brain' and 'intelligent reading' of the data (Thomas, 2009, p.207). CAQDAS did not appear to offer any more value and O' Reilly (2009, p.41) claims that in inexperienced hands, it may lead to a false sense of certainty, almost aping statistical approaches.

3.6.2.1 Initial coding (*In vivo coding*)

Coding is messy, it is 'not a precise science' (Saldaña, 2009, p. 4) requiring continuous repetitive interpretation and classification of data (Stake, 1995; Saldaña, 2009). It is not simply an act of labelling, it is an 'interpretive act'; an 'exploratory problem-solving technique'. A mechanism of linking 'the data to the idea, and from the idea to all the data pertaining to that idea' (Richards & Morse 2007, p.137), breaking 'down qualitative data into discrete parts, closely examining them, and comparing them for similarities and differences' (Saldaña, 2009, p. 74) to provide 'fresh insights and deep[er] understanding' (Brazeley, 2013, p. 3).

Data is 'filtered', 'highlighted' and 'focused' (Saldaña, 2009, p.8), established through 'trial and error' (Swanborn, 2010 p.114). Subsequent coding and re-coding a salient feature, as 'rarely is the first cycle of coding perfectly attempted' (Saldaña, 2009, p.8), an 'initial step toward an even more rigorous and evocative analysis and interpretation' (Saldaña, 2009, p.4) requiring the researcher to keep their eyes open and look for alternative explanations (Potter & Wetherell, 1987; Humphreys, 2001; 2002). Thus messy and time consuming, the inductive approach of In vivo coding has the advantage of honouring the participants voice, and the lack of pre-determined coding reduces subjectivity (Saldaña, 2009).

Given the number of individuals with differing vocabularies and sentence construction a considerable number of in vivo codes were produced. To aid analysis a number of in vivo codes have been condensed. A process involving the selection, focussing, simplifying and or transforming of data that appears in

full corpus of interviews to make the data stronger (Miles, Huberman & Saldaña, 2014) (Table 13).

In vivo code	Condensed code
'my mum had dyslexia' Interview 3, line 508	**Others in family**
'my dad's dyslexic, my mum's dyslexic and my brother' Interview 4, line 220	
'whole family is dyslexic' Interview 2, line 389	
'dad went to boarding school for it' [*it = dyslexia*] Interview 4, line 226	
'they tested me because my mum was dyslexic' Interview 3, line 280	
'people can't walk down a street and say ***'they're dyslexic''*** Interview 3, line 396	**Hidden**
it's just a learning difficulty only affects you when you're reading and writing. It doesn't affect general life' Interview 4, line 52	
'mum kept nagging at the school' Interview 3, line 26	**Parents pushed**
'mum just kept asking' Interview 3, line 360	
'mum wanted the school to do a test' Interview 4, line 21	
'my mum had to phone the school to get me tested' Interview 4, line 261	

Table 13 Example of condensed codes from group interviews

Analytical memos were an essential feature of the initial coding, documenting emerging codes, providing constant comparison and preventing duplication until discrete codes emerged and saturation reached (Ezzy, 2002; Saldaña, 2009). The analytical memos ensure codes and categories are verifiable as rules for analysis are explicit and transparent, re-analysis and replication possible (Cohen, Manion & Morrison, 2011).

3.6.2.2 Axial coding

Following initial coding, codes were consigned into categories (axial coding) the ultimate goal being to achieve saturation, where 'no new information seems to emerge during coding' (Saldaña, 2009, p.161). Memo writing was a critical component of axial coding as repetition of codes occurred, for example in group interviews the code 'slower' appears within both the axial codes of literacy and cognition, to identify differences between the physical process of writing and the cognitive process of memory on writing (Table 14).

Axial code: *literacy*	Axial code: *cognition*
'because I am quite a slow writer' Interview 2, line 216	'I have a brilliant set up in my head but I'm quite slow at writing so I sort of forget it half way' Interview 3, line 646
'everyone else would be finished but I'd only be half way' Interview 3, line 63	
'I haven't done as much work' Interview 3, line 338	'you don't know what to write then, and you get stuck and forget what else you were going to write' Interview 4, line 535
'takes us a bit longer' [*writing*] Interview 4, line 121	

Table 14 Condensed code 'slower': group interviews

Grouping similarly coded data, sorting and re-labelling them into conceptual categories, although cumbersome, sharpened and defined codes (Saldaña, 2009) although Charmaz (2006) suggests axial coding may stifle the analytical progress achieved during initial coding.

3.6.2.3 Theming and developing a story line

> '[Coding] generates the bones of your analysis', and integration 'assemble[s] those bones into a working skeleton'
>
> Charmaz, 2006, p.45

Axial codes were grouped into themes; 'an implicit topic that organises a group of repeating ideas' (Auerbach & Silverstein 2003, p.38) using a 'phrase or sentence', to identify 'what a unit of data is about', or 'what it means' (Saldaña, 2009, p.139).

Employing Saldaña's suggestion (2009, p.162) of using tables and diagrams to develop a 'story line' (Cohen, Manion & Morrison, 2011).The data from the smaller documents was collated into tables (Appendices 13 - 22), these tables produced being large, detailed and descriptive were summarised (Table 17, p.114; Table 18, p. 123). Whilst data from the longer and more numerous interviews was collated into diagrams (Figure 28, p. 139; Figure 34, p.146; Figure 42, p.160; Figure 51, p.170) to enable a coherent presentation of findings, analysis and interpretation of data.

3.7 Pilot study

The purpose of the pilot study was to determine the robustness of the research design, suitability of data collection methods and analytical framework, enabling refinement and adaptation. Recognising that perception may influence pedagogical choice and play an important role in expectation, the pilot study explored how dyslexia is perceived by students with dyslexia and their teachers and considered possible influential factors.

3.7.1 Pilot study: research questions

1. How is dyslexia perceived by teachers and students with dyslexia?
2. What factors influence teachers and students perceptions of dyslexia?
3. Does teacher perception influence pedagogy?
4. Does pedagogy affect expectation and classroom interaction?
5. Are there perceived links between literacy levels and ability?
6. Does the label dyslexia infer low ability?

3.7.2 Pilot study: methodology

Data were gathered through: group interviews with a purposefully selected sample of eight students, male and female, with diagnoses of dyslexia, from across five year groups (aged 11-16), and semi-structured interviews with a convenience sample of four teachers from the departments of mathematics and science, to examine perceptions, practice and pedagogy. Table 15 shows research question cross referenced against data collection methods used.

Transcripts of the interviews were analysed using an in-vivo coding frame, through the conceptual analysis strand of content analysis as opposed to being analysed through deductive or summative content analysis with a priori data coding frames (Hsieh & Shannon, 2005).

Research question	Data collection methods
How is dyslexia perceived within the Chestnut Academy by teachers and students with dyslexia?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
What factors might influence teachers and students perceptions of dyslexia?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
	Analysis of documents
Does teacher perception influence pedagogy?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
Does pedagogy affect expectation and classroom interaction?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
Are there perceived links between literacy levels and ability?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
	Analysis of documents
Does the label dyslexia infer low ability?	Semi-structured interviews: classroom teachers
	Group interviews: students with dyslexia
	Analysis of documents

Table 15 Pilot study: research question and data collection methods

3.7.3 Pilot study: findings

Findings suggest that teachers in the pilot study perceived links between ability and literacy and between the label dyslexia and lower ability:

> *'*Can't spell, can't write and can't read… Can't do all sorts of things because, they are dyslexic*'* Dawn

> *'*Dyslexics are not as capable of things, compared to those that haven't' [*non-dyslexic peers*] Dawn

> 'Their [*student with dyslexia*] rate of understanding is little bit slower*'* Brian

Asked about strategies used with students with dyslexia Christine said:

> 'I modify tasks for the [low ability set] because that's where they all are [*dyslexics*] and they are of a similar ability [*pause*] very weak ability'

Anna identified a lack of motivation or learned helplessness amongst students with dyslexia but was quick to add a caveat, which may reflect concerns about having the comment linked back to her, or the Academy:

> 'I have noticed that dyslexics are sometimes, erm… not necessarily, at this school, are more likely to give up easily'

Students with dyslexia in the pilot study identified a stigma, not with the label, but with the difficulties of reading and writing that they faced in class. They identified a link between literacy and ability, recognising that their non-dyslexic peers perceived clear links between literacy and ability:

> 'Because I couldn't write it down, so…everybody else [*non-dyslexic peers*] thought that I wasn't very smart' Jeff

Occasionally the students with dyslexia felt victimised and had been taunted by their non-dyslexic peers because of their difficulties with literacy:

> 'You can't read this. You're stupid!' Katie

However, the label 'dyslexia' was judged by all the students with dyslexia in the pilot study as beneficial, enabling them to explain their difficulties corresponding with the research findings of Humphreys (2001; 2002); Burton (2004) and Glazzard (2010) into self-esteem of students with dyslexia. And more importantly students felt that it meant that they were not any less intelligent than their peers.

Students with dyslexia in the pilot study perceived differences in their teachers' attitudes between them and their non-dyslexic peers, and whilst there were no complaints in the pilot study complaints of unfair treatment and lack of understanding recur in the literature (Osmond, 1993; Humphrey, 2001; 2002; Humphrey & Mullins, 2002; Glazzard, 2010). In his study Humphrey (2001) identified that the majority of secondary students with dyslexia reported

extremely negative experiences, being teased or bullied. Whilst Riddick (1995, p.463) alleged that half the students in her study had been called 'thick' because of their dyslexia.

Teachers in the pilot study acknowledged many of the characteristic problems faced by students with dyslexia such as difficulties with phonological awareness, verbal memory and verbal processing speed (Siegel & Lipka, 2008; Rose, 2009; Snowling, 2013). Two teachers in the pilot study suggested that students with dyslexia had 'eye problems' and identified strategies such as: pale coloured paper for handouts, background colour for power points and whiteboard screens and the use of coloured overlays and coloured lenses (Irlen lenses) to ameliorate the 'visual stress symptoms' of dyslexia. Nevertheless, many misconceptions were held, students with dyslexia having poor eyesight (squint), and students with dyslexia being predominantly and disproportionately male, and of lower intelligence or conversely being highly intelligent. Most of the strategies given in the Inclusion Handbook (Appendix 2) such as allocation of additional time, modification of tasks and materials were cited. However, students with dyslexia suggested there to be a lack of consistency in application of these strategies.

The pilot study suggested that teachers perceived dyslexia through a medical model of disability, deficits intrinsic to the student, concentrating upon what students were 'unable to do', rather than what they are 'able to do'. Perceived links between literacy skills and intelligence, and the label SEND and lower intelligence were also suggested. Similar perceptions between the label SEND and lower intelligence were also evident amongst the students with dyslexia.

The Academy documents examined identify the Academy advocates concepts of a fair and inclusive society; a social model of disability. All documents promote inclusivity and equal opportunity matching Anastasiou and Kauffmann's (2013) assertions that policy is conceived within a social model of disability. However tensions exist, documents show discrepancies; the predominant discourse is that of students with SEND having deficiencies requiring remediation and intervention; a medical model of disability. Policy is

driven by the SDP and focuses upon performance league tables, school improvement, school targets, and student attainment. SEND policy identifies and responds to deficits within provision and achievement of students with SEND rather than focussing upon barrier removal; a social model of disability (Shakespeare & Watson, 2002). Concentrating upon intervention and remediation, policy engenders a medical model of disability. The detailed analysis and discussion of policy documents is provided in Section 4.2 p.112 and a summary of pilot findings in Appendix 12.

3.7.4 Pilot study: evaluation

Whilst teachers in the pilot study identified classroom strategies from the Academy Inclusion Handbook, group interviews with students with dyslexia suggest discrepancies between policy and practice exist. Evaluation of the pilot study suggested that interviews with a wider range of teachers from different subject specialisms might provide greater insight into teachers' perceptions of dyslexia. Interviews could explore teachers' pedagogy and examine relationships between perceptions of dyslexia, and policy and practice. Interviews with members of the SLT might provide a fuller understanding of how SEND policy is formulated and disseminated.

Analysis of the transcripts from the group interviews suggested that the older, more confident students dominated conversation. It was clear individuals did not 'share' information willingly and referred to 'others' before responding, necessitating changes to the make-up of the group. Older and younger participants may have difficulty communicating with each other owing to different experiences (Morgan, 2013). A number of group interviews comprising single year groups of students with diagnoses of dyslexia would counter this, providing a greater understanding of how students with dyslexia perceive themselves, their ability and their ability to learn. Segmenting group interviews into year groups may be advantageous, as there is already an 'extent of trust amongst the members of the group', which will 'encourage the expression of views' (Rabiee, 2004, p. 656). Dyslexia is a sensitive issue, using pre-existing

year groups should ensure that all participants feel comfortable with each other, and be able to contribute to the discussion and may enable free-flowing conversation. Further, it facilitates analyses to examine differences in perspective between groups to identify whether perceptions change as students move through the academy, mature and commence examination work.

3.8 Refining the research

> ‘Knowledge is not static, but is always emerging and transforming’
> Jones and Alony, 2011, p.98

Critical evaluation formed an integral part in the methodological design of this study. The purpose of the pilot study was to evaluate the robustness of the research design and, enable refinement of research questions, data collection methods and analytical framework.

3.8.1 Refining the research questions

Critical evaluation of the research questions in light of the pilot study suggested fine adjustments were required. The first research question relating to how dyslexia is perceived by teachers and students with dyslexia identified, both participating students with dyslexia and teachers viewed dyslexia through a medical model of disability. By breaking this question into its component parts examining teachers’ perceptions and students’ with dyslexia perceptions will enable each to be examined in greater detail, to identify whether the medical model is pervasive. Examination of factors that influence perception identified socio-historic links between literacy skills and ‘ability’, indicating a micro-focus upon literacy to be appropriate to, ‘drill down further’ (Thomas, 2011a, p.4). On reflection, the question as to whether teachers’ perceptions affect classroom interaction encompasses a huge field, worthy of a study in its own right, and I decided not to pursue this research question.

Evaluation of the pilot study in relation to the Conceptual Framework suggested the research questions need to concentrate upon identifying:

- how dyslexia is perceived by teachers
- how dyslexia is perceived by students with dyslexia
- whether there are conceptual links between literacy skills and ability
- whether policy and guidance re-inforce or dispel these conceptual links
- If the key factors identified within Conceptual Framework shape perception

Renzulli (1998) eloquently used the phrase 'A rising tide lifts all ships'. Suggesting that strategies for improvement, 'a rising tide', could have a wider impact in enabling all students to gain maximum benefit; 'lifts all ships'. Whilst the context of Renzulli's work was in gifted and able education, my contention is that identification of barriers to inclusion for students with dyslexia may have a wider impact, as there is the potential for undiagnosed students within the classroom, by helping to remove barriers to learning; promoting staff awareness and competence, fostering an empowering inclusive classroom environment in which all students aim to be the best they can be.

3.8.1.1 Definitive research questions

1. How do teachers within the Chestnut Academy perceive students with dyslexia?

2. Does the Chestnut Academy policy and guidance on dyslexia affect teachers' perceptions of students with dyslexia?

3. To what extent do teachers' perceptions of dyslexia converge with their perceptions of literacy?

4. How do students with dyslexia within the Chestnut Academy perceive dyslexia?

5. To what extent do students' with dyslexia perceptions of literacy converge with perceptions of ability?

3.8.2 Refining data collection

The epistemological stance of the research is interpretivist and constructivist, the justification for methodology and research design one of 'fitness for purpose' (Thomas, 2009). Following the pilot study data collection methods and research questions were reviewed and critiqued against the Conceptual Framework. Three data collection methods were selected:

- semi-structured interviews with classroom teachers, and teachers from SLT
- segmented group interviews with students with dyslexia
- analysis of documents

Table 16 shows data collection methods cross-referenced against research questions.

Research question	Data collection methods
How do teachers within the Chestnut Academy perceive students with dyslexia?	Semi-structured interviews: classroom teachers
	Semi-structured interviews: senior leadership teachers
Do policy and guidance on dyslexia affect teachers' perceptions of students with dyslexia?	Semi-structured interviews: classroom teachers
	Semi-structured interviews: senior leadership teachers
	Segmented group interviews: students with dyslexia
	Analysis of documents
To what extent do teachers' perceptions converge with their perceptions of literacy?	Semi-structured interviews: classroom teachers
	Semi-structured interviews: senior leadership teachers
	Analysis of documents
How do students with dyslexia within the Chestnut Academy perceive dyslexia?	Segmented group interviews: students with dyslexia
To what extent do students' with dyslexia perceptions of literacy converge with perceptions of ability?	Segmented group interviews: students with dyslexia
	Semi-structured interviews: classroom teachers
	Analysis of documents

Table 16 Data collection methods

3.8.2.1 Sample selection

Interviews were purposefully selected from students with diagnoses of dyslexia identified from the Academy SEND Register. Numbers of students with diagnoses of dyslexia are small: 2010-2011, 18; 2014 - 2015, 24.

Informed consent was gained as outlined in Section 3.5 (p.85). Sample sizes varied depending upon the number of students willing to participate. No duress or coercion was used. In the pilot study the focus group consisted of eight students, male and female, with diagnoses of dyslexia, from across five year groups (aged 11-16). Interviews in the main study are numbered according to their order of completed transcription and verification by an independent auditor rather than the chronological order of data acquisition, this being due to difficulties experienced during transcription and independent verification. Interview group one consisted of six students, five male and one female, from year 7 (aged 11-12 years), interview group two consisted of one male student from year 11 (aged 15 -16 years) as two students withdrew prior to the start of the interview. Interview group three consisted of: four students, two male and two female, from year 8. Interview four, was a further interview with group one which consisted of seven students, male and female, from year 7 (aged 11-12 years). The timetables of students consenting to participate was examined, a common group of teachers who teach those students were invited to participate. The sample consisted of one teacher from SLT and six classroom teachers, one male and five female, whose teaching careers span between two to 30 years. However at the start of an interview one teacher confided they had a diagnosis of dyslexia. Following much reflection, I decided not to include their understanding of dyslexia within the semi-structured interview analysis. This adult retrospective view is examined in Section 4.5.1 (p.178) and included within the discussion.

Five policy documents were purposely chosen. Governing bodies are required by law to hold a SEND Policy and provide an Equal Opportunities Statement (Equality of Opportunity Policy) and a yearly SEND Information Report to

parents (Statutory Schools Policies, DfE, 2014a), these provide the context. The content and language used affording possible insights into how teachers' perceptions of dyslexia may be shaped. In addition the Inclusion Handbook and the non-statutory Continuing Professional Development Policy were chosen as CPD content and context may influence teacher perception and response (Kennedy, 2005).

- SEND Policy (SP)
- SEND Information Report (SIR)
- Equality of Opportunity Policy (EoOP)
- CPD Policy (CPDP)
- Inclusion Handbook (IH)

As ethos has been identified as influencing teacher perception (Gwernan-Jones & Burden, 2010), the nuanced language of the Academy Vision Statement was triangulated against language used within documents to identify possible tensions and potential for multiple readings.

3.8.3 Refining data analysis

As previously stated the pilot scheme only employed one level of analysis, conceptual content analysis. Utilising in vivo coding, requiring open-mindedness during analysis and interpretation, maintains the interpretive approach of the study. However, this did not employ the lens of the Conceptual Framework. To address this discrepancy and add greater depth and rigor, a second round of analysis, a deductive analysis, using the lens of the Conceptual Framework was added, and an analytical framework designed (Figure 13) to triangulate and integrate analyses.

In the first phase of analysis conceptual content analysis was employed, an inductive bottom up approach, using in vivo coding followed by axial and selective coding, to develop themes and a story line (Saldaña, 2009). To limit the potential for unconscious tainting of in vivo coding inductive analysis of all data sources was completed before the second phase of analysis, a deductive analysis, began thereby reducing subjectivity and possible bias.

Analysis / Data Source	Phase One Inductive Analysis	Phase Two Deductive Analysis	Phase Three Triangulation	Phase Four Integration
Policy documents	Conceptual content analysis	Applying lens of Conceptual Framework Summative content analysis	Comparison data analyses	Synthesis of analyses
Group interviews Students with dyslexia	Conceptual content analysis	Applying lens of Conceptual Framework	Comparison data analyses	
Semi - structured interviews Teachers	Conceptual content analysis	Applying lens of Conceptual Framework	Comparison data analyses	

Figure 13 Analytical framework

In the second phase a top down approach, the lens of the Conceptual Framework was employed. Summative content analysis was also applied to policy documents to enable critical interpretation of selected aspects of the data (Fereday & Muir-Cochrane, 2006; Schreier, 2014). To determine whether evidence could support the Conceptual Framework analyses for each data source were triangulated (phase three) before findings from data sources integrated and synthesised (phase four). Whilst data analysis began inductively, deductive thinking played an important role in moving the analysis forward (Creswell, 2014).

3.8.3.1 Deductive analysis: the Conceptual Framework as an analytical tool

Using the lens of the Conceptual Framework codes and themes were generated and over laid onto each data source. Figure 14 shows part of the coding, a full list can be found in Appendix 23.

Theme		Axial code	Codes
Constructs of disability	*Medical model*	Label (Classification)	SEND: student; pupil; learner. SpLD. Dyslexic
		Symptoms	Poor: spelling; memory; handwriting; processing
		Deficits	Impairment. Disability. [in]basic skills
		Intervention & remediation	Intervention. Support. Help. TAs. Strategies
	Social model	Inclusion	Respect. Diversity. Access. All
		Promoting equality	Promote: positive images; attitudes; equality; relationships
		Reducing discriminatory behaviour	Discourage/avoid stereotyping. Discrimination; eliminate; challenge
		Community membership	Community spirit. Whole school; clubs; communication

Figure 14 Overlaying the Conceptual Framework

Using Saldaña's suggestion (2009, p.162) to develop a 'story line', data from the smaller documents was collated into tables (Appendices 18 – 22) which were then condensed into a single table (Table 18, p.123). The longer and more numerous interviews were summarised into diagrams to enable a coherent presentation of findings, analysis and interpretation (Figure 34, p.146; Figure 51, p.170).

3.8.3.2 Summative analysis

To critically interpret the underlying context of documents, the frequency of occurrence of axial codes within both the inductive and deductive analyses was examined, a form of summative content analysis (Fereday & Muir-Cochrane, 2006) focused upon selected aspects of the data (Schreier, 2014) allowing radial diagrams to be produced to enable a visual interpretation of the underlying context, and developing the storyline (Figure 24, p.128; Figure 25, p.129). Direct comparison of frequency of themes between documents may not be an accurate or trustworthy measure as documents vary in content and are of unequal length. However, comparison within each document is appropriate.

3.8.3.3 Triangulating, integrating and synthesising data analyses

Deductive analysis provided a means to examine data further, triangulation of inductive and deductive analyses adding greater depth and rigor. Integration of

analyses from all data sources and synthesis afforded a mechanism to answer the research questions, and examine the Conceptual Framework in depth.

3.8.4 Type of case study (*using Thomas' typology*)

Offering a clear view of the thinking processes and supporting a clear articulation of the distinctness and necessity of both the subject and the object in the study Thomas' typology (2011b) assists in the identification of the case study design and although the diagram might imply choices are made in a sequential manner, decision making processes occurred simultaneously, particularly in relation to the subject, object and approach.

3.8.4.1 Subject, object, purpose and approach

The case: Perceptions of dyslexia within the Chestnut Academy. The subject is local: The Chestnut Academy. The object: perceptions of dyslexia. The purpose of the study is exploratory; to identify the perceptions of dyslexia held by teachers and students with dyslexia and explore how these may be formed. The approach, descriptive in nature, aspires to depth; to 'drill down further' (Thomas, 2011a, p.4).

3.8.4.2 Methodological choice and process

The typology identifies two types of process, single and multiple. Single studies containing no element of comparison (Thomas, 2011b, p.517), examining perceptions of both students with dyslexia and their teachers, and considering possible influences of policy documents, the study employs multiple units within the case.

Sequential or parallel studies compare clearly different examples and analysis contrasts differences found between, and amongst them, to illuminate important theoretical features. Whilst in a 'nested' study, the analytical breakdown is within the principle unit of analysis, gaining its integrity; its

wholeness, from the wider case. Producing a greater sense of each subunit 'fitting into' the larger unit, rather than it being 'implanted' there (Thomas (2011a, p.152) (Figure 15).

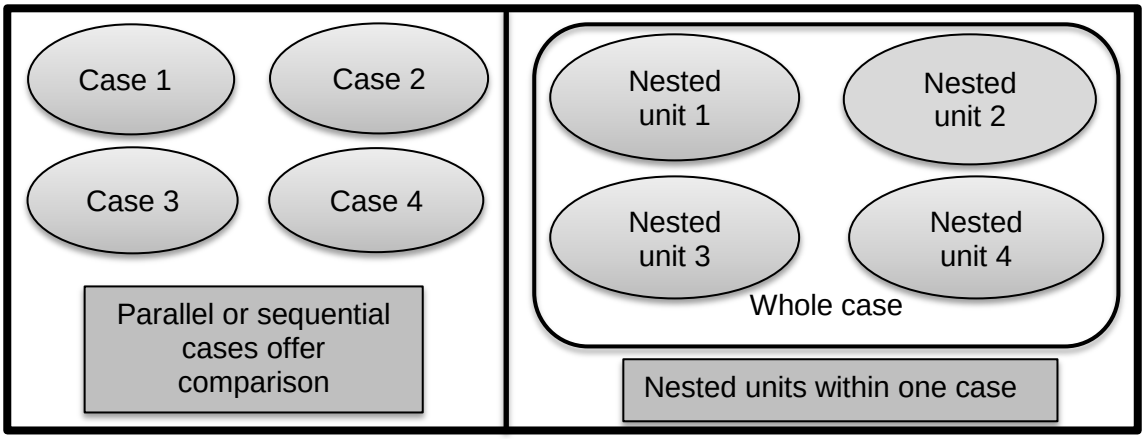


Figure 15 Comparison between multiple cases
From Thomas (2011a)

In this study data was obtained from multiple sources: group interviews with students with dyslexia; classroom teachers, senior leadership teachers and documents, each adding to, and gaining integrity from, the wider case (Figure 16).

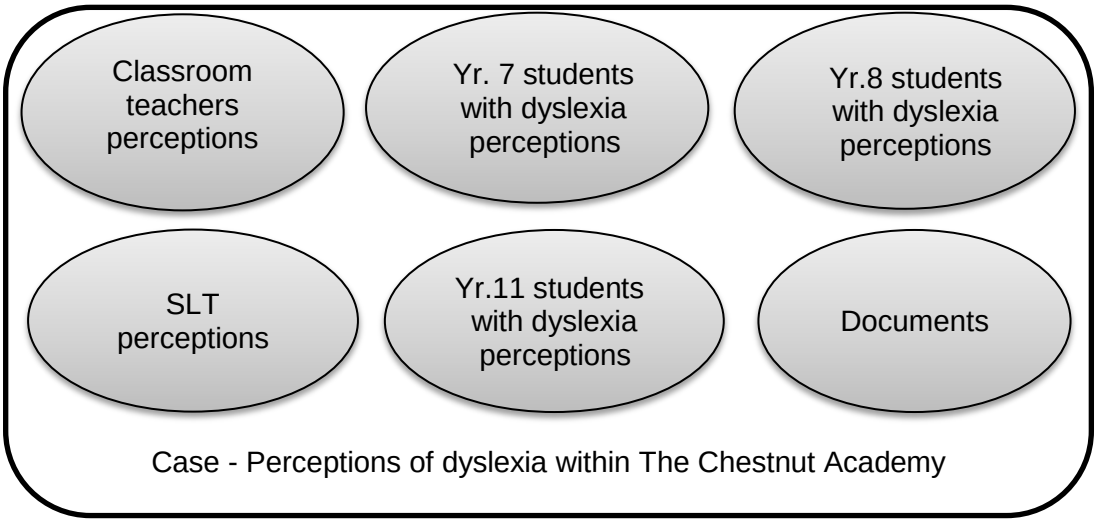


Figure 16 This study: a multiple nested case study

Teachers' existing perceptions may be influenced by what they perceive to be the normative views within the Academy, reflected within documents. Teacher perception affects pedagogy and interaction, which influences student perception.

Using Thomas' typology (2011a, p.153) the design thinking processes becomes clear. Using multiple sources of data, in which each subunit inter-connects (fits in) to form a whole, is crucial to describe the perceptions of dyslexia within the Academy and explore how these perceptions may be formed. Each data source discrete, but adding to the whole, identifying this study as multiple and nested (Figure 17).

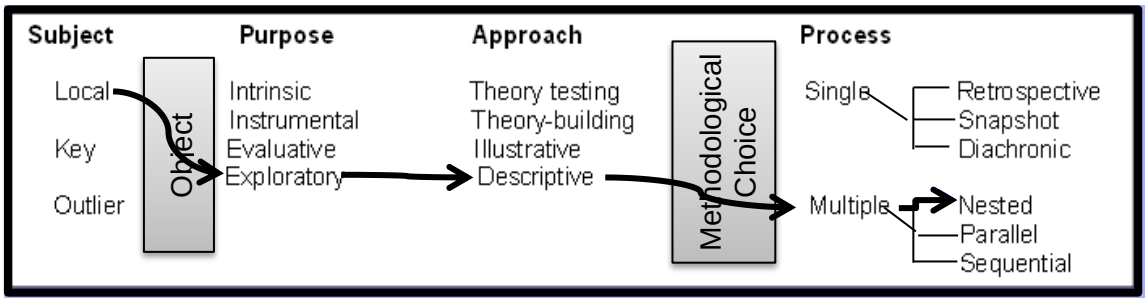


Figure 17 Typology of this study
Using Thomas' model (2011b)

Using Thomas' typology and descriptions of case study, this study, a multiple nested case study uses a pragmatic combination of qualitative data-collection methods with the aim of investigating a contemporary phenomenon (dyslexia), within its real-life context (The Chestnut Academy) by providing rich contextual information, to try to capture the complexity within its natural setting.

3.9 Procedures to validate findings

> 'Validity is an important key to effective research'
> Cohen, Manion and Morrison, 2011, p. 179

Simplistically validity is a demonstration that a particular instrument measures what it purports to measure, that it accurately represents the features of a phenomenon that it intends to describe or explain (Cohen, Manion & Morrison, 2011). Whilst reliability, a necessary pre-condition for validity is synonymous with dependability and consistency, is concerned with precision and accuracy. Creswell (2014) indicates that all studies should provide an explicit section explaining validating procedures.

In quantitative research the terms reliability and validity may have different connotations to qualitative research (Pring, 2006; Cohen, Manion & Morrison,

2011). Quantitative research reliability assumes replicability; the ability to produce the same results using the same methods with the same sample (Cohen, Manion & Morrison, 2011). But, repetition of interviews may not produce replicable data as the interviewing process and the participants' reflections upon that interview invariably alter both spontaneity and content. In qualitative research reliability is more about accuracy; using a consistent approach, rather than replicability and validity, determining whether the findings are accurate from the standpoint of the researcher, the participant(s) or the readers of the account (Creswell, 2014, p.201).

The stance of the research design is one of 'fitness for purpose', continuing this approach; validity and reliability may be better addressed in terms such as trustworthiness, authenticity and credibility (Thomas, 2009).

3.9.1 Trustworthiness, authenticity, and credibility

Mechanisms employed to ensure trustworthiness in this study are outlined in Figure 18.

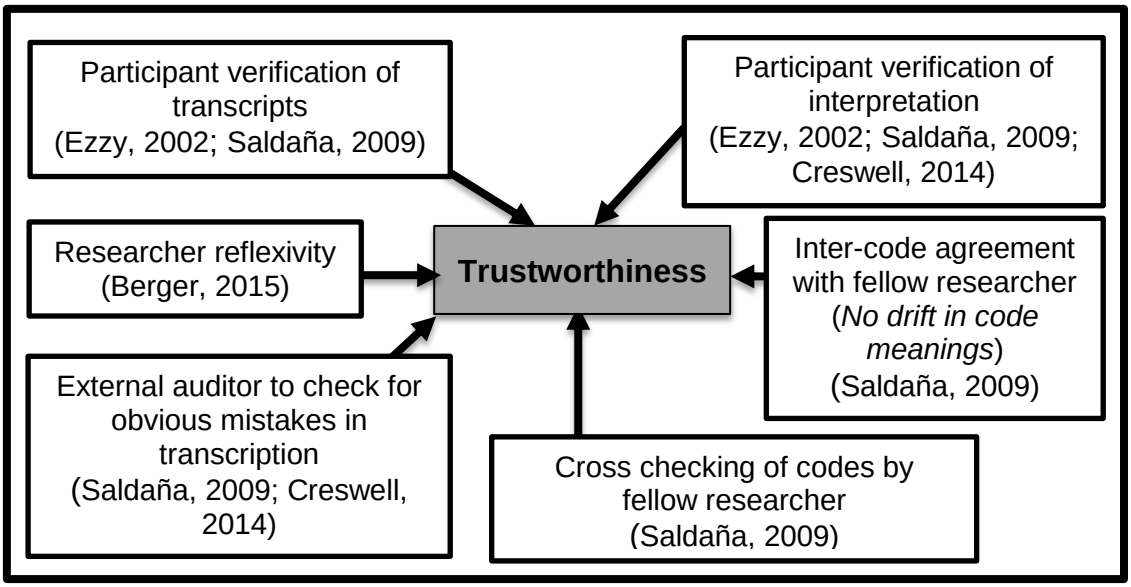


Figure 18 Methods to ensure trustworthiness

As previously mentioned within Sections 3.4 and 3.6, transcripts and interpretations were verified with participants; teacher participants verified interpretation themselves, whilst in group interviews participants agreed

summaries at the end of each question, to ensure accuracy and reduce distortion and possible bias (Ezzy, 2002; Saldaña, 2009). An external auditor checked random transcripts for accuracy. Fellow researchers agreed and checked coding (Saldaña, 2009; Creswell, 2014).

The study aims to be authentic and credible, to be 'in tune with the world as it really is; it is not the product of my (purely subjective) whim or wishes' (Pring, 2006, p.62). Researcher reflexivity, a mechanism to monitor tension between involvement and detachment of the researcher and the researched, was also employed to enhance accuracy and credibility of findings (Berger, 2015).

Richness of description, contextual information and prolonged engagement with the data increase authenticity (Figure 19). Whilst procedures have been taken to ensure the research is authentic, credible and trustworthy as with all studies limitations occur. A full discussion of limitations is offered in Section 5.5 (p.200).

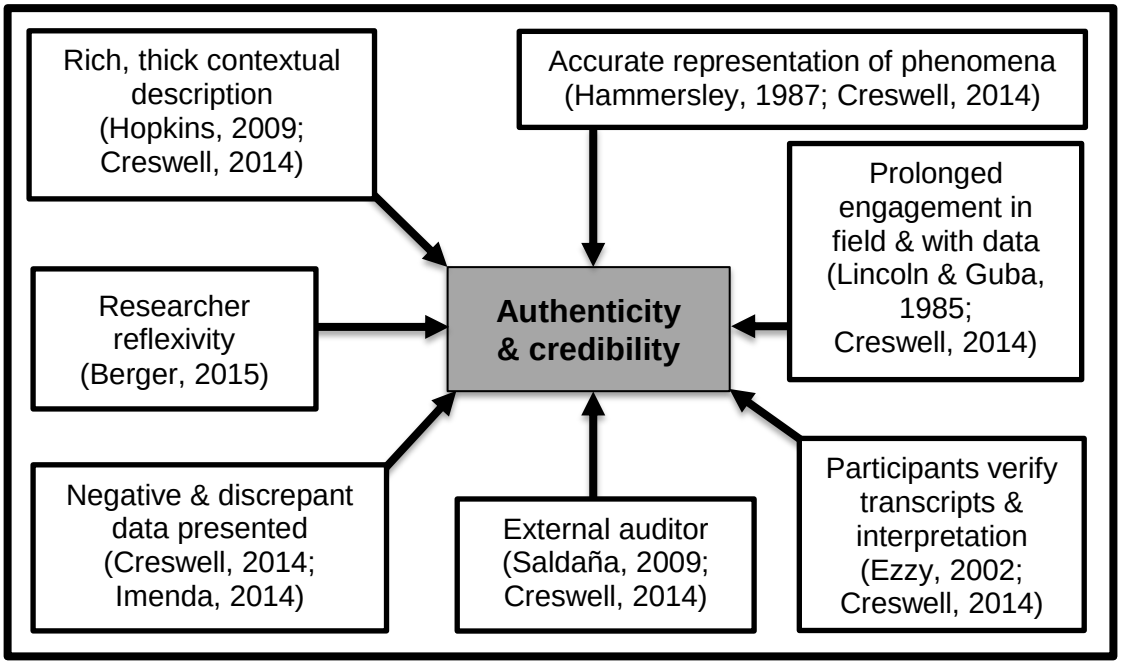


Figure 19 Measures to provide authenticity and credibility

Chapter 4

Analysis, findings and discussion

4.1 Introduction

This chapter presents and critically analyses the data to explore how dyslexia is perceived by students with dyslexia and their teachers. The findings are judiciously examined; tensions explored and plausible explanations investigated together with a consideration of how these fit within the Conceptual Framework and contribute to a Conceptual Model.

Data from five Chestnut Academy policy documents, seven semi-structured interviews with teachers and four stratified group interviews with students with diagnoses of dyslexia were analysed through two analytical frameworks; inductively, through conceptual content analysis and then deductively, applying the lens of the Conceptual Framework. Inductive and deductive analyses of each data source performed discreetly; inductive analysis completed before deductive analysis begun, to limit the potential for unconscious tainting of in vivo coding, reduce subjectivity and possible bias. Summative content analysis, a further deductive analytical method, was applied to policy documents to enable critical interpretation of selected aspects of the data and answer specific research questions (Fereday & Muir-Cochrane, 2006; Schreier, 2014).

Analysis suggests that a complex interaction of factors influence perceptions of dyslexia some mediating, others exacerbating, previously held convictions or attitudes. Teachers' perceptions of dyslexia constructed within a prevailing UK culture of mutual respect, tolerance, and understanding difference (Fundamental British Values, DfE, 2014c) but the governments demand for increasing student attainment, underpins policy. Language and content of school policy documents and policy dissemination during inset influence teachers' constructs of intelligence and constructs of disability, affecting pedagogy.

Dyslexia is typically characterised by poor literacy skills, constructs of intelligence influenced by socio-historic relationships between literacy and intelligence and relationships between literacy and potential academic outcome. Teachers' constructs of intelligence and constructs of disability affecting pedagogy, interaction and curricular opportunity, which in turn affects student perception, motivation and academic outcome.

Students with dyslexia perceptions similarly are a resultant of intricate interactions of factors including: constructs of intelligence, constructs of disability, teachers' pedagogy and school ethos. Characteristics of dyslexia, affect both constructs of intelligence and constructs of disability however, findings identify a diagnosis of dyslexia moderates students' socio-historic relationships between literacy and intelligence.

Perception plays an important role in learning. The argument of the initial Conceptual Framework identified perceptions of dyslexia to be a resultant of an intricate interaction between many factors. The revised Conceptual Model which is both more differentiated and integrated demonstrates a complex dialectic from which factors cannot be precisely extricated.

The chapter commences with the analysis of policy documents, before proceeding to semi-structured interviews and group interviews. To facilitate a coherent argument, each data source begins with an overview of the key findings before continuing with detailed inductive and deductive analyses, which are then triangulated and findings discussed and evaluated against the Conceptual Framework. Finally analyses of all data sources are integrated, and findings synthesised. Data are presented as tables and diagrams together with a succinct narrative to maximise descriptive content.

The chapter concludes with the synthesis of a Conceptual Model. Limitations of the model are examined together with original contribution it makes to literature, practice and policy.

4.2 Chestnut Academy documents

4.2.1 Overview

Documents analysed:

- SEND Policy (SP)
- SEND Information Report (SIR)
- Equality of Opportunity policy (EoOP)
- Continuing Professional Development Policy (CPDP)
- Inclusion Handbook (IH)

Policy and policy documentation are not formed in isolation; a consequence of government policy, reflecting present UK culture, with its concepts of a fair and inclusive society. Documents were purposely selected, the first three being statutory and containing statutory requirements (Statutory Schools Policies, DfE, 2014a) pertaining to the education of students with SEND. The non-statutory CPDP was also examined as content and methods of dissemination of policy have been identified as influencing teacher's responses and perception (Kennedy, 2005). The Inclusion Handbook which describes best practice in relation to students with SEND was also included to provide the context and language used to describe students with dyslexia in the Academy and identify normative views, which may influence teachers' perceptions of students with dyslexia. The Vision Statement which the Academy publically uses to encapsulate its ethos (Figure 5, p.21) was also examined; its content and nuanced language triangulated against documents, to seek possible tensions and potential multiple readings of text contained within documents.

Analysis of the Academy documents examined together with the Vision Statement identify the Academy advocates the concept of a fair and inclusive society, a social model of disability, matching Anastasiou and Kauffmann's (2013) assertions that UK policy is conceived within a social model of disability. Although all documents promote inclusivity and equal opportunity tensions exist, documents show discrepancies with the Vision Statement; the predominant discourse within documents is that of students with SEND having

deficiencies requiring remediation and intervention; a medical model of disability, whilst the Vision Statement contains only the social model.

Policy driven by the SDP focuses upon performance league tables, school improvement, school targets, and student attainment. Policy identifies and responds to deficits within provision and achievement of students with SEND rather than focussing upon barrier removal; a social model of disability (Shakespeare & Watson, 2002). Concentrating upon intervention and remediation policy engenders a medical model of disability.

Whilst on their own, documents do not have the capacity to form teachers' perceptions of students with dyslexia, the language and content of Academy policy documents confirms socio-historic relationships between literacy skills and intelligence, and relationships between the term SEND and intelligence. Policy stereo-types students with SEND influencing both constructs of intelligence and conceptual models of disability, affecting pedagogy.

4.2.2 Inductive analysis: Chestnut Academy documents

Conceptual content analyses for each document produced detailed and descriptive tables (Appendices 13 - 17) which to enhance and clarify presentation have been combined (Table 17). From this process eight themes emerged which are ordered to develop a natural story line (Saldaña, 2009, p.162):

- Inclusion
- Policy
- School improvement
- Attainment
- Staff development
- Classification
- Behavioural outcomes
- Intervention and remediation

Document / Theme	SEND Policy	SEND Information Report	Equality of Opportunity Policy	CPD Policy	Inclusion handbook
	Statutory Documents				
	Axial codes and frequency	Axial codes and frequency	Axial codes and frequency	Axial codes and frequency	Axial codes and frequency
Inclusion	Community membership 8 Ethos 9	Community membership 7 Ethos 5 Barriers 1	Community membership 26 Reducing discriminatory behaviour 13		Community Membership 2
Policy	Law 2	Law 1	Law 15 Statutory requirements 2		
School improvement				Purpose 6 Rationale 3 Processes 10	
Attainment	Monitoring 6		Assessment for learning 10		Assessment for learning 2
Staff development	Deficit 3 Community of practice 2 Individual deficit 1	Deficit 1 Community of practice 4 Monitoring 3	Deficit 1	Deficit 4 Community of practice 7 Personal development 5	
Classification	Label 10 Deficit 8 Literacy deficits 3 Cognitive deficits 1	Label 8 Deficit 5 Skills 1	Label 1 Deficit 2		Label 7 Deficiencies 12
Behavioural outcomes	Affective nature SEND 13	Affective nature SEND 5			
Intervention and remediation	General strategies 17 Literacy strategies 2 Behavioural strategies 4 Promoting self-esteem 3 Monitoring 9	General strategies 27 Literacy strategies 7 Behavioural strategies 7 Promoting self-esteem 3 Monitoring 10 Provision 13	General strategies 10 Promoting self-esteem 10		General strategies 12 Literacy strategies 10 KS4 strategies 3 Visual strategies 4 Promotion self-esteem 5 Maintenance self-esteem 2

Table 17 Inductive analysis of documents: frequency of axial codes

Conforming to the Vision Statement (Figure 5, p.21) inductive analysis identifies the Academy's aim is to generate an enabling inclusive environment:

> 'Our vision for the School is to raise aspirations and transform lives in a successful learning community' Vision Statement, line 1

All statutory documents commence with statements of inclusion, fitting a social model of disability (Pfeiffer, 2002). School policy is formulated to comply with Government legislation, with Laws, Acts and Duties cited in policy documents to demonstrate their authority and validity. Policy is driven by the School Development Plan (SDP) which focusses upon school improvement, performance league tables and student attainment. Aimed at raising student attainment, intervention and remediation form a substantive component of all SEND documents. The Continuing Professional Development Policy (CPDP) identifies CPD as fundamental to raising attainment being predominantly deficit driven and addressed through a transmission model of dissemination.

Dyslexia is classified within the SEND category of 'Cognition and Learning Needs' (IH, p.5; SIR, line 4; SP, line 4), cognitive difficulties implying lower intelligence; Students with SEND are identified as having higher levels of impulsivity requiring support, intervention and counselling suggesting a lack of autonomy.

Although formulated within the social model tensions exist. Students with dyslexia are identified within the medical section of the Inclusion Handbook. SEND provision is identified as the 'extra and additional support for pupils who are under-achieving' (EoOP, line 254). Intervention and remediation focusses upon individuals' deficits, suggesting deficiencies in students with SEND, establishing concepts of norm, which may encourage teachers to perceive dyslexia through a medical model of disability.

Detailed analysis of the eight themes of inclusion, policy, school improvement, attainment, staff development, classification, behavioural outcomes and intervention and remediation follow.

4.2.2.1 Inclusion and Policy

School policy is formulated to comply with 'current legislative requirements' (SP, line 2). Documents identify the Academy vision, its ethos, to generate an enabling inclusive environment, 'to ensure social fairness and equal opportunities' (Anastasiou & Kauffmann, 2013, p.444), a social model of disability. However, critical analysis suggests inconsistencies in terminology

and content result in contradictory messages which engender a medical model of disability supporting Palmer and Harleys (2012) contention that concepts of disability lie along a continuum.

The SEND Policy exemplifies the Academy Vision Statement of generating an enabling inclusive environment by commencing with: '[t]his policy explains how [*The Chestnut Academy*] makes provision for students with SEND, in line with our school ethos' (line 1), to produce an 'inclusive learning environment' (line 2). Analysis indicates the onus for academic achievement is placed upon the school and teaching staff to produce an enabling inclusive environment, corresponding to a social model of disability (Palmer & Harley, 2012). For example the Equality of Opportunities Policy identifies 'equal opportunities should permeate all aspects of school life' (line 15), to provide 'an environment in which all pupils have equal access to all facilities and resources' (line 61) having a curriculum designed to 'promote attitudes and values that will challenge racist and other discriminatory behaviour or prejudice' (line 82).

Although all documents promote inclusivity and equal opportunity and contain inclusive statements for example: 'every member of the school community should be valued and cherished' (SP, line 15) tensions exist, the necessity to 'increase [SEND] students' inclusion' (IH, p.4) and active inclusion of students with SEND, 'surveys and other student voice activities always include a SEND focus' (SIR, line 48) suggests the aim of documents is to increase access, rather than barrier removal which Shakespeare and Watson (2002) identify as indicative of a social model of disability. Barrier removal appears only once: 'our inclusive learning environment enables young people to overcome barriers associated with all four primary areas of need' (SIR, line 3). Moreover, the phrase 'areas of need' following 'barriers' carries mixed messages suggesting a 'locus of disability within the individual' (Swanson et al., 2006, p.27) effectively turning a social model of disability into a medical model.

All policy documents examined contain inconsistencies in terminology resulting in tensions, students with SEND are variously referred to as: student, pupil, or learner, and the use of people first language is inconsistently applied (Figure 20). Documents use the term student and pupil interchangeably; however,

students with SEND are also referred to as 'learner': 'learners with SEND' (SIR, line 81); 'SEND learners' (SIR, line 9; SP, line 137). The term student suggesting autonomy, an individual interested in studying, whilst learner, an individual requiring greater teacher input and direction.

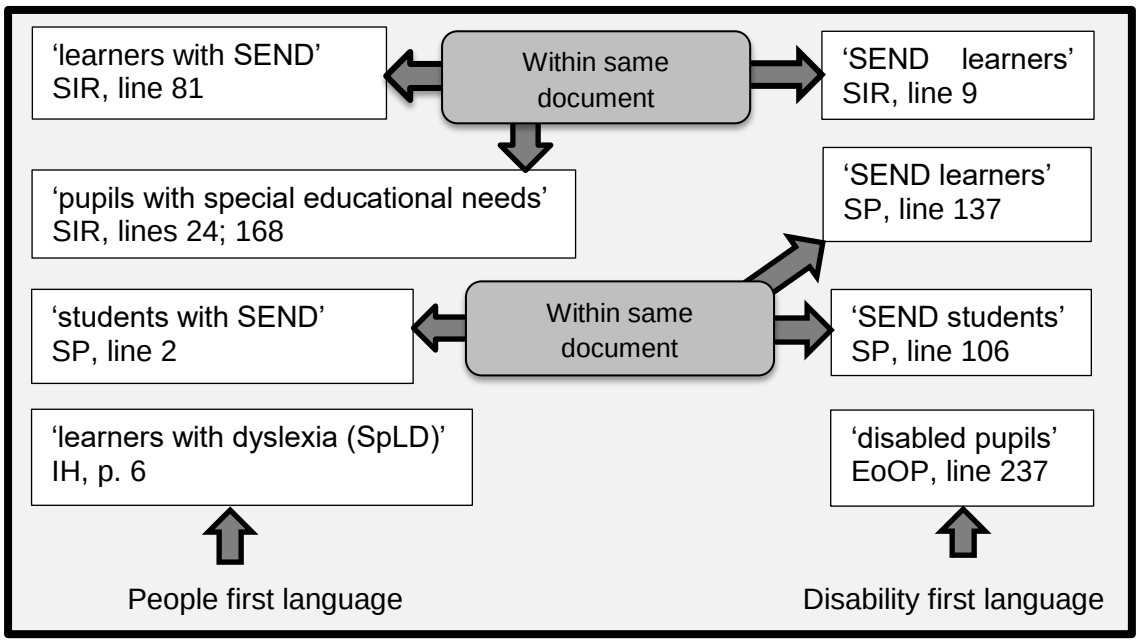


Figure 20 Inconsistent terminology

Whilst the aim of documents is for inclusivity, inconsistencies in language and terminology open the text to multiple readings. For example the sentence 'the school routinely gathers the views of students' (SP, line l87) identifies student involvement as valued and respected, consistent with the school ethos and social model of disability. However the sentence continues: 'with SEND learners represented', the change from 'student' to 'learner'; SEND preceding learner, and a pre-requisite of representation allude to difference which effectively negates inclusivity. The use of the term learner, rather than student, alludes to a lack of autonomy.

4.2.2.2 School improvement, student attainment and staff development

The themes of school improvement, student attainment and staff development are intertwined. The Academy identifies its purpose as raising student achievement. Resources are prioritised, CPD planned, monitored and evaluated to assess its contribution to school improvement (Figure 21). The rationale being the realisation of targets identified within the SDP: 'in line with

the school targets and School Development Plan' (CPDP, line 26) which are directed by performance league tables.

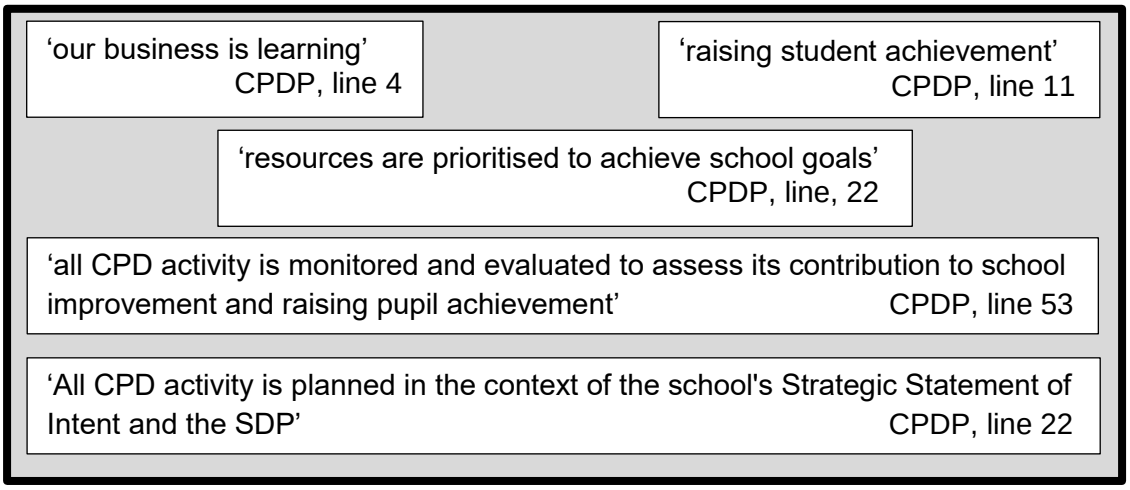


Figure 21 CPD rationale

Documents assert that 'the school's robust quality assurance processes enable provision for SEND learners to be monitored and evaluated annually' (SP, line 40; SIR, line 102) through 'a combination of lesson observation, work scrutiny, surveys and other student voice activities' (SIR, line 46) and provision modified:

> 'The SENCO tracks progress of SEND learners, in particular their response to intervention, through a provision mapping exercise. This is closely monitored with adjustments made to provision when necessary' SP, line 93

However, the SEND Information Report identifies that this is 'another level of tracking over and above the whole school data collection' (line 69); distinct tracking mechanisms for students with SEND, further alluding to difference.

> 'The quality of an education system cannot exceed the quality of its teachers is an obvious truth' Rose Report, 2009, p.15

The Academy acknowledges staff as a mechanism to achieve its targets and goals: 'staff are valued and recognised as the school's most important asset' (CPDP, line 8). Staff development is identified as paramount: 'our business is learning - for both staff and students' (CPDP, line 4). '[P]erformance management focuses staff on identifying SEND training needs' (SIR, line 204). As part of the yearly performance management cycle staff are required to identify one personal SEND target; 'own SEND training needs identified' (SP,

line 151; SIR, line 50), implying individual need or deficit, rather than a pro-active engagement to gain new skills.

A deficit model of CPD, with whole school transmissive inset (in service training) is identified by statements such as:

> ‘Monitoring the performance of students with SEND and evaluation of interventions strategies are used to inform CPD needs’
>
> CPDP, line 54

This model rather than a pro-active model may affect teachers’ responses to the material presented (Kennedy, 2005).

Community of practice to produce a ‘predictable environment’ (SP, line 66) is recognised; ‘strategies shared’ (SIR, line 126; SP, line 90). However, this cascade mechanism is still a transmissive model of CPD (Kennedy, 2005; Table 6, p.62). Whilst the necessity of a predictable environment may suggest all students with SEND are unable to cope with variations in routine or challenge.

4.2.2.3 Classification

Dyslexia is categorised within the SEND category of ‘Cognition and Learning Needs’ as one of the ‘four primary areas of need’ (IH, p.5; SIR, line 4; SP, line 4), suggesting cognition deficits and inferring lower intelligence. Students with a diagnosis of dyslexia are identified twice within the Inclusion Handbook; firstly within the SEND section as SpLD and then within the medical section with dyslexia.

Figure 22 shows the entries for the first two students in the SEND Register (*names removed*), with their corresponding diagnosis of dyslexia from the Medical Register. Separate medical classification may lead teachers to view dyslexia through a medical model of disability; deficits intrinsic to the individual. Whilst the label SEND may result in the perception that students with dyslexia possess lower academic ability (Booth & Ainscow, 2005; Ade-Ojo, 2012) and

although labels do not necessarily lead to stigma, they may 'encapsulate or distil stigmatisation that already exists' (Riddick, 2002b, p.305).

SEND Register

Student	Need	Additional notes- Confidential
1	SpLD	Wears coloured glasses
2	SpLD	Difficulty processing and recording information (4 words/minute)

Medical Register

Student	Medical Condition	Information
1	Dyslexia	LSS assessed. Wears coloured glasses
2	Dyslexia	Has had daily intervention. Extremely slow when processing information. Writing speed 4 words per minute and writing hard to understand. Toe by Toe programme in primary school

Figure 22 Extracts: Inclusion Handbook

Documents identify that 'most learners transfer to us with needs already identified' (SP, line 22; SIR, line 25). The term 'needs' suggesting deficiencies, accentuating the notion of lower intelligence possibly leading teachers to perceive students with dyslexia to be less academically able.

4.2.2.4 Behavioural outcomes of SEND

Students with dyslexia may present with a range of social and behavioural problems (Burden, 2008; Glazzard, 2010; Barden, 2011). Barden (2011, p.3) identifies these as the 'affective consequences of dyslexia' or behavioural outcomes, of SEND*:*

> 'SEND learners who make mistakes, perhaps because of high levels of impulsivity, are supported in learning from these mistakes and in repairing any harm caused by them' SIR, line 186

The combination of 'SEND learners' with 'higher levels of impulsivity' infers a lack of autonomy.

The theme behavioural outcomes includes name calling, bullying, and restorative strategies aimed at reducing these behaviours:

> ‘If SEND learners are victims of discrimination or bullying, the school’s restorative approach ensures that perpetrators learn about the impact of their actions’ SP, line 132

The use of the terms ‘victim’ and ‘perpetrator’ suggesting discrimination to be more likely for students with SEND, particularly when combined with the expression ‘SEND learners’ which alludes to a lack of autonomy which might pre-dispose them to bullying.

4.2.2.5 Intervention and remediation

Intervention and remediation form a substantive component of the Inclusion Handbook, SEND Policy and SEND Information Report which may encourage teachers to perceive dyslexia through a medical model of disability, focussing upon individuals’ deficits, rather than barrier removal. SEND provision is identified as the ‘extra and additional support for pupils who are under-achieving’ (EoOP, line 254) this sentence with its concepts of norm suggesting intrinsic deficits.

Literacy has been identified as central in concepts of intelligence (Gardner & Hatch, 1989; Pumfrey & Reason, 1991; Mackay, 2006). Many students enter the academy with low levels of literacy (Ofsted, 2012) and on entry the Academy bands students according to literacy skills:

> ‘Those students with reading ages well below 9 when they transfer into Y7 are taught in a smaller class [*name*] supported by two TAs’ SIR, line 92

Banding according to literacy skills in KS3 may result in the perception that students with dyslexia within these smaller classes possess lower intelligence.

> ‘The entire cohort is screened for spelling and reading age... If there is a significant gap between either of these and chronological age, literacy interventions are delivered’ SP, line 25

Routine testing of reading and spelling age occurs yearly in KS3 and literacy interventions are used ‘to consolidate reading and writing skills’ (SP, line 70)

‘sufficiently for learners to be able to access their GCSE courses independently’ (SP, line 31; SIR, line 38) affirming links between literacy and attainment (examination results) leading teachers to perceive students with weaker literacy skills as possessing lower ability (Booth & Ainscow, 2005).

Documents suggest students with SEND may exhibit behavioural problems, disaffection and low self-esteem requiring support, counselling and staff training to ‘improv[e] the emotional, mental and social development of pupils with special educational needs’ (SIR, line 168) leading teachers to perceive students with SEND to be more likely to lack emotional intelligence and social skills:

> ‘SEND learners are supported in developing emotional intelligence and ultimately in becoming self-regulating young people with skills essential for success in life beyond school’ SIR, line 190

4.2.3 Deductive content analysis: Chestnut Academy documents

Overlaying the five themes of the Conceptual Framework onto the documents produced detailed and descriptive tables (Appendices 18 - 22) which have been condensed to show themes and axial codes (Table 18).

Axial codes within the theme ‘Constructs of disability’ have been sub-divided into medical and social models. The axial code ‘label’ assigned into the medical model, as the social model supports an anti-labelling approach to disability, labels having the potential to perpetuate misconception, reinforce stereotypes and ‘encourage parents to understand their children’s educational difficulties as a medical rather than a social problem’ (Macdonald, 2009, p. 273). Similarly the axial code ‘deficit’ which re-enforces concepts of norm has been assigned to the medical model.

Analysis suggests that whilst documents are written within a social model of disability, tensions between school league tables, the pressure of measurable increases in academic achievement, have resulted in a focus upon intervention and remediation which re-enforces norm-related values, promoting a medical

model of disability; deficits intrinsic to the individual. The emphasis upon literacy interventions to enable 'learners to be able to access their GCSE courses independently' (SP, line 31; SIR, line 38) re-affirms socio-historic links between literacy and intelligence.

Document / Theme		SEND Policy	SEND Information Report	Equality of Opportunity Policy	CPD Policy	Inclusion Handbook
		Statutory Documents				
Constructs of disability	*Medical model*	Label 10 Deficits 1 Intervention 25 Affective nature 13	Label 8 Deficits 10 Intervention 51	Label 3 Deficits 2 Intervention 8		Label 7 Intervention 19 Symptom 9
	Social model	Inclusion 8 Community membership 8	Inclusion 6 Community membership 7	Inclusion 26 Reducing discrimination 12 Promoting equality 11	Inclusion 2	Inclusion 7
Constructs of intelligence		Literacy deficiencies 5 Deficits 1	Literacy deficiencies 9 Deficits 1 Assets 1			Literacy deficiencies 12
CPD		Transmission 6	Transmission 5	Transmission 1	Transmission 4 Transitional 5 Transformative 2	
Perception of language		Deficiencies 6		Deficiencies 3	Deficiencies 5	Deficiencies 3
Policy		Monitoring 14 Law 2	Raising attainment 8 Monitoring 3 Law 1	Raising attainment 3 Monitoring 6 Law 15 Deficiencies 2	Raising attainment 3 Monitoring 10 Rationale 4	Raising attainment 2

Table 18 Axial codes and frequencies

School improvement; raising student attainment, underpins staff development, however CPD is transmission based and deficit driven which may result in negotiated and oppositional reactions to inset (Kennedy, 2005) and negative

perceptions of students with SEND. Tensions exist between the terminology and language used within documents and the terminology and language of the Vision Statement (Figure 5, p.20). Whilst the Vision Statement adheres to the nuanced terminology and language of the social model, documents use terminology and language inconsistently. People first language is irregularly applied, even within single documents, for example; the SEND Policy refers to 'students with SEND' (line 2) and 'SEND students' (line 106). Whilst the term student and pupil are used interchangeably within all documents, students with SEND are also referred to as learner: 'SEND learners' (SP, line 137), which may suggest these students require greater direction and subsequently lack autonomy. Deficit-laden language in documents which is exemplified by the phrase 'needs of learners' (SP, line 231; SIR, line 282) and inconsistences in terminology may suggest deficits within students with SEND.

All five themes of the Conceptual Framework were identified within the Academy documents, the detailed analysis follows.

4.2.3.1 Constructs of disability

Documents place the onus for academic achievement upon the school and teaching staff to produce an enabling inclusive environment; a social model of disability (Palmer & Harley, 2012) and whilst documents are written within a social model of disability and comply with legislation, aspects of the medical model occur more frequently. The Equality of Opportunity Policy contains evidence of both models. The sentence 'extra and additional support for pupils who are under-achieving' (EoOP, line 254) whilst enabling; a social model of disability, identifies intervention, a medical model. The SEND Policy, SEND Information Report and Inclusion Handbook focus upon intervention and remediation, a medical model of disability, re-enforcing norm related values, where deficits may be viewed as intrinsic to the individual.

The distribution of disability model suggests it to be a resultant of document purpose. Axial codes for medical construct predominate within the SEND Policy, SEND Information Report and Inclusion Handbook whose function relates to students with SEND, whilst in the Equality of Opportunity Policy, a

social model predominates and only the social model occurs within the Continuing Professional Development Policy, whose purpose relates to staff training.

4.2.3.2 Constructs of intelligence

As previously noted most definitions of intelligence focus on the capacities important for success in school (Gardner & Hatch, 1989). GCSE examinations require a certain level of literacy skills to enable the student to access higher level grades which may lead to students with weaker literacy skills being perceived as having lower ability; teachers making 'inappropriate attributions of low intelligence to poor readers' (Elliott & Grigorenko, 2014, p.176).

Whilst literature suggests individuals with dyslexia may be more creative and intelligent (West, 1997; Bradford, 2002; Drewe, 2003; Brooks, 2004; BDA, 2010), positive statements regarding ability, gifts or assets possessed by students with SEND are limited within school documents, confined to: 'The talents of disabled pupils are recognised and represented' (SIR, line 237).

4.2.3.3 Continuing Professional Development

School improvement; raising student attainment, underpins staff development (Figure 23).

'All CPD activity is planned in the context of the school's Strategic Statement of Intent and the SDP' CPDP, line 22

'All CPD will: contribute to improving and developing the overall effectiveness of the school, raising student achievement' CPDP, line 10

'All CPD activity is monitored and evaluated to assess its contribution to school improvement and raising pupil achievement. Evaluation is used to steer the development of staff towards the achievement of the school's development plan' CPDP, line 53

'Specialists deliver staff inset when particular training needs are identified' SP, line 158; SIR, line 213

Figure 23 School improvement and CPD

The identification of training needs suggesting SEND CPD is deficit driven; reactive rather than pro-active.

> ‘The SENCo begins every academic year by taking all staff through the Inclusion Handbook – this describes best practice in relation to each of the four main areas of need’ SP, line 153; SIR, line 208

Examples of all models of CPD can be found within the CPD Policy. However, the transmission model appears most frequently within documents and whilst the theme CPD does not occur within the Inclusion Handbook, it is by its very nature transmissive. Transmission based and deficit driven CPD is more likely to result in negotiated and oppositional reactions (Kennedy, 2005) and may evoke negative perceptions of students with SEND.

4.2.3.4 Perception of language

The Equality of Opportunity Policy Document acknowledges the power language plays in perception, instructing staff to use ‘correct terminology’ (line 116) and ‘appropriate language which does not transmit or confirm stereotypes’ (line 101). However, inconsistences in terminology exist within all policy documents examined. Students with SEND are variously referred to as student, pupil or learner. People first language is inconsistently applied (Figure 20, p.117) opening text to multiple readings.

The inconsistency and particularly the use of the term ‘learner’ applied only to students with SEND accentuates a notion of lower intelligence and infers a lack of autonomy. Documents have a propensity toward deficit laden language using terms such as ‘need’ and ‘learner’: ‘needs of learners’ (SP, line 231; SIR, line 282); ‘vulnerable learners’ (SP, line 66; SIR, line 314) suggesting students with SEND require greater teacher input and direction; inferring a lack of autonomy.

4.2.3.5 Policy

The Academy affirms ownership of all the documents examined:

> ‘This policy statement outlines the commitment of the staff and Governors’ EoOP, line 5

Documents are written using government guidelines, within prescribed frameworks, by working parties comprising members of SLT and governors, and ratified and annually reviewed by the Governing Body. Policy is formulated to meet 'current legislative requirements' (SP, line 2), and to comply with the 'statutory duties that must be met by every school in line with legislation' (SP, line 134). Policies quote legislation: Laws, Acts and Duties, to impart authority. For example the EoOP, (line 140) identifies its remit under the 'Disability Equality Duty (2005) and Equality Act (2006)'. Informed by the SDP, policy aims to raise student attainment with monitoring and evaluation measuring policy effectiveness.

4.2.4 Summative content analysis

Inductive analysis and deductive analyses show variation in the frequencies of axial codes and themes suggesting distribution to be a function of document purpose. To examine whether distribution of codes and themes is an artefact of analysis, or a resultant of document purpose, and to enable critical interpretation of selected aspects of the research questions (Fereday & Muir-Cochrane, 2006; Schreier, 2014) summative analysis was applied.

Analysis of the themes within the inductive analysis (Table 19; Figure 24) confirms distribution of axial codes and themes to be a function of document purpose. The themes of intervention and remediation occurring most frequently in documents related specifically to the education of students with SEND (SP; SIR; IH). The theme of inclusion occurs in all documents relating to students with SEND (SP; SIR; IH; EoOP). This theme together with the theme policy occurs most frequently within the EoOP, demonstrating Academy adherence to disability legislation. The CPDP contains the theme staff development more commonly and the theme school improvement has only been assigned to this document.

Document / Theme	SEND Policy (SP)	SEND Information Report (SIR)	Equality of Opportunity Policy (EoOP)	CPD Policy (CPDP)	Inclusion Handbook (IH)
	Statutory Documents				
Inclusion	17	13	39	0	2
Policy	2	1	17	0	0
School improvement	0	0	0	19	0
Attainment	6	0	10	0	2
Staff development	6	8	1	16	0
Classification	22	15	3	0	19
Behavioural outcomes	13	5	0	0	0
Intervention & remediation	35	68	20	0	35

Table 19 Summative analysis: themes within inductive analysis

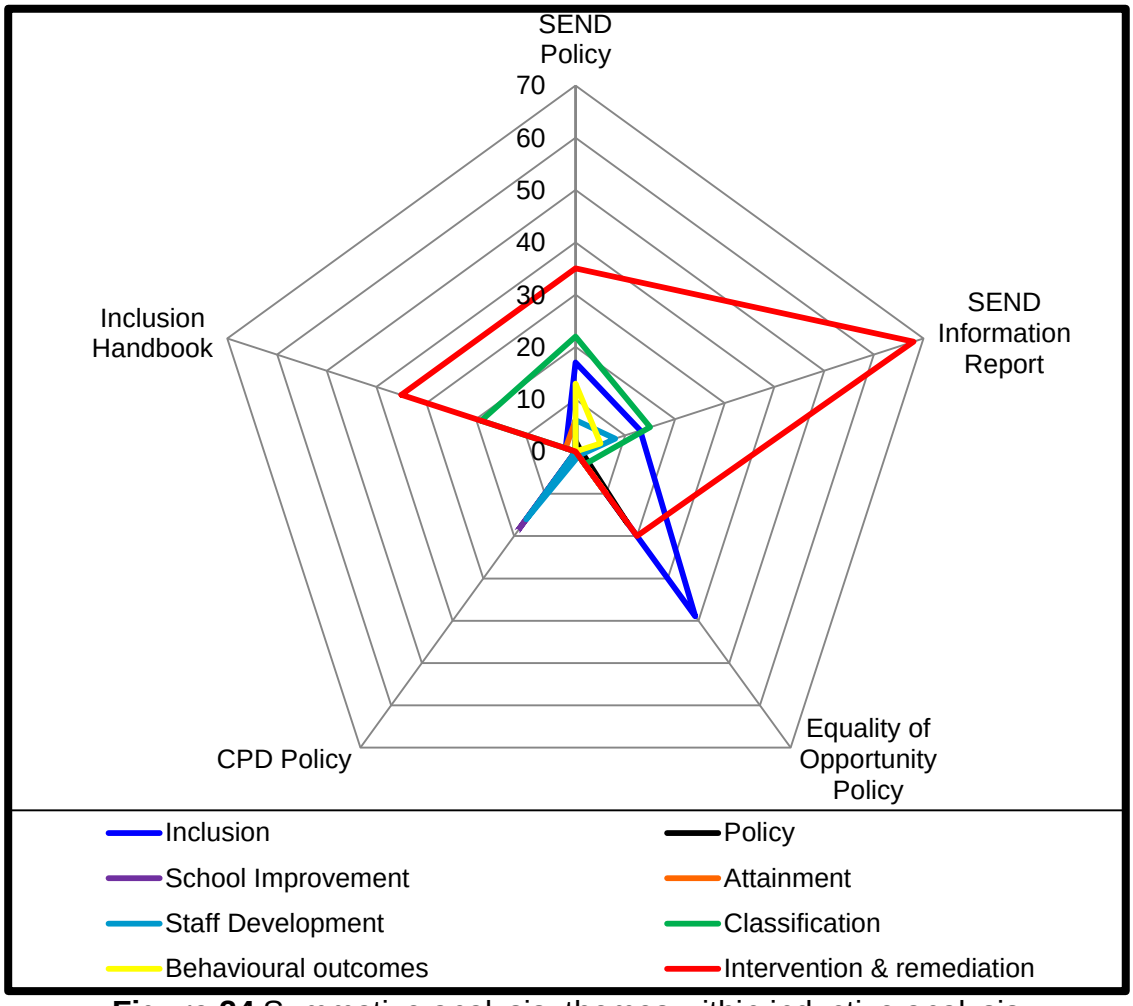


Figure 24 Summative analysis: themes within inductive analysis

Document / Theme	SEND Policy (SP)	SEND Information Report (SIR)	Equality of Opportunity Policy (EoOP)	CPD Policy (CPDP)	Inclusion Handbook (IH)
	Statutory Documents				
Construct of disability	**65**	**82**	**62**	**2**	**42**
Construct of intelligence	**6**	**11**	**0**	**0**	**12**
CPD	**6**	**5**	**1**	**11**	**0**
Perception of language	**6**	**0**	**3**	**5**	**3**
Policy	**16**	**12**	**26**	**17**	**2**

Table 20 Summative analysis: themes within deductive analysis

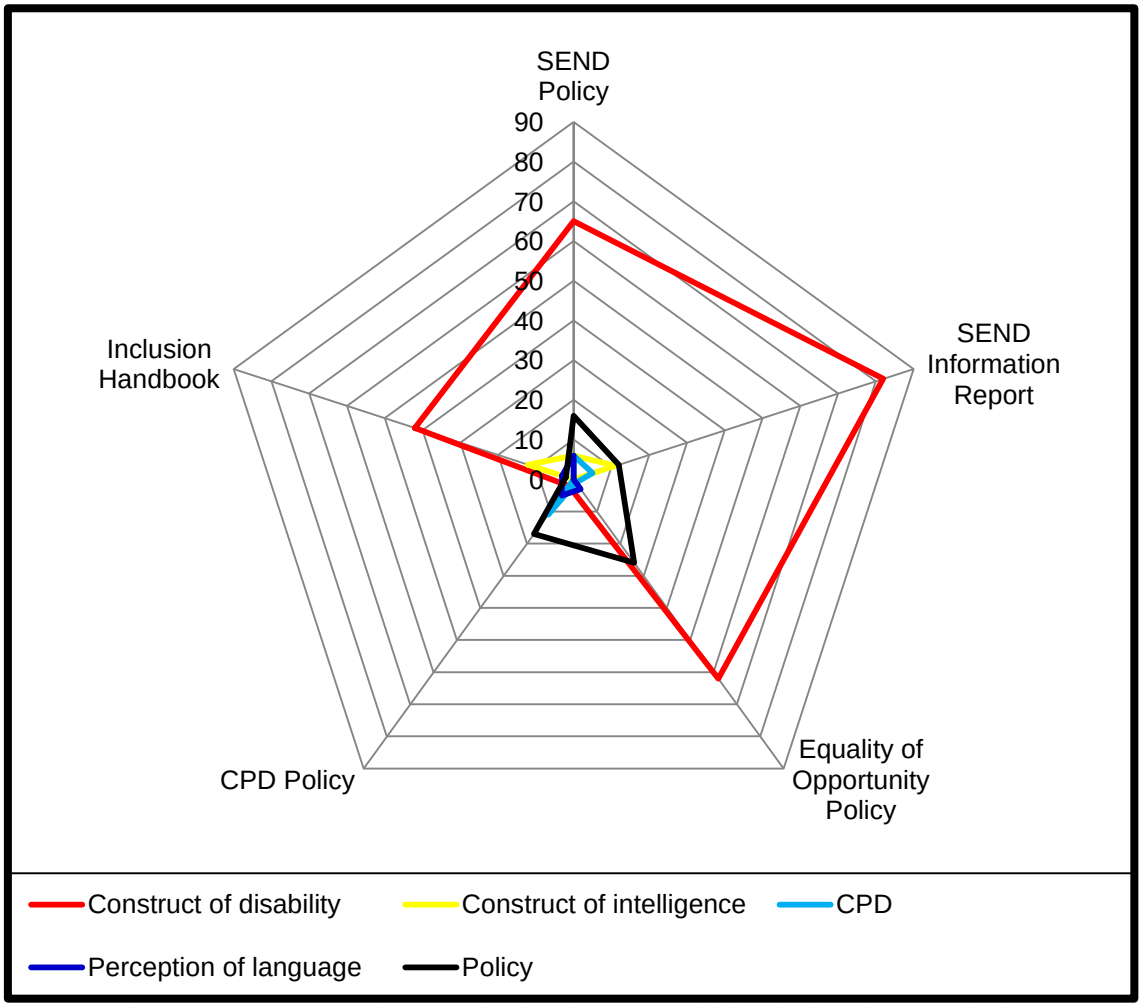
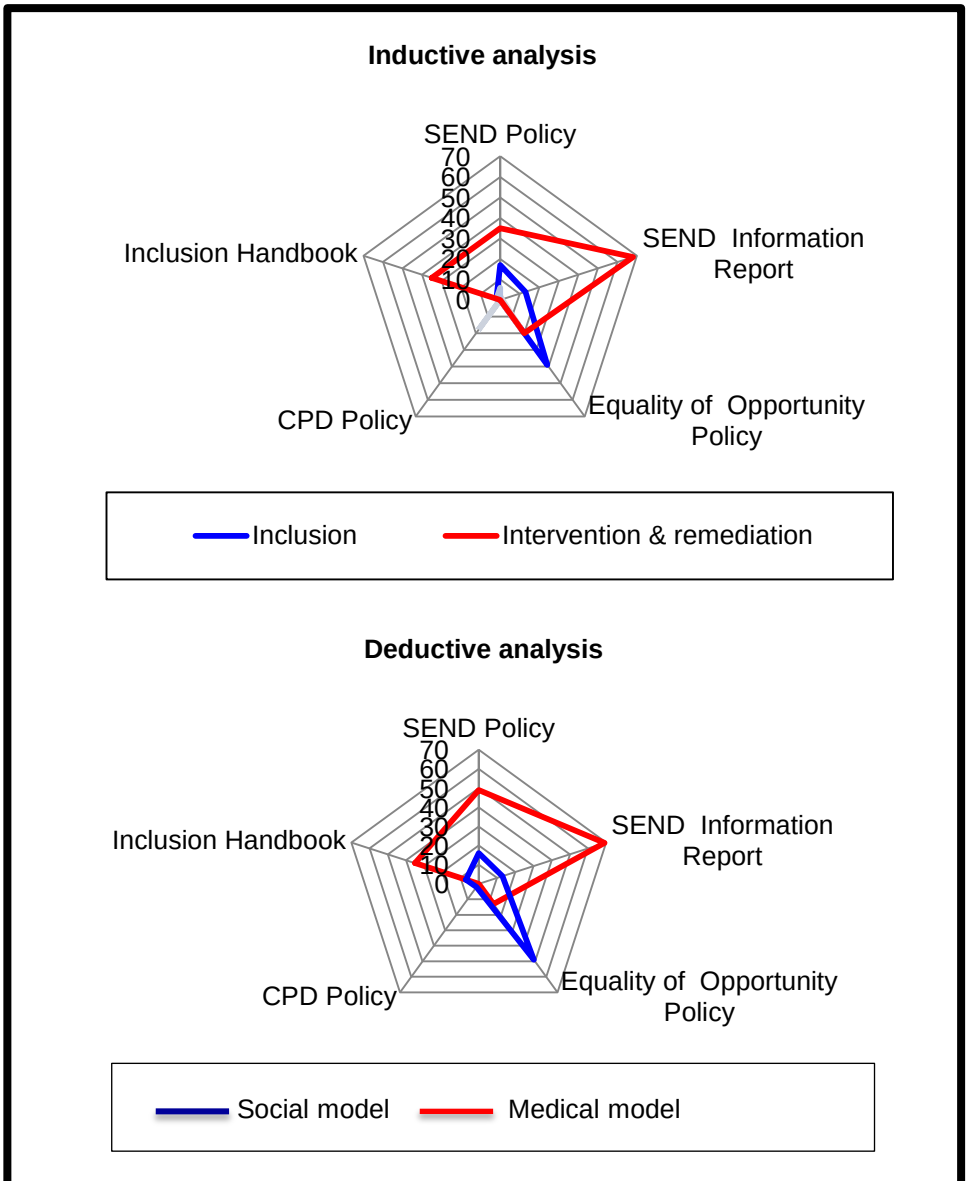


Figure 25 Summative analysis: themes within deductive analysis

Analysis of the themes within the deductive analysis (Table 20; Figure 25) similarly confirms distribution of themes to be a function of document purpose. Within the deductive analysis, constructs of disability and constructs of intelligence appear most frequently within documents related specifically to

students with SEND (SP, SIR, IH).Figures 24 and 25 suggest particular themes within the inductive and deductive analyses may be comparable. Figure 26 compares inclusion and intervention (IA) to social and medical models of disability (DA).



Analysis	Document / Theme	SP	SIR	EoOP	CPDP	IH
Inductive analysis	Inclusion	17	13	39	0	2
	Intervention & remediation	35	68	20	0	35
Deductive analysis	Social model	16	13	49	2	7
	Medical model	49	69	13	0	35

Figure 26 Comparison of specific themes

Figure 26 shows the distribution patterns of the theme inclusion (IA) and the sub-theme social model (DA) to be similar. Likewise the distribution patterns of the theme intervention and remediation (IA) show correspondence in their distribution pattern with the sub-theme medical model (DA). Summative analysis indicates the frequency of axial codes and themes to be a function of document purpose, documents specific to their rationale, it also confirms that documents contain mixed models of disability, whilst primarily conceived within a social model of disability elements of the medical model are present. The high frequency of content focussed upon identification and classification of deficits (students and establishment) and intervention and remediation within documents may encourage teachers to perceive dyslexia through a medical model of disability, focussing upon the individual as the problem, rather than barrier removal, a discourse which may account for Ade-Ojo's observations.

4.2.5 Triangulating document analyses

4.2.5.1 Inductive and deductive analyses

Summative analysis identified areas of comparability between inductive and deductive analyses. Triangulating the axial codes of the eight themes of the inductive analysis with the axial codes of five themes of the deductive analysis (Table 21) further identified areas of correspondence and disparity.

Although boundaries between themes in both analyses are not discrete axial codes show overlap. Classification (ID) fits within both the deductive analytical codes of medical model, and constructs of intelligence. The medical model section within of constructs of disability (DA) corresponding to intervention and remediation, behaviour outcomes, and classification (IA). Policy (DA) subsuming the inductive themes of policy, attainment and school improvement.

<table>
<tr><th colspan="2">Themes</th></tr>
<tr><th>Inductive Analysis (IA)</th><th>Deductive Analysis (DA)</th></tr>
<tr><td>Inclusion

Community
Ethos
Barriers
Reducing discriminatory behaviour</td><td rowspan="4">Social model
Community
Ethos
Equal opportunities
Barriers
Reducing discrimination

Constructs of disability
Medical model
Label
Deficiencies
Intervention
Symptoms
Affective nature</td></tr>
<tr><td>Intervention & remediation
Provision
Monitoring
Strategies
Promoting self-esteem</td></tr>
<tr><td>Behavioural outcomes
Affective nature SEND</td></tr>
<tr><td>Classification
Label
Deficiencies</td></tr>
<tr><td>Cognitive & literacy deficiencies
Skills</td><td>Constructs of intelligence
Literary deficiencies
Deficits</td></tr>
<tr><td></td><td>Perception of language
Deficit language
Inconsistent terminology</td></tr>
<tr><td>Staff development
Deficit
Community of practice
Personal development
Monitoring</td><td>Continuing professional development (CPD)
Transmission
Transitional
Transformative
Deficit</td></tr>
<tr><td>School improvement
Rationale
Purpose
Processes</td><td rowspan="3">Policy

Deficiencies
Raising attainment
Monitoring
Law</td></tr>
<tr><td>Attainment
Monitoring
AfL</td></tr>
<tr><td>Policy
Law
Statutory requirements</td></tr>
</table>

Table 21 Triangulation: document axial codes and themes

Disparity is demonstrated by the deductive analysis (DA) theme ‘Perception of language’ having no corresponding inductive analysis theme partner, as in vivo codes and axial codes of the inductive analysis (IA) incorporate deficit laden language, for example: the theme classification includes the axial code ‘deficit’ with axial codes: ’difficulties’; ‘need’; ‘significant gap’; ‘poor’.

The theme ‘Perception of language’ within the deductive analysis demonstrates disparity having no corresponding inductive analysis theme partner, as in vivo codes and axial codes of the inductive analysis (IA) incorporate deficit laden language, for example: the theme classification includes the axial code ‘deficit’ with axial codes: ’difficulties’; ‘need’; ‘significant gap’; ‘poor’.

Language and content of school policy documents may influence both constructs of intelligence and conceptual models of disability, affecting pedagogy. The policy of setting students according to literacy ability and documents focussing upon literacy as a mechanism to raise attainment reinforcing existing socio-historic concepts of intelligence and literacy (Riddick, 2001). Intervention and remediation focusses upon individuals’ deficits, encouraging teachers to perceive dyslexia through a medical model of disability, deficits intrinsic to the individual. Inconsistent terminology and deficit-laden language within documents may lead teachers to perceive students as lacking autonomy.

Triangulation of analyses confirms documents are formulated within a social model of disability which is corroborated by the Vision Statement (Figure 5, p.21). However, documents contain both models of disability; the distribution of model a function of document purpose. Documents relating specifically to students with SEND predominately contain concepts from the medical model. The dichotomy a likely consequence of social pressure on government to raise attainment; measured as ever increasing examination results. Barrier removal, viewed to be truly indicative of a social model (Shakespeare & Watson, 2002) appears only once within a single document.

4.2.5.2 Vision Statement

The Vision Statement (p.21); non-formulaic, unique to the Academy, a product of staff working groups and whole staff inset identifies the Academy aims to generate an enabling inclusive environment, a social model of disability (Pfeiffer, 2002). Both inductive and deductive analyses, ascertained documents

to be formulated within the social model of disability, but unlike all the documents examined the Vision Statement is truly inclusive, the medical model of disability is conspicuous through its absence. There are no inconsistencies in terminology, the term student used throughout indicating autonomy. Whilst differences between students are acknowledged: ‘every student is different, and those differences should be respected’ (line 7) there is no suggestion difference infers deficit. Pastoral care and guidance is identified as provided for all students and significantly, the target-led, target driven rhetoric of documents replaced by a notion of ‘learning and progress’ (line 3). The statement contains no socio-historic connections between literacy and intelligence. Language is affirmative, the terms ‘our’ (line 1) and ‘we’ (line 5) identifying teaching staff were involved in its production.

4.2.6 Revising the document component of the Conceptual Framework

As previously identified, on their own documents do not have the capacity to form perceptions however, the language and content of policy documents are perceived by teachers as reflecting the normative views of the teaching profession, which may be influential in influencing perception (Gwernan-Jones & Burden, 2010) with the potential to confirm teachers’ existing perceptions and stereo-types, influencing both constructs of intelligence and conceptual models of disability, which affect pedagogy.

Chestnut Academy policy is not formed in isolation, a consequence of government policy and Fundamental British Values (DfE, 2014c) and their vision of a fair and equal society. Documents examined advocate concepts of a fair and inclusive society, a social model of disability, matching Anastasiou and Kauffmann’s (2013) assertions that UK policy is conceived within a social model of disability. However, documents show discrepancies, the predominant discourse is that of students with SEND having deficiencies requiring remediation and intervention; a medical model of disability. Policy driven by the SDP focuses upon performance league tables, school improvement, school targets, student attainment, and identifies and responds to deficits within

provision and achievement of students with SEND. Rather than focussing upon barrier removal; a social model of disability (Shakespeare & Watson, 2002), policy concentrates upon intervention and remediation; a medical model.

Critical analysis of language and terminology within documents confirms they contain a mix of conceptual models. People-first language, indicative of a social model of disability (Foreman, 2005) is irregularly applied. Whilst this may be an attempt to make the documents easier to read; people-first language is clumsy and laboured. Inconsistences only serve to emphasise difference, emphasising negative connotations of SEND. Inconsistences with the use of the terms pupil and student, and only students with SEND being referred to as 'learners' accentuates a lack of autonomy and suggests the notion of lower intelligence within these students.

The classification of dyslexia within the Medical Register of the Inclusion Handbook establishes difficulties as innate; a medical concept. Whilst classification as SpLD within the SEND Register confirms students with dyslexia as having special educational needs. The term SEND is not value free; laden with meaning, signifying students with issues, difficulties and needs; learning, behavioural or both. Words such as 'problem', 'difficulty', 'poor' and 'need' inferring innate deficit, appear regularly throughout documents, providing evidence for an argument that deficit nuanced language contributes towards teachers conceptualising dyslexia through a medical model. But, assigning a label establishes eligibility for provision (Ho, 2004).

Whilst aspirations to raise student attainment are not deleterious in themselves, target-led teaching may exacerbate teachers' perceptions of lower intelligence amongst students with weak literacy skills (Elliott & Grigorenko, 2014).The Academy policy of setting according to literacy skills, and its focus upon literacy intervention, reinforce socio-historic connections between literacy and intelligence. Policy focused upon intervention rather than barrier removal suggesting innate deficiencies which result in a medical model of disability.

Figure 27, a visual representation, shows how documents fit within and contribute to the Conceptual Model.

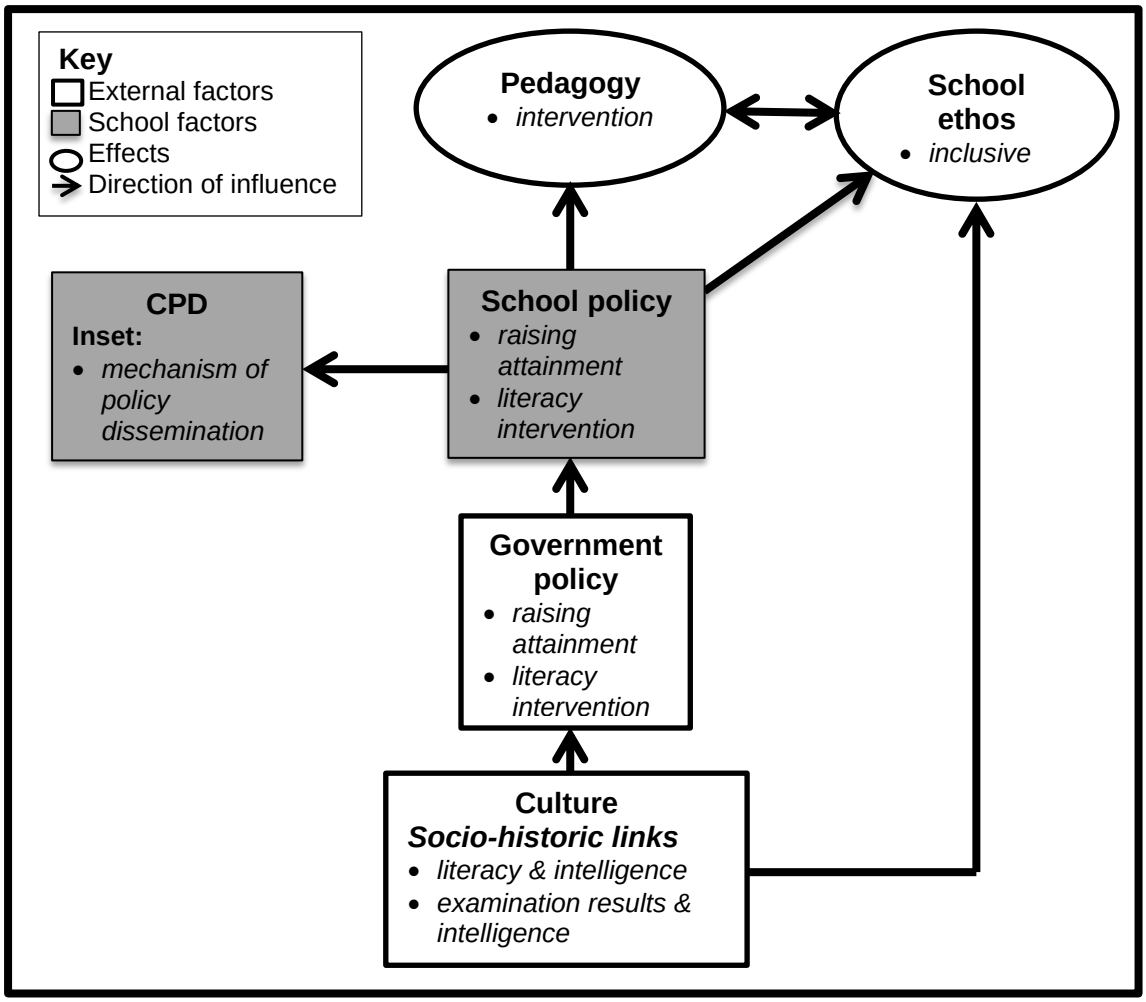


Figure 27 Document component: Conceptual Model

4.3 Semi-structured interviews

4.3.1 Overview

Data were gathered from seven semi-structured interviews with teachers of the student participants whose teaching careers span between two to 30 years. As explained within Chapter 3, data relating specifically to the understanding of dyslexia from the teacher with a diagnosis of dyslexia has not been included within this analysis, although this adult retrospective view is examined within Section 4.5.1 (p.178) to identify points of tension and agreement. To limit traceability only a line reference is given for quotes attributed to this teacher and the teacher from SLT.

Analysis suggests the prevalent view of teachers within the study is of dyslexia as an innate, deficit-focussed, medical construct, students with dyslexia being diagnosed; diagnosis difficult to obtain and often self-funded. Teachers alluded to its prevalence within the middle-classes who they perceived as having the financial resources, a greater commitment to obtaining a diagnosis, and an understanding of processes involved, an argument of the dyslexia debate.

Dyslexia is perceived as a learning difficulty, primarily affecting literacy; difficulties innate, necessitating intervention. Teachers in the study recognised barriers to learning, but perceived barrier removal as synonymous with intervention identifying a mix of concepts from differing conceptual models of disability, substantiating Palmer and Harley's (2012) assertions that conceptual models of disability rather than being discrete lie upon a continuum, which may account for discrepancies between policy of barrier removal and practice of intervention.

The term SEND, to teachers in the study, signifies, students with issues, difficulties and needs, suggesting innate deficiencies. Further, the classification of dyslexia within 'Cognition and Learning Needs' suggests difficulties with processing, reasoning and memory, and implies students possess lower intelligence.

Relationships between literacy and attainment were identified. Proficient literacy skills recognised as necessary to access both the curriculum and obtain higher grades in written examinations. Socio-historic links between intelligence and literacy were suggested, being well-read increasing intelligence, although two teachers explicitly dissociated themselves from this proposition. Inset relating to SEND was identified as conceived to satisfy contractual hours, and being disseminated; detail was lost.

4.3.2 Inductive analysis: semi-structured interviews

A visual representation (Figure 28) integrates the four themes of:

- classification
- difficulties
- learning
- training

Analysis suggests teachers identify dyslexia as a medical concept, students being diagnosed. Two teachers identified that diagnoses were difficult to obtain, and often self-funded. Teachers alluded to its prevalence within the middle-classes who they perceived as having financial resources, understanding of processes involved and a greater commitment to obtaining a diagnosis, an argument of the dyslexia debate.

All teachers categorise dyslexia as a learning difference with a disparity of symptoms but primarily affecting literacy. Literacy identified as important to learning and attainment, students with poor literacy skills being disadvantaged, particularly in examinations. Advocacy was mediated by realism, an understanding that students would need to manage in the 'real world', a world outside of the classroom. Teachers suggested that inset (in service training) whilst offering guidance did not provide enough information; being filtered, or watered down.

Critical analyses of each of the four themes of classification, difficulties, learning and training which emerged from the inductive analysis follow.

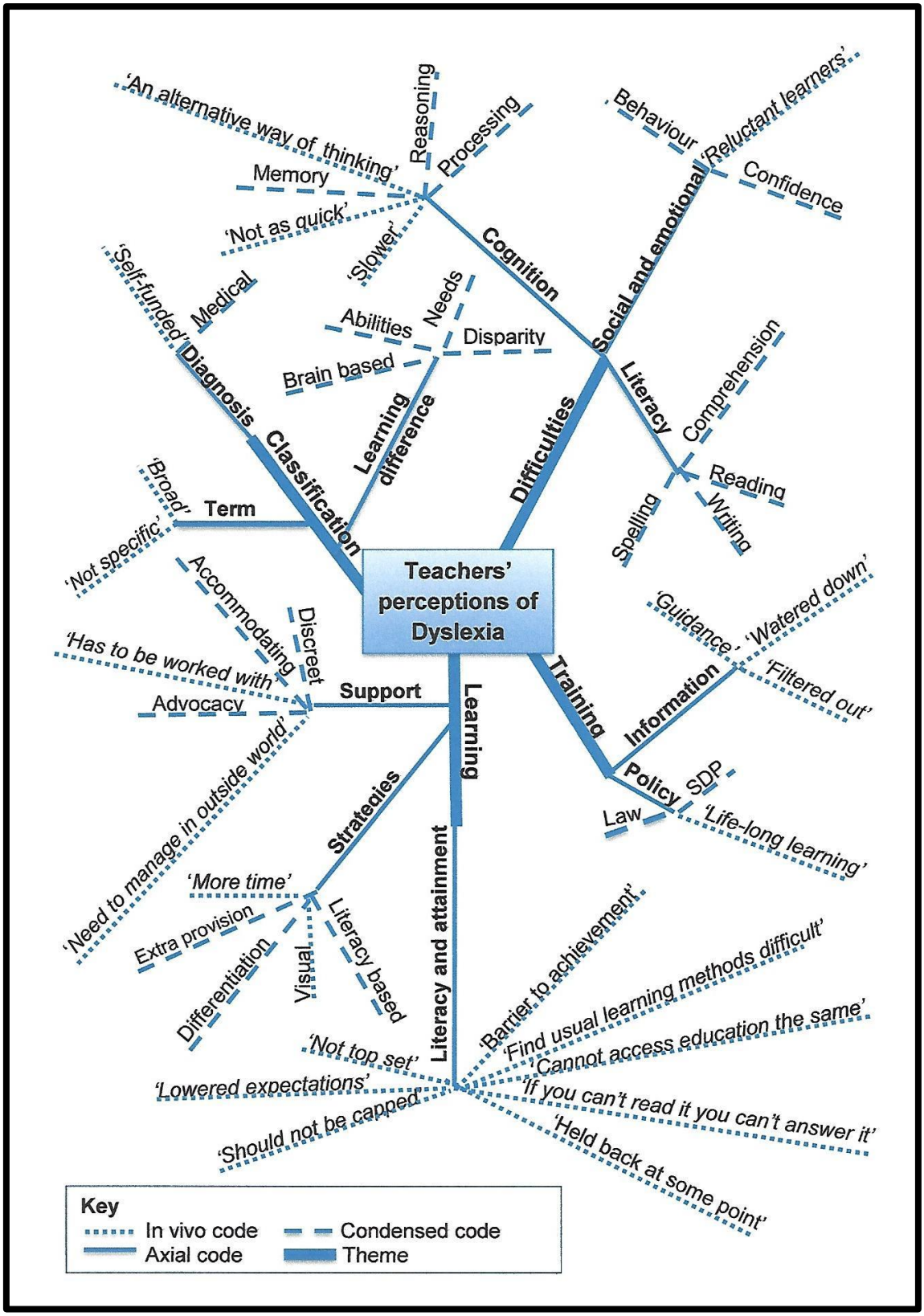


Figure 28 Inductive analysis

For the purposes of the diagram and to aid analysis a number of keywords have been condensed (Miles, Huberman & Saldaña, 2014). Layout, direction and length of lines are not indicative of frequency or importance of data.

4.3.2.1 Classification

Five of the seven teachers explained dyslexia was diagnosable; a medical condition although two teachers shared their disbelief that dyslexia was categorised within the medical section of the Inclusion Handbook, having not connected diagnosis to dyslexia being a medical condition:

> 'I suppose it may be a physical thing in the brain maybe. I don't know. I am just surprised that it's under medical' Interview 2, line 38

> 'I've seen it but I've not [*pause*]. It's sort of been read by me as '*why is it in the medical conditions?'* [*It= dyslexia of IH*] Interview 7, line 65

Three of the five teachers who identified dyslexia to be diagnosed further elucidated that diagnosis could be difficult, 'I know that it's very difficult to get any kind of condition diagnosed' (Interview 6, line 90). Two of these teachers suggested social class and affluence may aid acquisition of a diagnosis (Figure 29) one referring to the media. Suggesting, media and past experience require inclusion within the Conceptual Model.

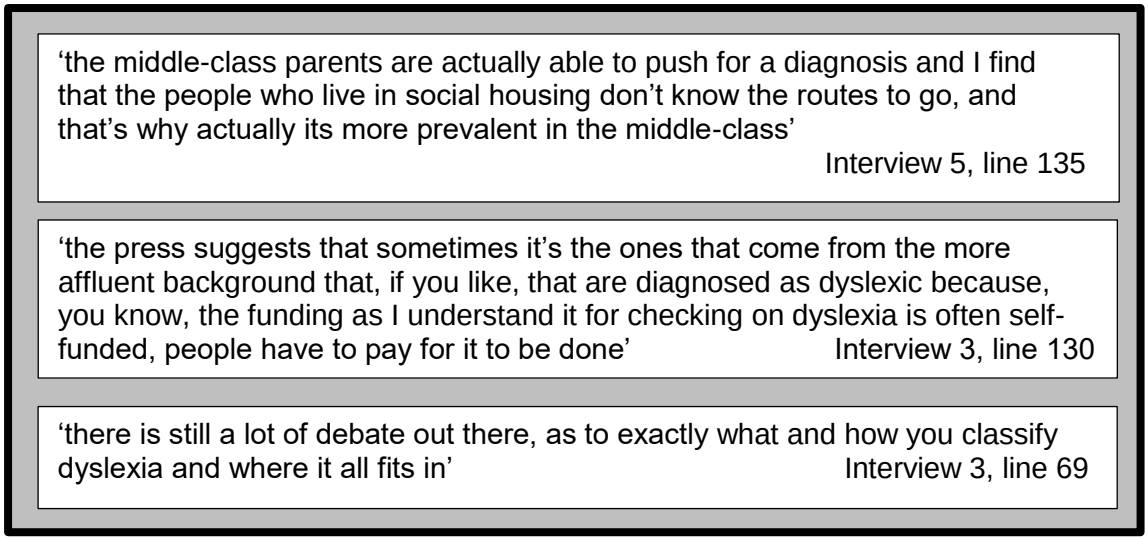


Figure 29 Effect of social class and affluence on diagnosis

The term dyslexia was viewed by some as 'broad'; a disparity of symptoms not just literacy:

> 'Dyslexia is a very broad term; generally students who are dyslexic have trouble with spelling, with reading, those kinds of things. But different students will have a whole range of different needs'
> Interview 6, line 50

> ‘reading and spelling, but I know it can also be to do with short-term memory as well, and that leads to their difficulties, internalising words and things that they read’ Interview 2, line 21

Difficulties causing emotional and behavioural problems:

> ‘students are so conscious of being dyslexic anyway, it can sometimes have more of an adverse effect on them’ Interview 5, line 170

> ‘they can become very, frustrated with themselves because their ability verbally is excellent and sometimes they lack the written aspects and they get frustrated and angry with themselves’ Interview 5, line 69

Classification of dyslexia as a SpLD caused confusion. Two teachers identified the word ‘specific’ as signifying a single learning difficulty. Dyslexia, a broad term, encompassing several difficulties could not be in itself specific:

> ‘when it’s specific, it could be a specific thing, it could be their hearing or their memory’ Interview 6, line 104

> ‘it means they have been identified as having a particular thing that they struggle with or a particular need’ Interview 6, line 48

The confusion reconciled through their identification of dyslexia as a difficulty with literacy:

> ‘when they say dyslexia it is kind of one thing isn’t it? It’s to do with words, so it a sort of a narrow thing’ Interview 6, line102

> ‘it’s to do with words and learning and reading and spelling and all those kinds of things rather than any broader term’
> Interview 6, line 108

One teacher proposed the label dyslexia to be more specific than the term SpLD:

> ‘I would think that dyslexia is more specific than SpLD. I suppose that **it** must contain other specific learning difficulties as well. I was going to say is **it** an inappropriate label?’ [***It***= *dyslexia*] Interview 2, line 46

Responding to the suggestion that SpLD would replace dyslexia and identifying a lack of knowledge one teacher recommended:

> ‘I think there would be some specific training, if it were switched over’
> Interview 7, line 77

The term SEND signified students with more profound difficulties (Figure 30).

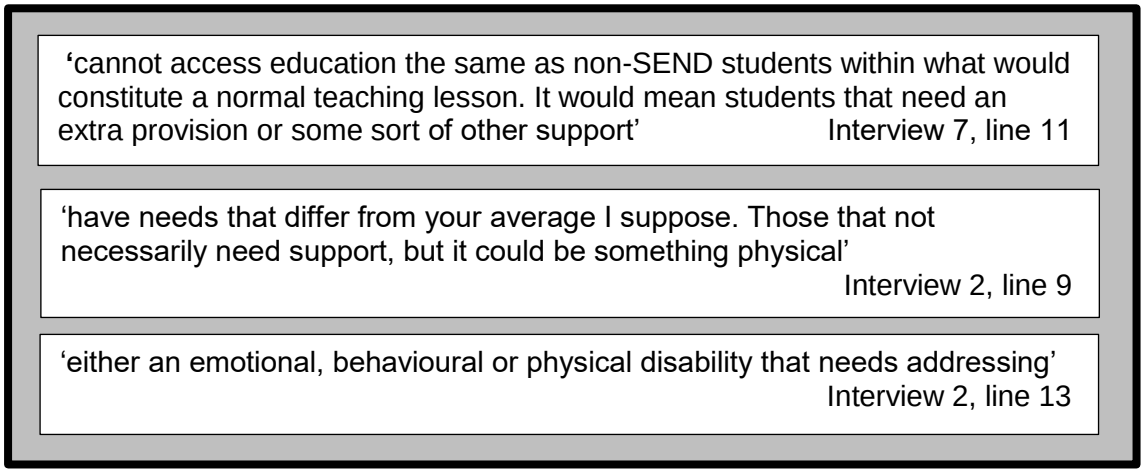


Figure 30 SEND signifies

4.3.2.2 Difficulties

Teachers in the study acknowledged difficulties associated with dyslexia particularly literacy. Links between intelligence, attainment and literacy alluded to with the use of terms such as slower and held back:

> 'they just need to go slower, and they need to have certain things explained to them' [*they = students with dyslexia*] Interview 3, line 237

> 'I wouldn't think they were in the top set, because I wouldn't think [*pause*] I think that they would have been held back at some point because of their condition' Interview 7, line 97

Tensions regarding definitions of intelligence focussing on the capacity for success in school were evident. One teacher dissociated themselves from these definitions by prefixing statements with 'some teachers' or 'some people', a mechanism Riddick (2002b) identifies as passing:

> 'I think that some people have a perception that if you are dyslexic, then they should automatically be in the bottom set' Interview 5, line 40

> 'some teachers can lower their expectations of that student' Interview 5, line 200

Two teachers dissociated themselves from socio-historic links between literacy and intelligence suggesting students possessed multiple intelligences, 'they can be very intelligent in other areas' (Interview 2, line 62) and 'they don't always have the opportunity to show their other talents' (Interview 6, line 151).

Drawing upon past experience one teacher reflected, ‘I’ve actually taught some really bright dyslexics’ (Interview 5, line 21) indicating prior experience affects perception and requires including within the Conceptual Model.

4.3.2.3 Learning

Teachers in the study suggested literacy as fundamental to achievement with students with weak literacy skills tending to be penalised by examination systems (Figure 31).

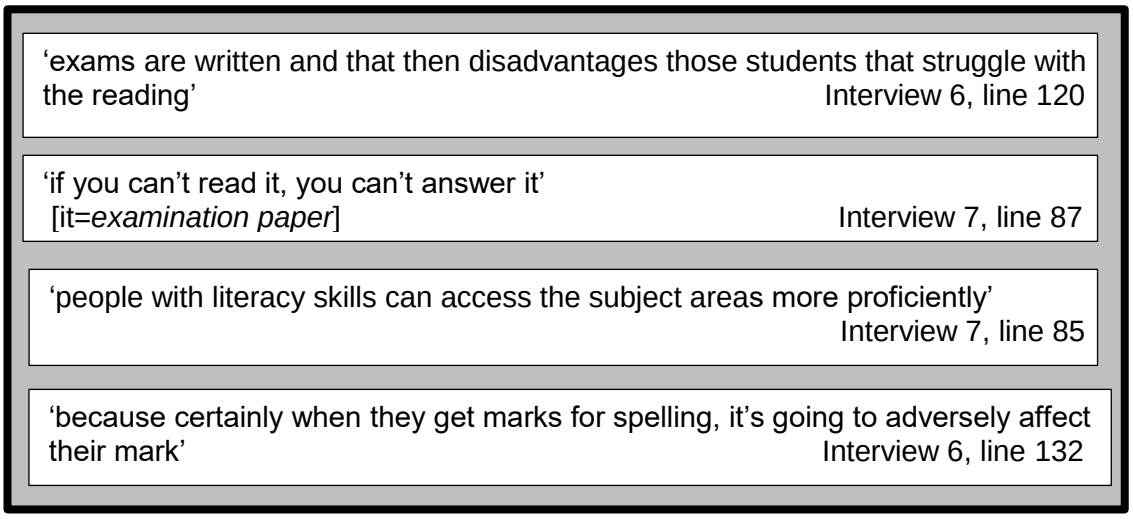


Figure 31 Literacy: fundamental to achievement

The attention paid to literacy within the classroom, to remediate difficulties, reducing opportunities to excel, ‘they don’t always have the opportunity to show their other talents’ (Interview 6, line 151). Setting, based upon literacy skills suggested as limiting achievement:

> ‘just because you link your literacy with writing and your thought process might be slightly slower, doesn’t mean that you should be capped …in year 7’ Interview 5, line 43

Advocacy for students with dyslexia was mediated by a degree of realism in the nature of support provided (Figure 32).

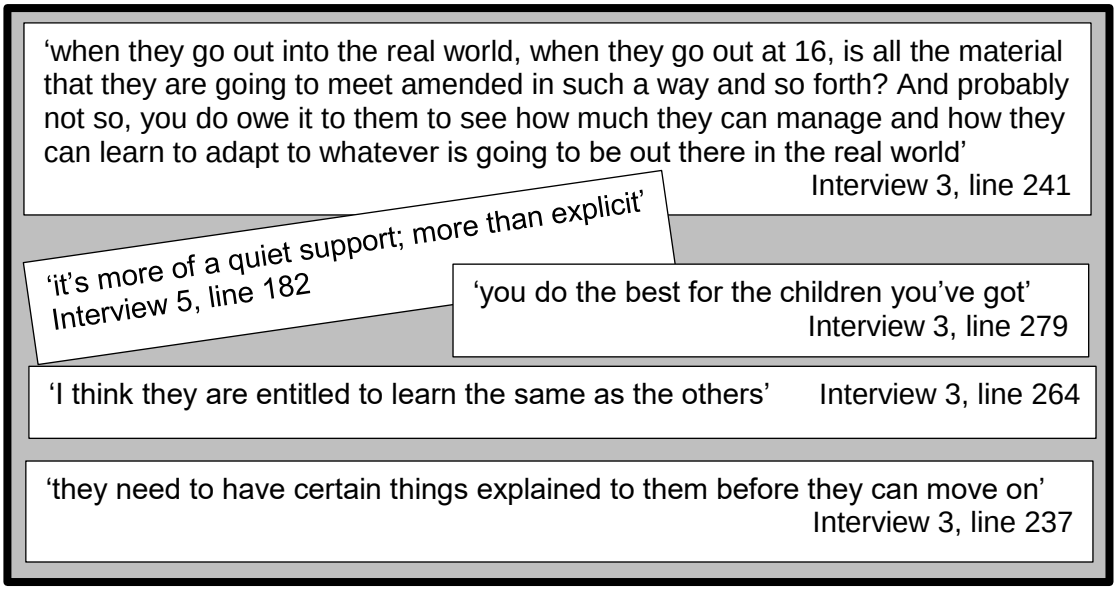


Figure 32 Classroom intervention

4.3.2.4 Training

Teachers in the study suggested that inset (in-service training) often did not provide enough information, 'by the time you get the information filtered down you often lose sight – you're not getting the detail (Interview 3, line 168). Policy documents were identified as having been read but not referred to, 'I read it when I first came' (Interview 1, line 220). Whilst the Inclusion Handbook was consulted at the beginning of the academic year to identify 'issues', a term laden with negative connotations:

> 'The inclusion booklet is something I look at the start of the year in terms of making sure I know what the issues are with my class'
> Interview 3, line 93

Teachers commented upon initial teacher training and its contribution to their understanding of dyslexia and SEND. Two teachers suggesting that:

> 'it certainly wasn't anything great when I trained 30 some years ago'
> [*Cert. Ed.*] Interview 3, line 153

> 'I think teacher training tries to teach too much in a short amount of time, I mean realistically its 8 or 9 months isn't it, as you do placements'
> [*PGCE*] Interview 5, line 141

Training in SEND varying according entry route and era of training, 'I did a module on different needs' [*B.Ed.*] (Interview 6, line 198) Experience gained

working within the classroom was considered a major contributor to knowledge and understanding informing pedagogy (Figure 33) further indicating past experience, a factor external to the research site, requires inclusion within the Conceptual Model.

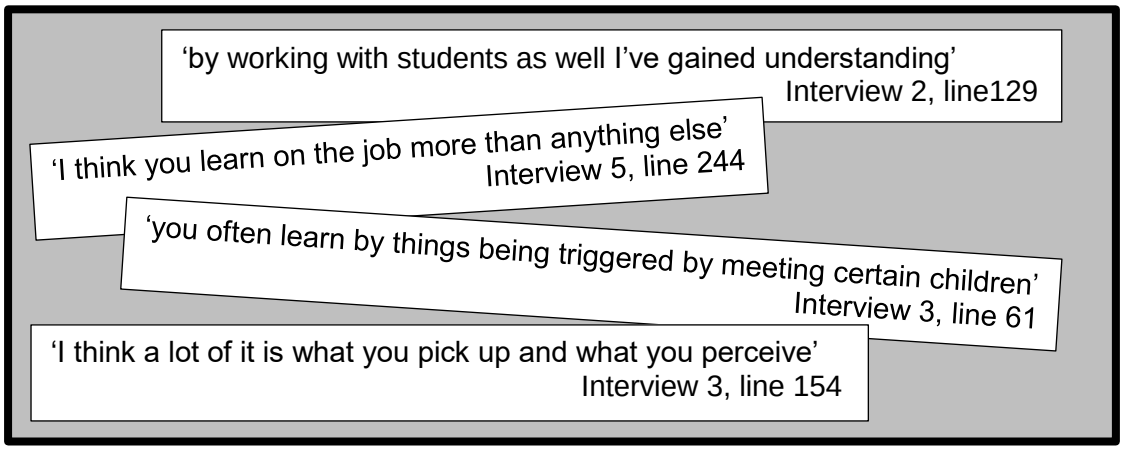


Figure 33 Pedagogy informed by experience

4.3.3 Deductive analysis: semi-structured interviews

Overlaying the five themes of the Conceptual Framework produced a visual representation of teachers' perceptions of dyslexia (Figure 34). Analysis suggests that teachers within the study view dyslexia predominantly through a medical model; difficulties innate, necessitating intervention. Barriers to learning recognised, but barrier removal identified as synonymous with intervention; a mix of concepts from differing conceptual models of disability substantiating Palmer and Harley's (2012) assertions that conceptual models of disability rather than being discrete lie upon a continuum, which may account for Ade-Ojo's observations (2012) of discrepancies between policy of barrier removal and practice of intervention and remediation.

The term SEND signifies, to teachers in the study, students with issues, difficulties and needs, suggesting innate deficiencies. Further, the classification of dyslexia within 'Cognition and Learning Needs' suggests difficulties with processing, reasoning and memory, and implies students possess lower intelligence.

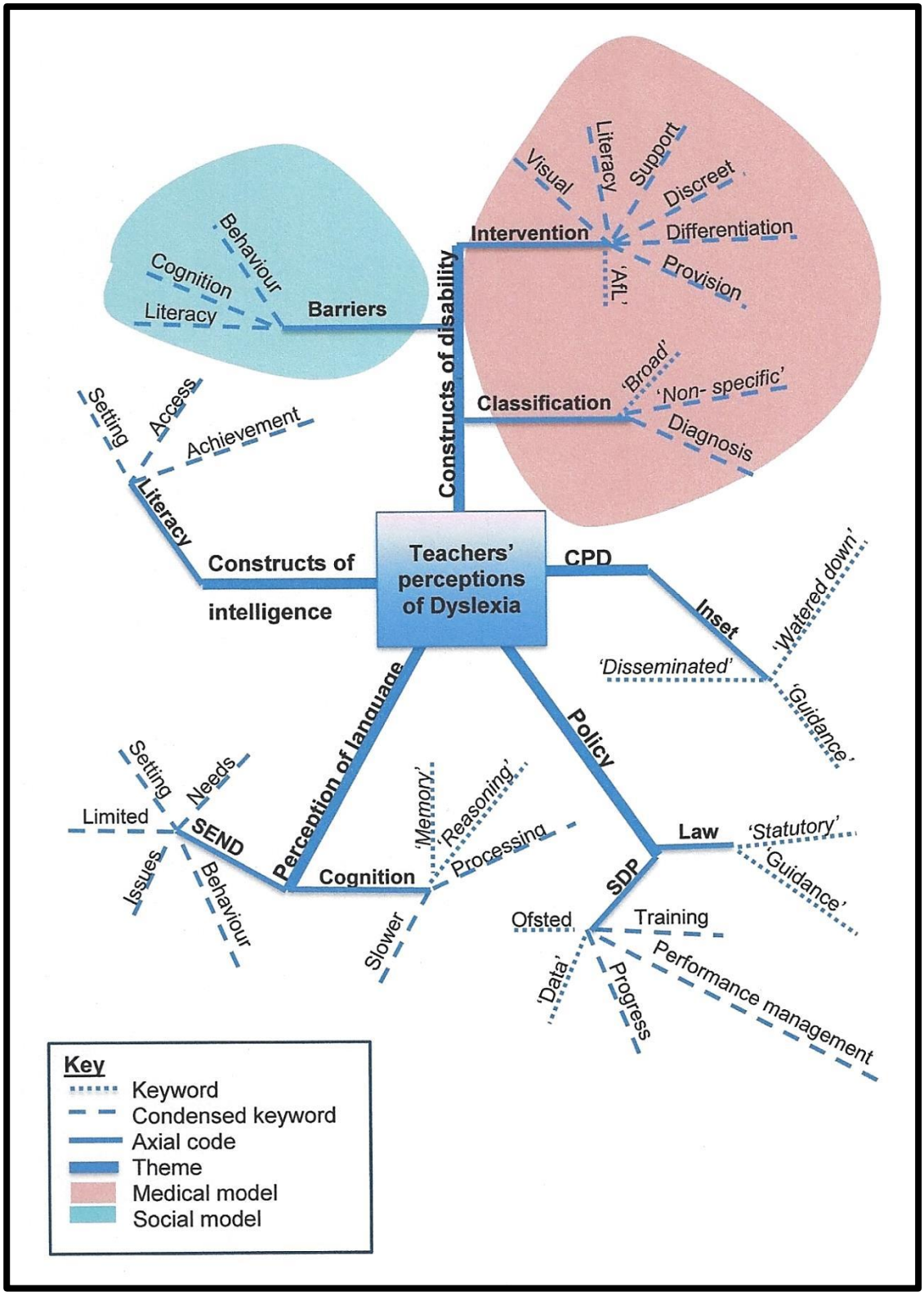


Figure 34 Deductive analysis: semi-structured interviews

For the purposes of the diagram and to aid analysis a number of keywords have been condensed (Miles, Huberman & Saldaña, 2014). Layout, direction and length of lines are not indicative of frequency or importance of data.

Relationships between literacy and attainment were identified. Proficient literacy skills recognised as necessary to access both the curriculum and obtain higher grades in written examinations. Socio-historic links between intelligence and literacy were suggested; being well-read increasing intelligence, although two teachers explicitly dissociated themselves from this proposition. Inset relating to SEND was identified as conceived to satisfy contractual hours, and being disseminated; detail was lost.

Critical analyses of the five themes of the Conceptual Framework within the semi-structured interviews follow:

4.3.3.1 Constructs of disability

Dyslexia was classified by most teachers in the study as being diagnosed, students' requiring help, support and intervention: 'need an extra provision or some sort of other support' (Interview 7, line 14), a medical model of disability. Poor literacy skills and difficulties with short-term memory symptoms commonly associated with dyslexia identified as barriers to learning. Support equated to barrier removal:

> 'If they are given too many instructions at once it can be a barrier. They should have support, I would think. To sort instructions out and support their memory' Interview 2, line 79

Difficulties associated with dyslexia resulting, in some cases, to behavioural issues, which were similarly viewed as barriers to learning:

> 'If you can't get the help that you need, and you can't do the work in class, then you need a distraction tactic …I wouldn't suggest that a medical diagnosis of dyslexia, comes with you know, behavioural issues, it's a cause and effect' Interview 7, line 121

> 'I've noticed that, they are not going to even try because they think it might be difficult, so they are not going to bother because they are not engaged' Interview 2, line 113

The view of barrier removal as synonymous to intervention reiterated by the senior leadership teacher:

> ‘because they can’t access the materials that they are given that then becomes an issue for teachers to ensure that they can remove those barriers. I think that sometimes we can be very hot on it and other times we sort of miss it, we’re not thinking it through and were not thinking about when it’s projected it on the board or printed out for everybody’
> lines 363 -374

Whilst the social model does not preclude intervention (Barnes, 2009), pedagogy based on intervention rather than barrier removal corresponds more to a medical model of disability (Shakespeare & Watson, 2002) indicating that conceptual models of disability rather than being discreet, lie on a continuum (Palmer & Harley, 2012). Perceptions of intelligence based upon the construct of disability held may not be straightforward and predictable.

4.3.3.2 Constructs of intelligence

Links between literacy and attainment were identified as teachers in the study suggested that in order to access the curriculum proficient literacy skills were required, a lack of proficiency reducing attainment, which subsequently affected setting:

> ‘I wouldn’t think they were in the top set…they would have been held back at some point because of their condition’ Interview 7, line 97

> ‘if there is a higher rate of literacy skills, people with these literacy skills can access the subject areas more proficiently’ Interview 7, line 84

Subtle links between literacy and intelligence were drawn. Proficient literacy skills affecting intelligence, confirming implicit socio-historic links between intelligence and literacy exist:

> ‘if you’re going to spend a large proportion of your time reading then that’s got to have an effect on intelligence, if you read widely, and you know, I think you have to have a level of intelligence to digest, to reflect and improve anyway’ Interview 4, line 353

4.3.3.3 Continuing Professional Development

Inset (in-service training) relating to SEND was identified as being disseminated, formulated to satisfy contractual hours: 'it's actually more of a SEND department filler' (Interview 7, line 162). Inset perceived as lacking detail:

> 'by the time you get the information filtered down…you're not getting the detail …I think it gets watered down' Interview 3, line 168

> 'first day of inset we cover it… but usually forgotten the detail by this time of the year' Interview 7, line 156

4.3.3.4 Perception of language

The term SEND is not value free; it is laden with meaning, signifying students with issues, difficulties and needs; learning, behavioural or both, and suggesting innate deficiencies. Classification of dyslexia within the SEND category of 'Cognition and Learning Needs' suggesting to teachers in the study that all students with dyslexia having difficulty with processing, reasoning and memory, and implying lower intelligence:

> 'it's to do with how people think, It's to do with that learning process, how you understand information' Interview 6, line 77

> 'because you link your literacy with writing, your thought process might be slightly slower' Interview 5, line 43

4.3.3.5 Policy

Whilst teachers identified they referred to the Inclusion handbook, at the start of the academic year to identify 'issues', they conceded that it was not regularly referred to:

> 'I look at the start of the year in terms of making sure I know what the issues are with my class' Interview 3, line 19

> 'I have looked in it… and I also have a look on SIMs as well and use that to identify any issues coming up' [It= IH] Interview 2, line 138

Policy documents were identified, but acknowledged as not being regularly referred to: 'I glanced over it in September' [It = SP] (Interview 6, line 214) suggesting policy may not be instrumental in shaping teachers' perceptions of students with dyslexia. But policy cannot be dismissed from the Conceptual Framework as it gives rise to the school ethos, informs CPD needs and inset which do appear to be factors.

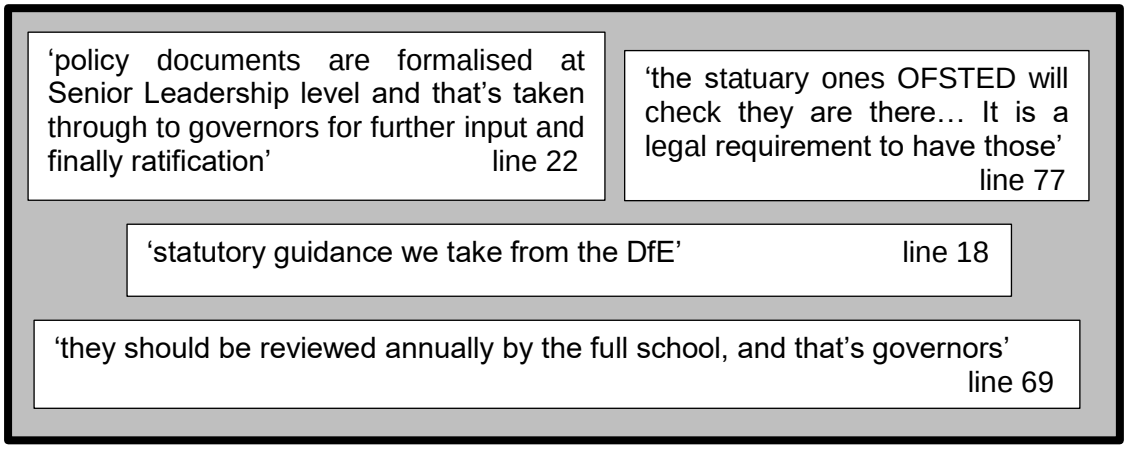


Figure 35 Policy

The SLT teacher identified statutory and non-statutory policy. Statuary policies containing statutory duties required under law, and non-statutory policies informing school practise. Policy formulated by SLT, ratified and reviewed annually by the Governing Body (Figure 35).

School improvement, student attainment and staff development are intertwined, school improvement determining inset:

> 'the evaluation of the school …identifies your priorities as a school and generates a school development plan…that's then outlining what you need to do in terms of staff training, so that everybody is contributing at some point to school improvement' lines 126 – 131

Inset considered valuable in raising attainment:

> 'if you're promoting life-long learning for the staff. It then has an impact on pupils learning' line 113

Policy 'disseminated to staff, during inset' (line 63) identifies it as being transmission based. Changes to SEND policy necessitating staff training were also identified: 'what constitutes SEN, has changed over the years' (line 12) However, the current generic whole school approach to inset, which one

teacher suggested as ‘filling’ contractual hours was identified as less productive, requiring change: ‘to target staff’ (line 164) and given ‘to selective, invited staff’ (line 167).

4.3.4 Triangulating analyses: semi-structured interviews

Figure 35 identifies large areas of correspondence between inductive and deductive analysis. Teachers perceive dyslexia predominantly through an innate deficit-focussed medical construct. Dyslexia viewed as a diagnosed condition with intervention strategies removing difficulties. However, tensions between models of disability were identified as teachers perceive intervention as barrier removal. Section 4.5.2 examines this dichotomy.

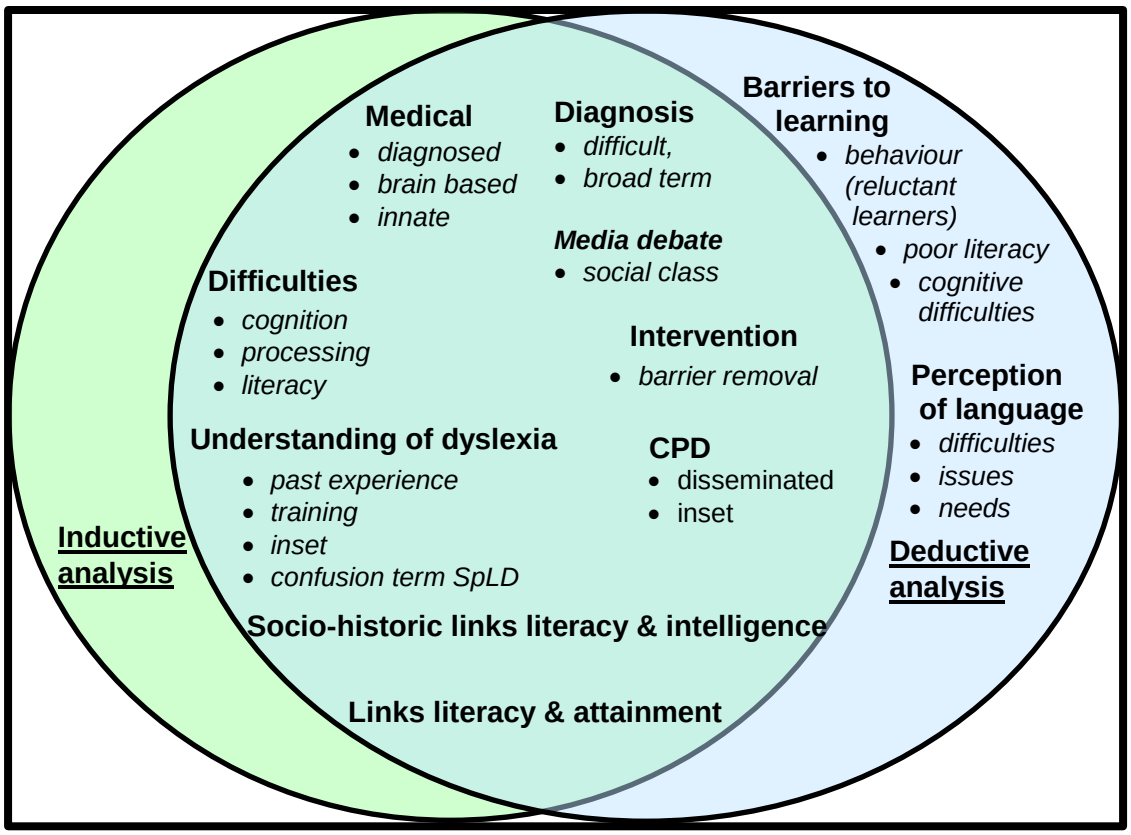


Figure 36 Triangulating analyses: semi-structured interviews

A number of factors contribute to the perceptions of dyslexia as a medical condition (Figure 37). All the teachers in the study acknowledged dyslexia as neurological in origin. Students with dyslexia ‘diagnosed’. The term diagnosis viewed by most of the teachers as a medical process, which together with the

identification of students with dyslexia within the Medical Register suggests a medical condition.

One explanation for why teachers perceive dyslexia in deficit-focused terms is that intervention pinpoints what students are unable to do. Pen portraits (previously IEPs) perpetuate the notion of the deficient student which was identified by Riddick (2001). The policy documents examined, and much of the literature on dyslexia use discrepancy based definitions, deficit-laden language bringing with it the perception of irreversible and inherent inability (Harry & Klinger, 2007). Further, dyslexia's classification within the SEND category of cognition and learning needs may give rise to misconceptions that all students have some form of cognitive impairment; the term 'cognition' suggesting students possess lower intelligence.

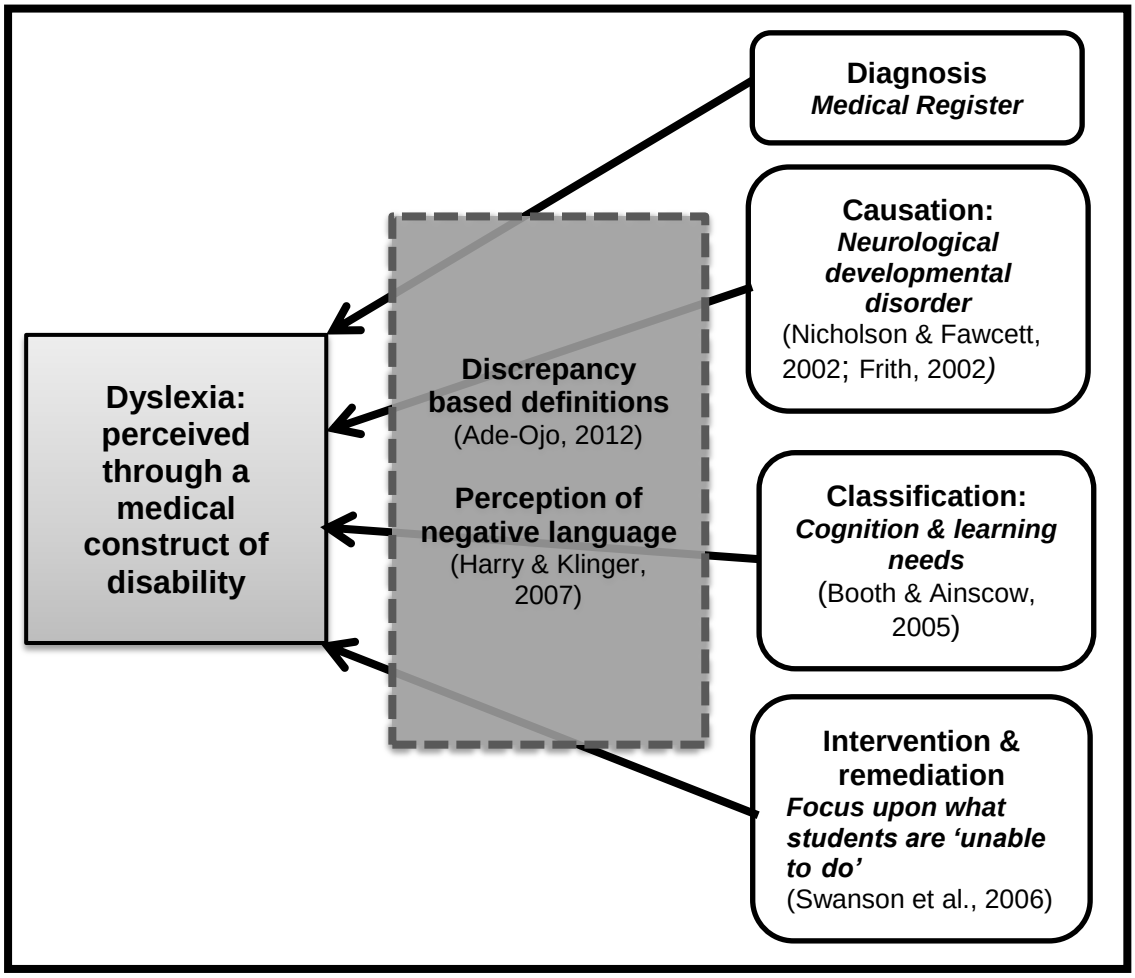


Figure 37 Factors contributing to a medical model of dyslexia

Socio-historic links between literacy, attainment and intelligence were identified although two teachers explicitly dissociated themselves from this viewpoint; the need to be seen to hold socially acceptable viewpoints possibly mediating discussion. Whether these views were held implicitly was not ascertained. Factors affecting perception such as socio-historic links between literacy and intelligence, media, past-experience and prior knowledge were identified but not included separately within the initial Conceptual Framework however, given the importance these links appear to play in perception, they need to be included as separate factors within the Conceptual Model.

A significant finding of the research was that teachers view intervention as barrier removal, a concept associated with the social model of disability. Confirming Palmer and Harley's assertions (2010) that constructs of disability lie on a continuum and are not clearly defined. Intervention viewed as barrier removal may be socially learnt, with the consequence that teachers may fail to consider the role of the environment, their practices within the classroom, as contributing to students with dyslexia problems. This was reflected in comments that students with dyslexia were entitled to learn in the same way as others: 'I think they are entitled to learn the same as the others' (Interview 3, line 264) and questioning whether in the 'real world' all material would be amended, matching Scruggs and Mastropieri's (2015) findings and endorsing Ho's view (2004) that changing pedagogy for the few, may be deemed impracticable.

Dyslexia is perceived by teachers in the study as a learning difficulty, primarily affecting literacy. Literacy identified as important to learning and attainment. Students with poor literacy skills were perceived as disadvantaged, particularly in examinations, corresponding with Charter (2000) who identified links between literacy and higher examination results. Relationships between literacy and examination results may result in links between examination results to intelligence intuitively re-enforcing socio-historic links between literacy and intelligence.

Teachers in the study identified they had read school policy documents but conceded they did not consult them regularly, suggesting content, nuances of

language and conceptual models of disability contained within policy documents may have little, or no, influence upon teachers' perceptions of dyslexia. However, policy is implicit, reflecting and setting the school ethos and informing CPD. Policy driven by the School Development Plan (SDP) focused upon school improvement, school targets, performance league tables, and student attainment. Target-led performance management invariably results in pedagogy of target-led teaching.

4.3.5 Revising the teacher component of the Conceptual Framework

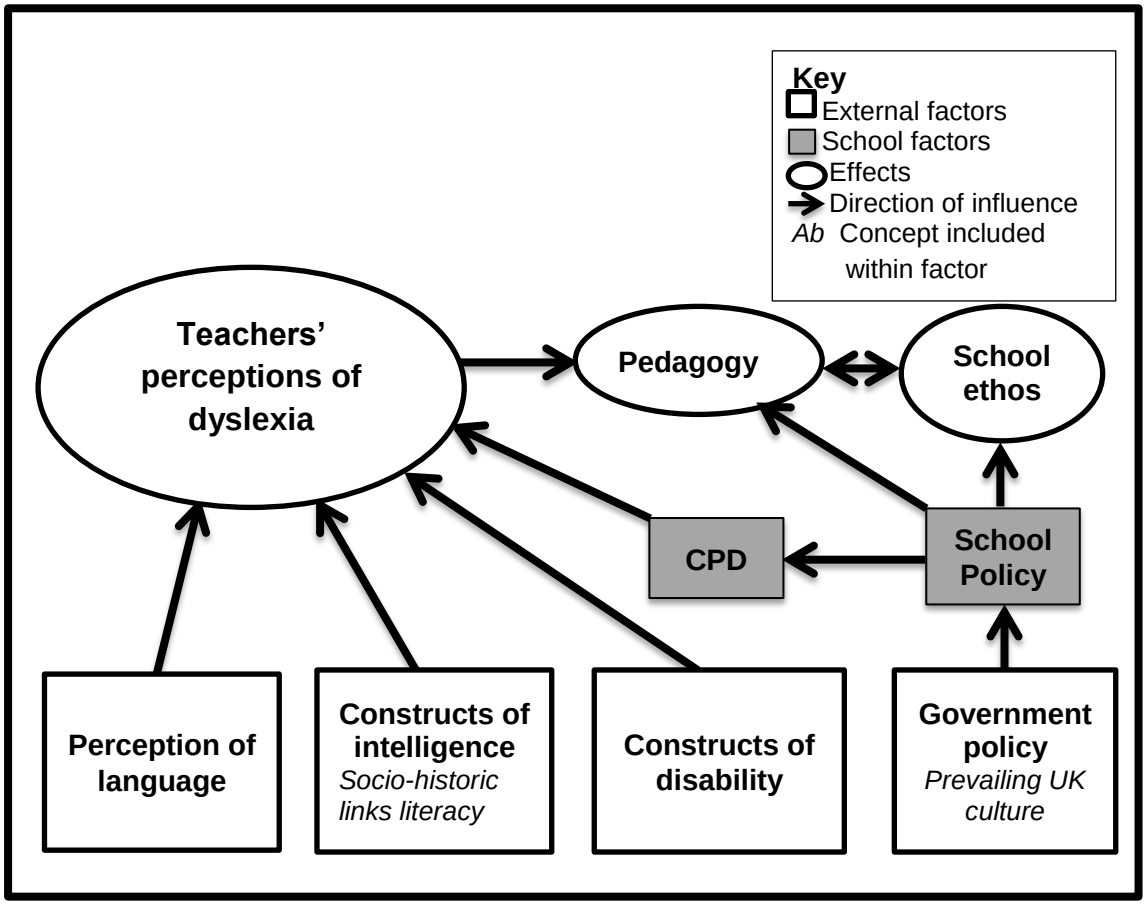


Figure 38 Initial Conceptual Framework: teacher component

Figure 38 shows the teacher component of the initial Conceptual Framework. Conceptual Frameworks evolve reflecting the researcher's 'map of the territory' (Miles, Huberman & Saldaña, 2014, p.20). Knowledge gained from the research process itself and data analysis identified the initial framework did not sufficiently reflect the complexity influencing the formation of perception,

necessitating some factors to be deconstructed into their component parts and additional factors integrated.

Within the original framework the notion of British values and prevailing UK culture was subsumed within the factor ‘Government policy’. However critical analysis of findings identified the important role culture plays in shaping policy, influencing perception of language and constructs of intelligence. Teachers’ perceptions of language in policy and policy dissemination influences how they perceive students with dyslexia and affects pedagogy.

Analysis identified the factor ‘Constructs of intelligence’ required deconstructing into the many factors previously identified, but subsumed within it. Socio-historic relationships between literacy and intelligence were identified in the initial framework. However, analysis identifies this relationship plays a significant role in forming perception of intelligence, necessitating its separate inclusion. Characteristics of dyslexia, particularly poor literacy skills, may promulgate socio-historic links between literacy and intelligence. Pen portraits (and previously IEPs) perpetuate the notion of deficiencies (Riddick, 2001). Policy documents use discrepancy based definitions, with deficit-laden language bringing with it, the perception of irreversible and inherent inability (Harry & Klinger, 2007).

Dyslexia’s causation, a neurological developmental disorder may be perceived as an innate, irreversible, neurological handicap (Rae et al., 2002). Further, dyslexia’s classification within the SEND category of cognition and learning needs, may give rise to misconceptions that all students with dyslexia have some form of cognitive impairment, the term ‘cognition’ suggesting lower intelligence. Figure 39 represents factors influencing teachers’ constructs of intelligence.

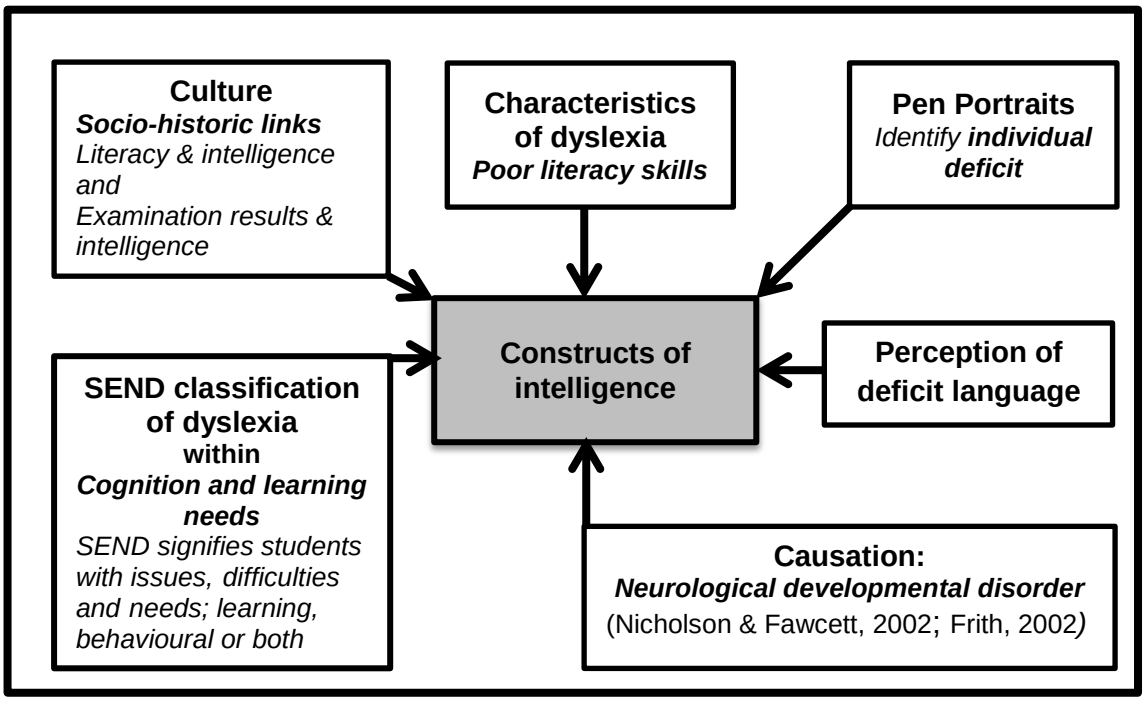


Figure 39 Factors influencing constructs of intelligence

Constructs of disability similarly required deconstruction. As previously stated most teachers within the study identify dyslexia as diagnosed and a neurological disorder. The term diagnosis identified by most of the teachers as a medical term (Figure 40).

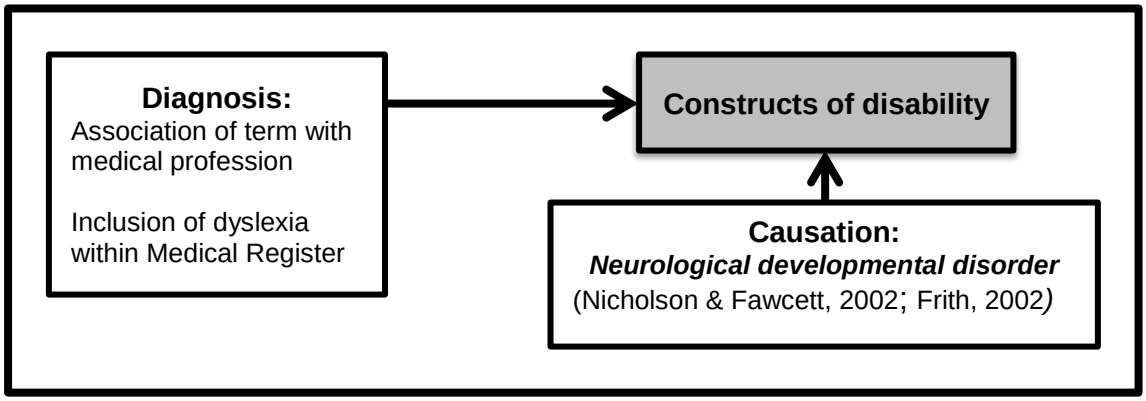


Figure 40 Factors influencing constructs of disability

The teacher component of the Conceptual Model (Figure 41) also includes 'Prior knowledge and experience' as two teachers identified social class and affluence aid acquisition of a diagnosis, with one teacher pinpointing this view point as being promulgated by 'the press', necessitating media as a factor contributing to knowledge.

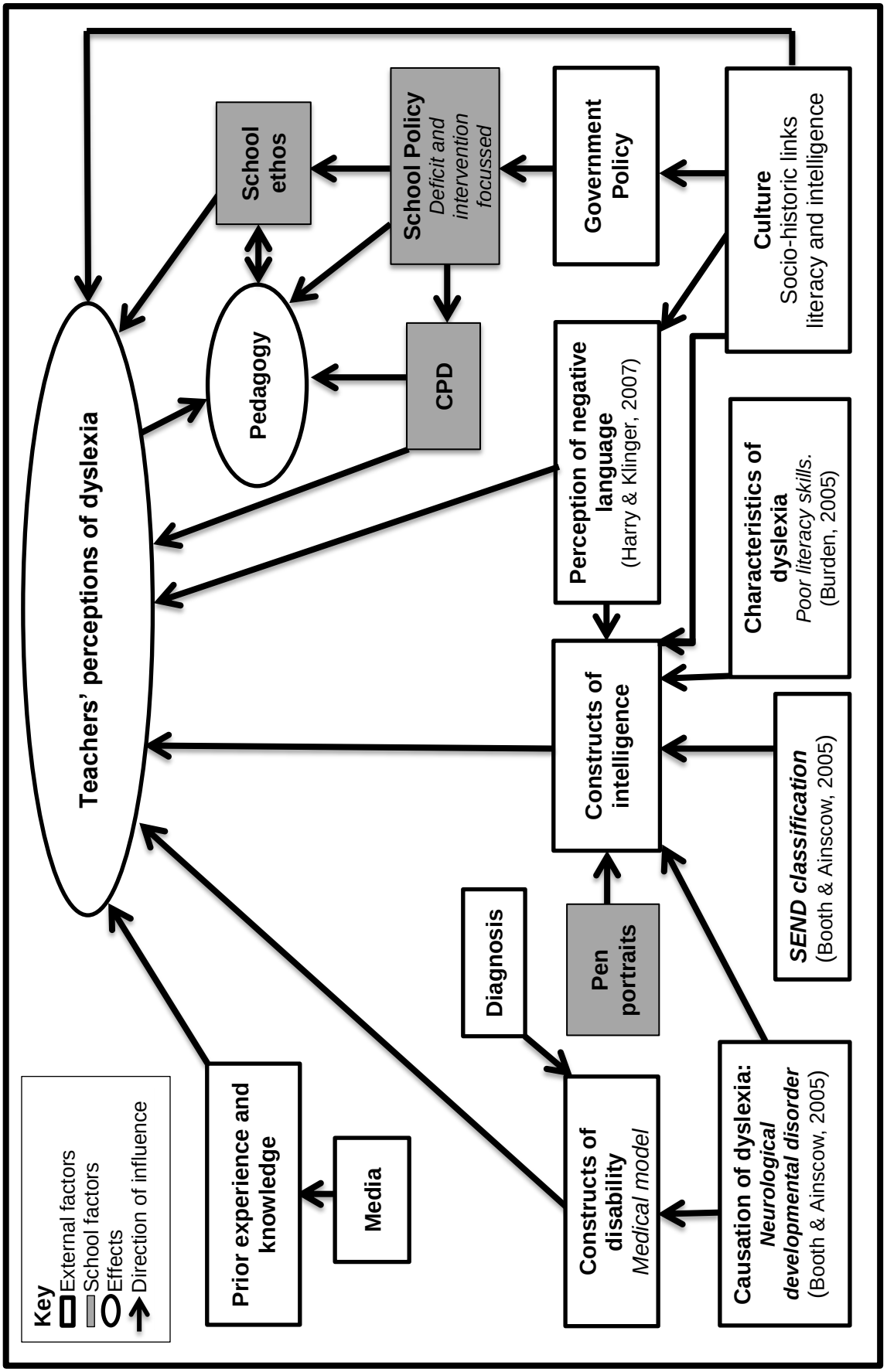


Figure 41 Conceptual Model: teacher component

Gwernan-Jones and Burdens study (2010) identified that whilst teachers entered the profession with pre-determined attitudes to students with dyslexia, based upon their beliefs about the existence of dyslexia, attitudes could be modified by perceived normative views (school ethos) within the school and by 'significant' others. Inset to disseminate policy promotes the school ethos and normative views of the Academy, with the potential to influence perception. The teacher component of the Conceptual Model identifies the complex relationship between many factors which may culminate in teachers' perceptions of students with dyslexia.

4.4 Group interviews

Data was gathered through four stratified group interviews with students with diagnoses of dyslexia. To avoid repetition and make sentences less complicated in some sections, the phrase students with diagnoses of dyslexia has been simplified to student. Interviews were numbered according to their order of completed transcription and verification by an independent auditor:

- Interview one: six students, five male and one female, year 7 (aged 11-12 years)
- Interview two: one male student, year 11 (aged 15 -16 years) two students withdrew prior to the start of the interview
- Interview three: four students, two male and two female, from year 8 (aged 12-13 years)
- Interview four: further interview with group one

4.4.1 Overview

All students with diagnoses of dyslexia interviewed value the label dyslexia. A view-point running contrary to protagonists of the social model, diagnosis mediates socio-historic links between literacy and intelligence. Ownership of the label dyslexia provides students with self-definition and personal understanding. Demonstrating that stigma can be ascribed to labels all students within the study disassociated themselves from the term SEND with its connotations of lower intelligence and limited achievement.

All students in the study identified dyslexia as a medical condition, being diagnosed within a clinic. They were aware of a biological causal explanation; a neurological ('Brain based') condition (cerebellar deficit hypothesis) and its inheritability. Viewing dyslexia as a medical condition, difficulties can be remediated through intervention strategies, support and hard work. Older students further identified dyslexia as life-long, necessitating continued management, corresponding to a medical understanding of dyslexia. Students identified a social model of disability; barriers to learning, caused by literacy orientated curricula.

All students identified socio-historic links between literacy skills and intelligence within peers, and pre-diagnosis acknowledged similar perceptions themselves. However, post-diagnosis their literacy difficulties are a resultant of dyslexia rather than lower intelligence; diagnosis an important part of self-perception. However, students identified attainment, measured by external examination results, to be linked to intelligence.

4.4.2 Inductive analysis: group interviews

Four themes emerged from the inductive analysis of the group interviews namely:

- medical condition
- difficulties
- perceptions of others
- SEND implies

Figure 42 is a diagrammatic representation.

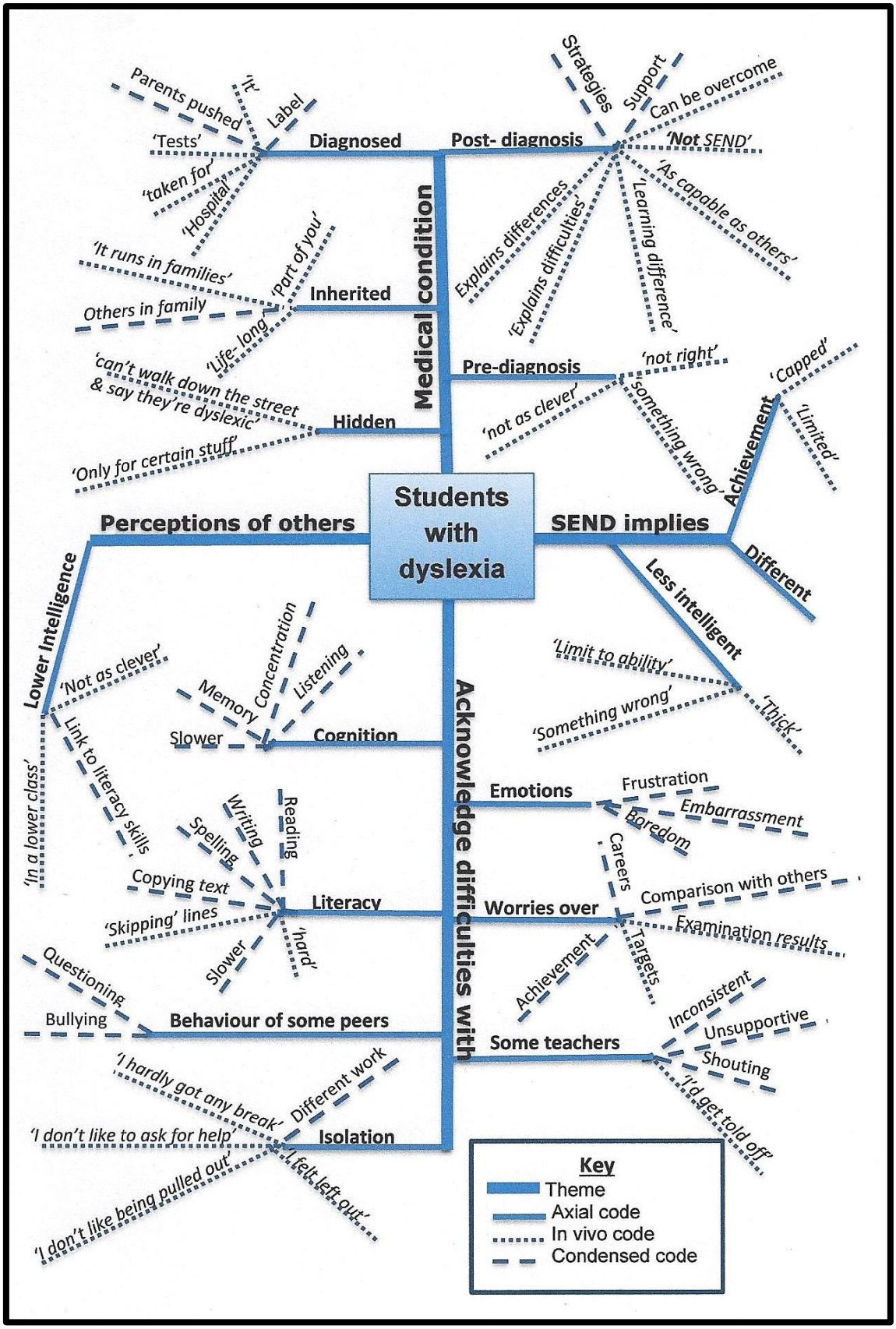


Figure 42 Group Interviews: codes and themes

For the purposes of the diagram and to aid analysis a number of keywords have been condensed (Miles, Huberman & Saldaña, 2014). Layout, direction and length of lines are not indicative of frequency or importance of data.

Analysis identified students perceive dyslexia as a diagnosable, hidden, medical condition. Inherited and brain-based it results in learning differences primarily affecting literacy. Whilst not possessing an adequate technical vocabulary students acknowledged most of the characteristics of dyslexia (Section 1.1.1, p.2). Difficulties with phonological processing articulated through descriptions of problems spelling irregular words: Difficulties with short term memory indicated when instructions and information in lessons are mainly orally and problems with processing speed expressed as an inability to convey on paper ideas contained within their heads. Students were aware of a biological causal explanation for dyslexia and its inheritability. Diagnosis is significant, identifying dyslexia as a medical condition: 'I have a special disease' (Interview 3, line 17). Difficulties are overcome through strategies, support and hard work, corresponding to a medical model of disability. Older students identified dyslexia to be life-long, necessitating continued management which is consistent with a medical model of disability.

Students suggest literacy to be perceived by others as a measure of intelligence. However, students hold differing views of literacy and intelligence pre- and post-diagnosis. Pre-diagnosis intelligence and literacy were equated. Whilst post-diagnosis the label serves to explain difficulties, poor literacy skills no longer reflecting intelligence. Diagnosis appears to play a significant part in students' perceptions of dyslexia and of themselves.

The four themes of:

- medical condition
- difficulties
- perceptions of others
- SEND implies

which emerged from the inductive analysis are critically examined in the next section.

4.4.2.1 Medical condition

The majority of students identified dyslexia as a medical disorder; diagnosed, inherited and brain based (cerebellar deficit hypothesis) and involving medical tests (Figure 43).

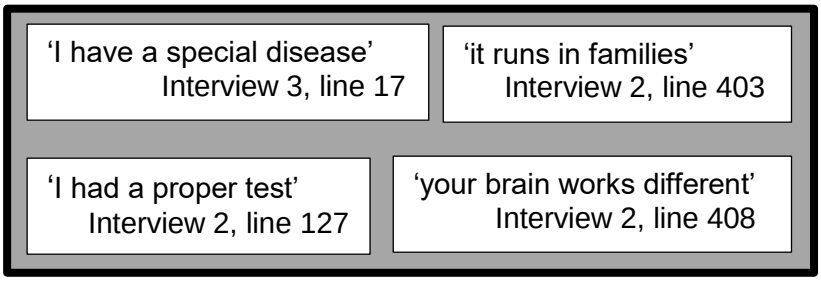


Figure 43 Dyslexia: a medical condition

Pre- and post-diagnostic views of dyslexia were distinguished. Prior to diagnosis, when problems with literacy became apparent, relationships between intelligence and literacy skills were evident:

> 'I knew I wasn't as clever … but I didn't know **that** was the reason for it'
> [***that*** = dyslexia] Interview 1, line 24

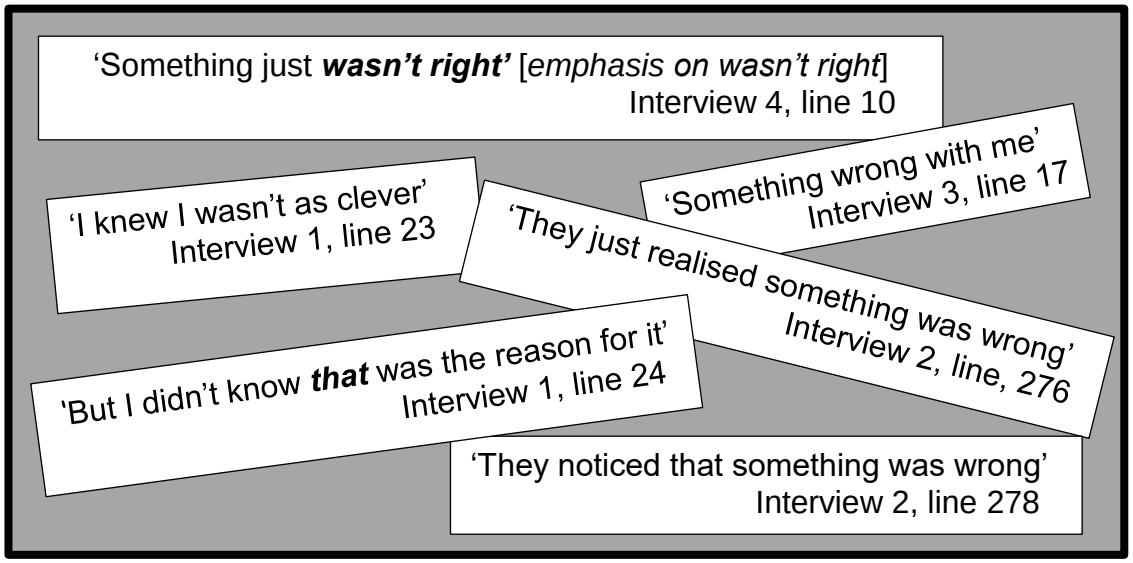


Figure 44 Pre-diagnostic relationships: literacy and intelligence

All students with dyslexia suggested that they, their parents and their teachers knew things were 'wrong' or 'not right' (Figure 44). Intelligence being attributed to a range of observed behaviours, particularly literacy. Intelligence presumed to be a universal and probably innate capacity (Pumfrey & Reason, 1991; Mackay, 2006). Pre-diagnosis findings match Humphrey and Mullins (2002)

assertions that students with dyslexia are more likely to perceive themselves as unintelligent based upon comparisons with peers.

Post-diagnosis relationships between intelligence and literacy become blurred, poor literacy skills no longer a measure of their intelligence. The diagnosis of dyslexia is important explaining difficulties, 'It explains a lot' (Interview 2, line 392):

> 'I feel a bit happier [*pause*] because it explained why I had trouble with spelling and reading and stuff' Interview 3, line 599

Diagnosis further prevents negative attributes of carelessness or laziness and counters general negative attributions that they are slow or stupid. 'I told everyone in my class' (Interview 2, line 139) suggesting that a diagnosis of dyslexia helps to re-frame difficulties and put them in a more positive context: 'Sometimes it gives you a boost because like, because some famous people are dyslexic' (Interview 4, line 526).

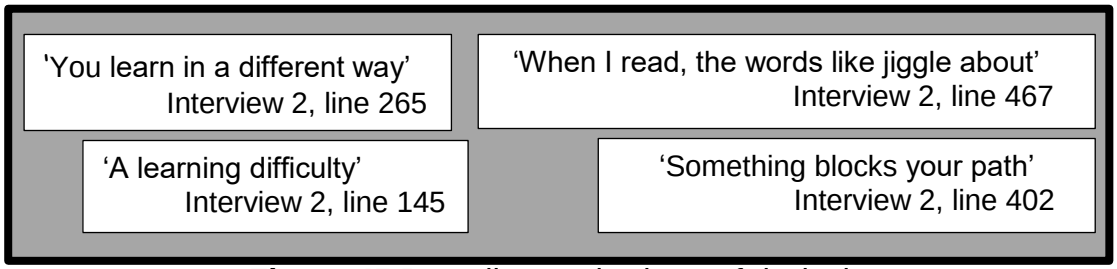


Figure 45 Post-diagnostic views of dyslexia

The label dyslexia is important, proving legitimacy (Figure 45), demonstrating its constitutional origins to those sceptical of the construct (Riddick, 2002b). Although literature identifies the label dyslexia to be useful in reducing stigma, explaining difficulties and improving self-esteem (Humphries, 2001; Humphries & Mullen, 2002; Glazzard, 2010; Riddick, 2002b) changes to students' constructs of intelligence are not explicitly drawn.

Post-diagnosis, a medical model of disability is apparent. All students identified that dyslexia can be overcome through extra hard work, strategies and support: 'you have to put so much more work into it' (Interview 4, line 406) suggesting an incremental theory of intelligence (Dweck, 2006). Intervention is seen as being able to remediate or cure. One student confided that his dad had been

cured of dyslexia: 'he's [*dad*] got over it [*dyslexia*] and he is real bright now' (Interview 2, line 389). Although older students identified that dyslexia was life-long:

> 'you've got to live with it …you can't reverse it, it's just who you are and hope for the best' Interview 2, line 152

Students found expressing how they felt about dyslexia difficult. One student said: 'you can't express how you feel about it' [it = dyslexia] (Interview 3, line 208) indicating the emotional and affective nature of dyslexia.

4.4.2.2 Difficulties

Although not using technical terminology, students acknowledged many of the difficulties with dyslexia cited in literature principally: literacy, phonological processing, serial cuing, working memory and processing speed not matching their cognitive ability. They also identified behavioural outcomes such as boredom, frustration and embarrassment.

Difficulties with short term memory affecting the process of remembering instructions particularly when instructions and information in lessons are mainly oral articulated by:

> 'you remember one thing and then your asked to remember another, and that thing that you want to remember goes out and [*fades*] and you can't remember what your remembering' Interview 3, line 431

> 'it [*dyslexia*] affects my concentration, so I don't listen as much, and I get bored' Interview 1, line 28

> 'you can't remember what she's saying…she might have been saying *jibber-jabber*, but I didn't understand' Interview 4, line 425

Difficulties with processing speed expressed as an inability to convey on paper the ideas contained within their heads:

> 'I can think of stuff, but I can't write it down at the same time' Interview 4, line 46

> 'if I'm like writing a story I have a brilliant set up in my head but I'm quite slow at writing so I sort of forget it half way through. If I like recorded it, it would probably be a lot better' Interview 3, line 645

Students frequently referred to difficulties with spelling and memory (Figure 46) which arise from poor phonological processing (Snowling, 2000; NINDS, 2013; Dyslexia Action, 2010; BDA, 2016) particularly when they encountered irregularly spelt (exception) words.

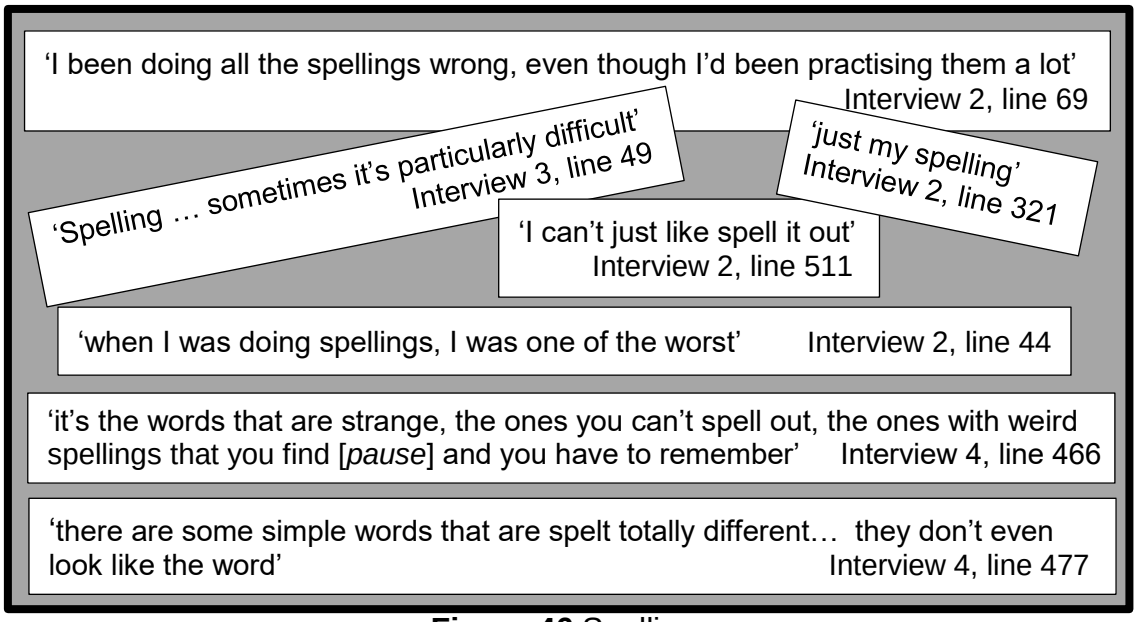


Figure 46 Spelling

Difficulties with serial cuing (Franceschini et al., 2012) caused problems with both reading and copying text: 'when I read the words like jiggle about so, so I would predict the words, or I skip the words' (Interview 2, line 468); 'I skip lines and I don't even notice that I'm skipping lines' (Interview 2, line 196). Copying from the board made difficult through a combination of poor serial cuing, students concentrating upon spelling and trying to keep up with their peers:

> 'looking at the spelling as well, and it's harder to look up…and you can't write as quickly, as well' Interview 4, line 344

Feelings of embarrassment were identified when asked to read aloud in class owing to poor phonological processing:

> 'if we do like group reading, in a lesson, and like you pick up a book and if you don't like know the word, it's kind of like embarrassing in a way, you just like want to die in a hole' Interview 4, line 48

Students considered peers held misperceptions between literacy skills and intelligence:

> ‘when I was in year 5 there was like this really mean boy who came up to me and said ‘*you probably should be in reception because of your handwriting and spelling and I think that reception pupils can do better than you’* Interview 3, line 249

Weak literacy skills affecting setting and placement within lower classes:

> ‘it was just my handwriting and my reading and my spellings…. So I got put in a lower class’ Interview 2, line 132

Poor literacy skills resulting in stigma: ‘you just want to crawl under the table’ (Interview 3, line 491). Students identified bullying and name-calling at primary school (Figure 47) but would not be drawn upon as to whether problems continued at secondary school.

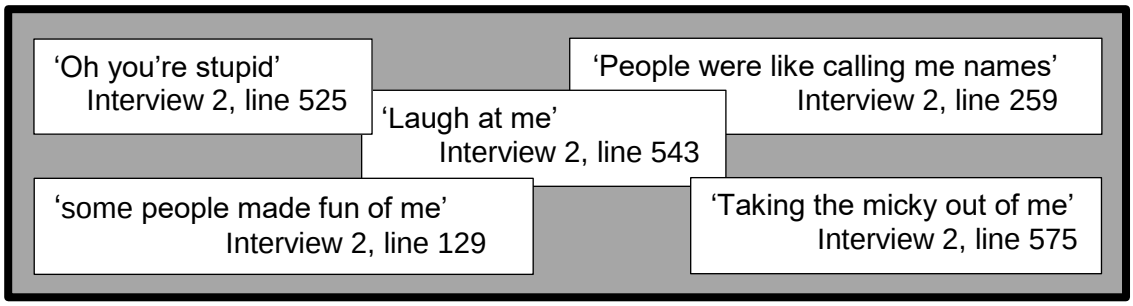


Figure 47 Effect of weak literacy skills (*Primary school*)

Whilst students appreciated the additional support and guidance teachers and TAs provided, strategies in primary school such as being made to catch up on work during breaks and lunchtimes resulted in isolation:

> ‘my teachers had me in at lunch time and helped me’ Interview 3, line 86

> ‘I felt like left out because all my friends got to go out and play and I had to stay in at break and do like extra literacy to help with my reading and my spelling and my writing [*volume drops during sentence*] Interview 3, line 103

Strategies that removed students to work in classes containing younger students resulted in embarrassment:

> ‘I was moved down from yr. 5 to yr. 2 some of the teachers would ask why I was there and I think that was a bit embarrassing’ Interview 2, line 135

Removal from lessons for individual or group work, at secondary school, was similarly not always appreciated: 'no one's perfect at their spelling and their grammar, so I don't know why like we should be like left out of classes' (Interview 2, line 159) and as an extract from interview four (Figure 48) identifies, students felt that this intervention strategy labelled them as different.

386 (A) I don't like to get like pulled out, like just because of **one** thing [*one said slowly and deliberately*]

(B) Yeah, like singled out

Yes! [*Several agree*]

(A) Because that's like saying to the others there's like [*pause*] something wrong with you

Figure 48 Extract: interview 4

Students were concerned over targets. One student sharing their dissatisfaction with targets:

> 'I don't agree with targets … to me it just, just forces you, and you don't take it in. 'Cos I know that I'm going to get to the target'
>
> Interview 3, line 425

Examinations were a source of concern especially GCSE English, particularly repetition until the requisite grade is achieved (Figure 49).

141 (C) I think English grades are the most difficult for us, because all the other subjects are okay… but trying to get that grade you want in English

(B) Yeah, English

(Researcher) *Right*

(C) I think that if you don't get **that grade** [*grade C*] and you have to do it again and again and again… It will be worse doing it in 6th form than getting it now, I think it's just like getting that pass; it's all that you really want. [*Long pause*]

Figure 49 Worries over examination results: interview 4

Comparison with peers (Figure 50) resulting in frustration and embarrassment as students aspire to produce work comparable to peers. 'I want to achieve what other people do' explained one student (Interview 1, line 90).

57	(A) I like check stuff what everyone else is doing, and I look, and they have a lot more down than me, and like, better quality than me
	(B) I read like the first couple of lines and they were like, really good [*pause*]
	(*Researcher*) *How does it feel when you're struggling with reading and writing?*
	(B) Frustrated [*pause*] Frustrated [*pause*] Yeah

Figure 50 Comparison to peers: extract interview 1

Most students suggested that many teachers at primary school lacked understanding:

> 'sometimes they'd shout at me for like spellings, erm, simple words wrong' Interview 2, line 123

Although a number identified teachers who helped and supported them: 'some teachers here that have helped me' (Interview 4, 301). At secondary school strategies could be inconsistent:

> 'I don't always get as much attention and help' Interview 1, line 49

One student suggested that some teachers did not recognise them as being dyslexic: 'I'm not sure that they all know' (Interview 1, line 62).

4.4.2.3 Perceptions of others

Students identified that peers in primary school equated poor literacy skills with lower intelligence: 'they think that just because you are dyslexic you're thick' (Interview 4, line 109) matching the findings of Pumfrey and Reason (1991); Humphries (2001); Humphries and Mullen (2002) and Glazzard (2010).

Comparison to others influenced students' own attributions of intelligence. 'I knew I wasn't as clever as a lot of my friends around me' one student confided (Interview 1, line 23). Speed and fluency of writing appearing to be the most affective factors in attribution of intelligence:

> ‘because we can’t do things as quickly as them, or we can’t write or spell as well, just because it takes us a bit longer, I would say to them, we are not thick, we just learn differently’ Interview 4, line 119

4.4.2.4 The label ‘SEND’

> ‘it’s [*dyslexia*] not really a thing, it’s just a learning difficulty, it only affects you when you’re reading and writing, it doesn’t affect general life’ Interview 3, line 532

Students were adamant that dyslexia was not SEND: ‘you’ve got trouble like reading or writing or spelling’ (Interview 3, line 382). Whereas SEND inferred inability, the term SEND is ‘like saying to the others like there’s something wrong with you’ (Interview 4, line 391. Students suggested the term SEND ‘sounds thick’; 'like something is not right’; ‘like you are dumb’ and ‘you don’t understand things’ (Interview 4, lines 176 - 182) and inferred a limit to achievement: ‘have got no hope’ (Interview 4, line 183); ‘they’ve sort of been levelled… that’s the level’ [*they’ve = SEN student*s] (Interview 3, line 574) and you 'can’t do anything more than that’ (Interview 3, line 575*)*.

All the students distanced themselves from students with SEND, who they perceive to have greater negative attributes than themselves, which Riddick (2002b) terms elitism.

4.4.3 Deductive content analysis: group interviews

Overlaying the Conceptual Framework onto group interviews identified three of the five themes from the Conceptual Framework namely:

- constructs of disability
- constructs of intelligence and
- perception of language

Figure 51 is a diagrammatic representation.

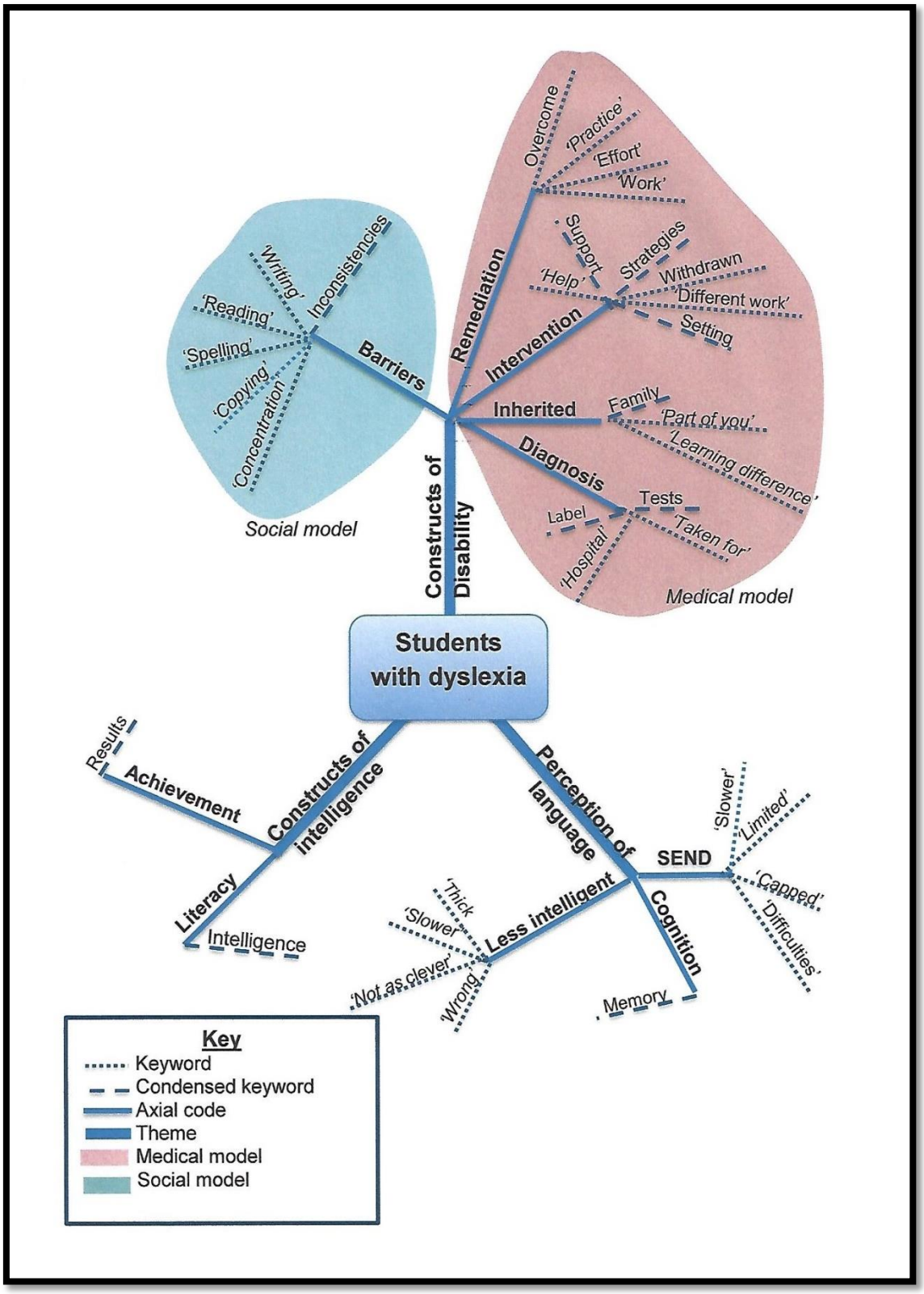


Figure 51 Overlaying the Conceptual Framework onto group interviews

For the purposes of the diagram and to aid analysis a number of keywords have been condensed (Miles, Huberman & Saldaña, 2014). Layout, direction and length of lines are not indicative of frequency or importance of data.

Analysis suggests the medical model of disability to be most prevalent. Dyslexia inherited, diagnosed and overcome through intervention and effort. Although, students identified a social model of disability; barriers to learning, caused by literacy orientated curricula.

Demonstrating that stigma can be ascribed to labels all students within the study disassociated themselves from the term SEND and its connotations of lower intelligence and limited achievement. Students identified links between literacy skills and intelligence but post-diagnosis their literacy difficulties, a resultant of dyslexia rather than lower intelligence; diagnosis an important part of self-perception. Attainment measured by examination results was linked to intelligence.

Critical analysis of the three themes from the Conceptual Framework follows:

4.4.3.1 Constructs of disability

The medical model of disability featured heavily as students identified dyslexia being inherited and diagnosed (Figure 52) and that difficulties associated with dyslexia could be overcome though a combination of extra effort, help, support and intervention strategies (Dweck, 2006): 'I've sorted out my own strategies' (Interview 4, 300).

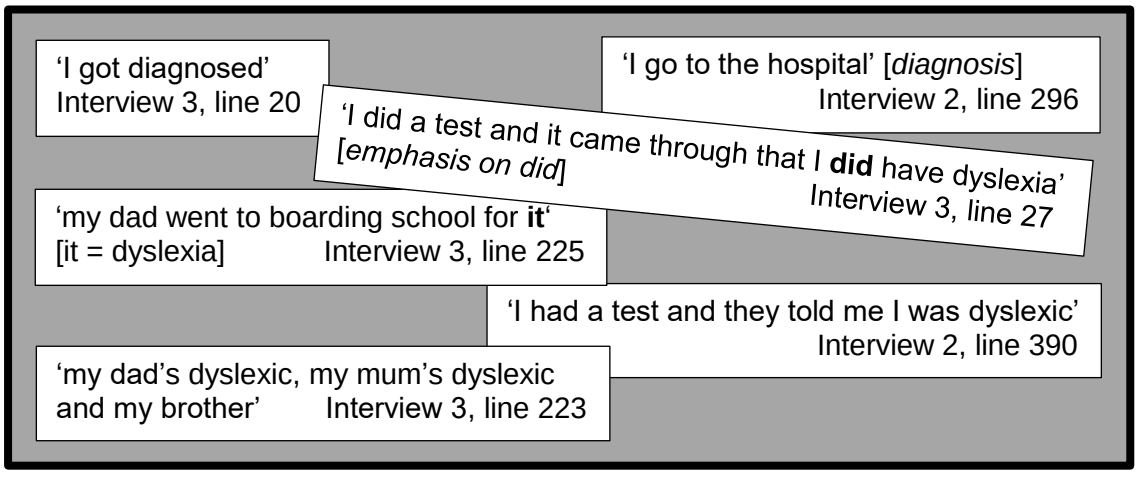


Figure 52 Dyslexia: inherited and diagnosed

Students identified barriers to learning; a social model of disability, poor serial cuing causing difficulties in copying from the board (Franceschini et al., 2012) particularly if writing is closely spaced and had no reference points (Figure 53).

‘Teachers should make bigger spaces so you can see where the lines are and the sentences would be clearer’ Interview 2, line 219

‘sometimes when we are copying off the board; we’ve got loads and loads and we just have to copy it all’ Interview 4, line 340

‘I could not read what she was writing and I couldn’t write what she was writing …umm… it was very hard’ Interview 2, line 62

‘They could slow down with their writing, because I am quite a slow writer, because I like *[pause*] like try and get it all neat and all that, and so when all my mates finish I’m only half way [*pause*] and they keep rushing me’ Interview 2, line 215

‘I skip lines and I don’t even notice that I’m skipping lines’ Interview 2, line 196

Figure 53 Problems with copying

Poor short term memory causing difficulties when lessons were mainly aural, suggested to students that:

> ‘I’m not sure that they all know’ Interview 1, line 62

> ‘I think some lessons, like some of the teachers, they don’t know you are. They don’t know what difficulties you’ve got and what differences’ Interview 2, line 618

4.4.3.2 Constructs of intelligence

Students suggested teachers, peers and siblings perceived links between literacy and intelligence (Gardner & Hatch, 1989; Pumfrey & Reason, 1991; Mackay, 2006). Weaker literacy skills resulting in teachers placing students with dyslexia into the smaller lower ability sets: ‘put in a smaller group’ (Interview 4, line 234):

> ‘I was in the lower class just because the teachers thought I wasn’t learning very good’ Interview 2, line 130

Comments of peers and siblings perceived as being indicative of their perceptions:

> ‘they said [*peers*] Erm [Name] not very good [*clever*] because she can’t spell and everything’ Interview 2, line 571

Relating a story of how when completing homework a student had asked their mum for a spelling said:

> ‘my little brother comes up to me. He goes ahead and spells **it** out loud and says I’m stupid’ [it =*word*] Interview 2, line 555

4.4.3.3 Perception of language

The majority of students interviewed perceive the term SEND as inferring inability, a limit to achievement and lower intelligence using terms such as: ‘thick’; 'not right'; ‘dumb’ and ‘don’t understand things’ (Interview 4, lines 176 - 182), identifying these students perceive students with SEND as possessing greater negative attributes than they themselves.

4.4.4 Triangulating analyses: group interviews

Triangulating the inductive analysis with the deductive analysis identified areas of both correspondence and disparity (Figure 54). Inductive analysis identified behavioural outcomes of dyslexia, difficulties with literacy resulting in name calling and bullying and that some literacy strategies produced isolating barriers although students suggested these were confined to primary school, which is outside the remit of the study. Deductive analysis identified students perceived barriers caused by a literacy orientated curriculum. Students identified links between examination results and intelligence, acknowledging difficulties with literacy could make achieving the required GCSE level in English difficult.

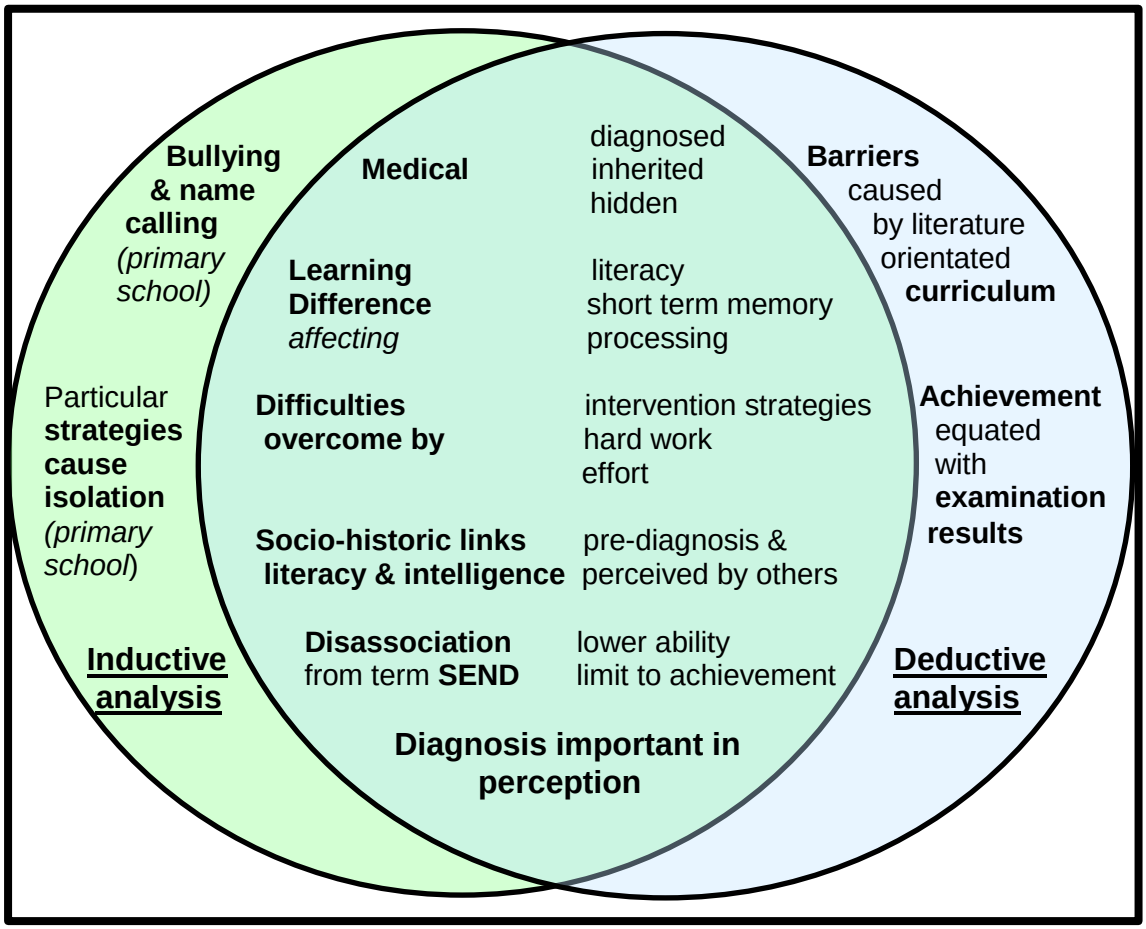


Figure 54 Triangulating analyses: group interviews

Inductive and deductive analyses identified that students with dyslexia in the study perceive dyslexia mainly through a medical model of disability. All students in the study identified dyslexia as a medical condition, being diagnosed within a clinic. They were aware of a biological causal explanation; a neurological ('Brain based') condition (cerebellar deficit hypothesis) and its inheritability. Viewing dyslexia as a medical condition, difficulties can be remediated through intervention strategies, support and hard work. Older students further identified dyslexia as life-long, necessitating continued management, corresponding to a medical understanding of dyslexia (Figure 55).

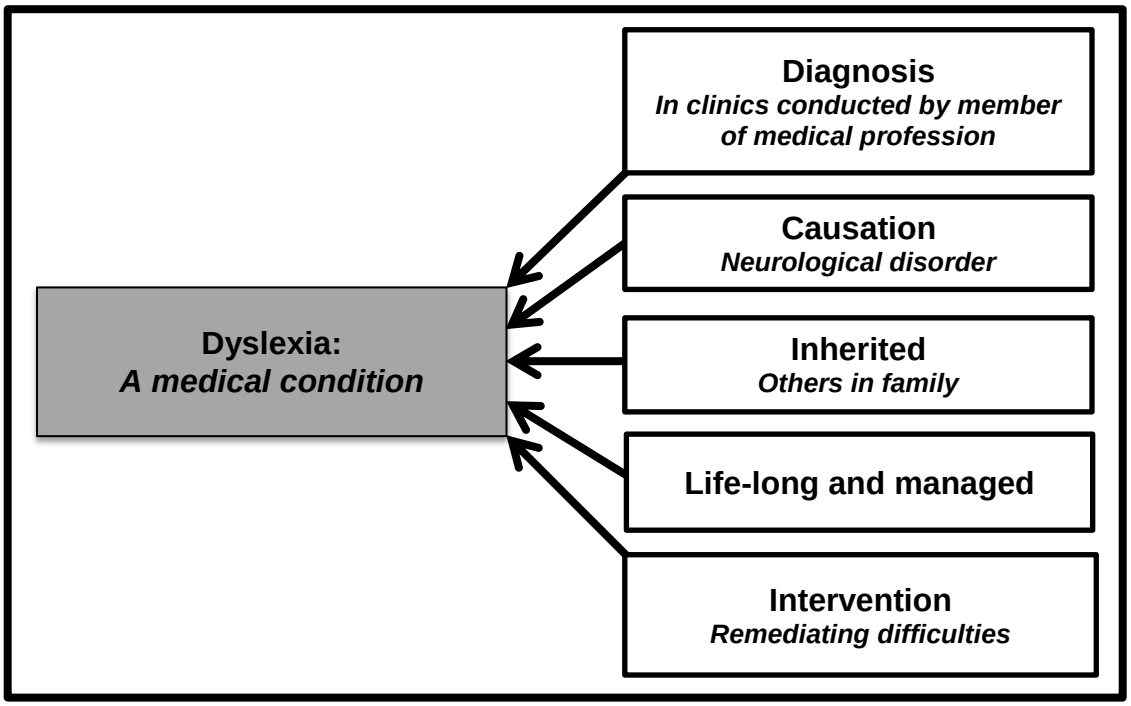


Figure 55 A medical model of dyslexia

Students identified most of the characteristics of dyslexia (Section 1.1.1, p.2), difficulties with literacy, short term memory and processing speed attributed to their 'medical condition'. Whilst Macdonald (2009, p. 273) suggests that 'children should not be labelled with dyslexia because this encourages parents to understand their children's educational difficulties as a medical (rather than social) problem', the study indicates that students with dyslexia possess this construct viewing dyslexia as a medical condition. Viewed as a medical condition, diagnosis explains difficulties. Students in the study use the label dyslexia to explain their difficulties to others, reducing stigmatisation, identifying stigma to be associated with the symptoms of dyslexia, rather than the label itself. Literature similarly identifies the label of dyslexia to explaining difficulties and reducing the stigma associated with poor literacy skills and also to be useful in improving self-esteem (Humphries, 2001; Humphries & Mullen, 2002; Glazzard, 2010; Riddick, 2002b). Implicit within the improvement of self–esteem is the notion that diagnosis changes self-perception.

Students recognised peers, siblings and teachers perceived relationships between literacy skills and intelligence. Pre-diagnosis students similarly held these perceptions themselves. However, diagnosis plays an important role in

self-perception. Diagnosis explains difficulties, poor literacy skills no longer indicative of lower intelligence. All students disassociated themselves from the term SEND, which they perceive as signifying students with lower ability, the term possessing greater negative attributes.

Students value the label dyslexia. A view-point running contrary to protagonists of the social model, who advocate labels loaded with social meanings and preconceptions (Söder, 1989) perpetuate misconceptions and reinforce stereotypes (Macdonald, 2009). Which I believe to be a contentious argument, based upon the assumption labels always carry stigma, and the belief that abolishing labels automatically abolishes stigmatisation and discrimination as 'labels on their own do not necessarily lead to stigma' they simply 'encapsulate or distil stigmatisation that already exists' (Riddick, 2002b, p.305).

Ownership of the dyslexia label provides students with self-definition and personal understanding, a means of overcoming social barriers, the suggestion that they are 'stupid', 'thick' or 'lazy' replaced by the concept of a learning difference. Negative connotations and stigma attached to the label SEND however were clear, most students within the study attributing lower intelligence and a limit to achievement to students with the label SEND, adamant that dyslexia was not SEND, distancing themselves from miss-attributions of lower intelligence matching Riddick's (2002b) description of elitism.

4.4.5 Revising the student component of the Conceptual Framework

Figure 56 represents the student component of the Conceptual Framework as it appeared at the start of the research; key factors, constructs and presumed inter-relationships. Reflection identifies the initial framework does not sufficiently reflect the complexities in the relationships between factors influencing students with dyslexia perceptions of dyslexia. As with the teacher component, a number of factors require deconstructing into their component parts, and additional factors require integrating into the model.

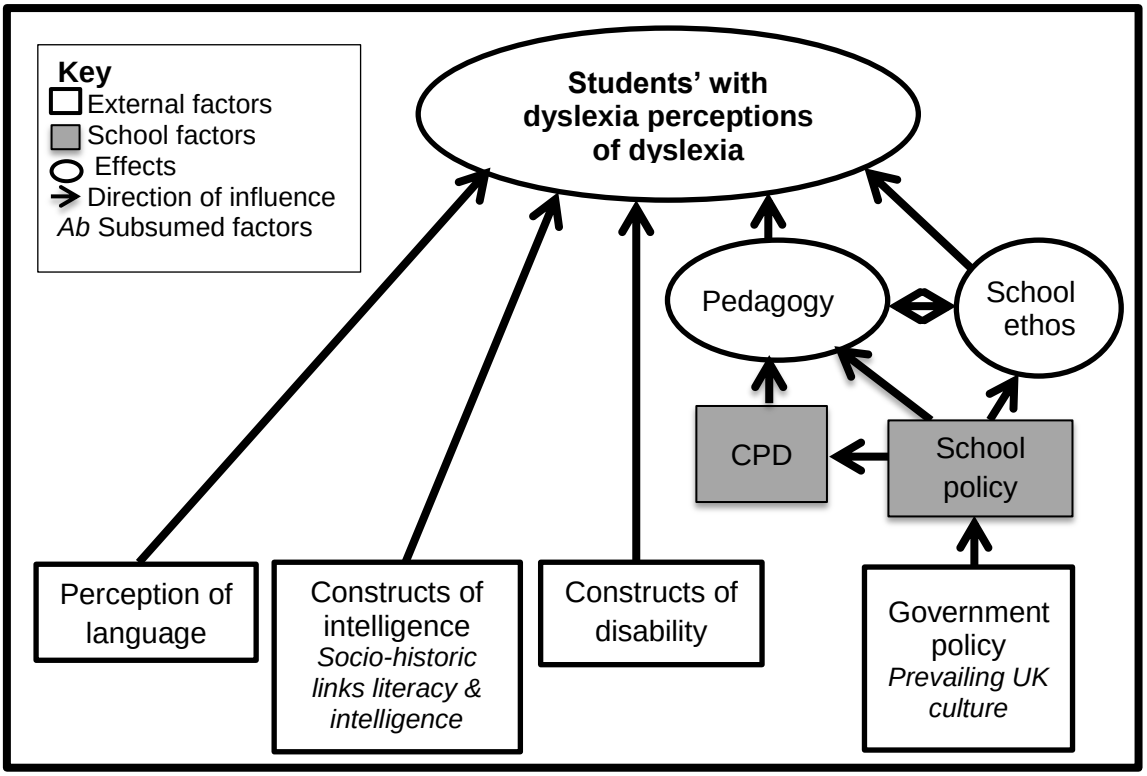


Figure 56 Student component: initial Conceptual Framework

Relationships between literacy and intelligence were considered within constructs of intelligence. However, analysis identified these socio-historic links, albeit pre-diagnosis, to be significant, affecting constructs of intelligence. Characteristics of dyslexia particularly poor literacy skills contributing to this construct. Diagnosis is significant to perception explaining difficulties, reducing stigma and mediating socio-historic links between literacy and intelligence. Whilst these students view dyslexia as a medical condition; inherited, diagnosed and remediated by intervention. They do not view themselves as disabled, dissociating themselves from the label SEND, which is reflected within the Conceptual Model; 'Constructs of disability' being removed from the student component (Figure 57) although pedagogy and school policy remain; as both are influential in forming the Academy ethos, which influences how students perceive themselves and interact with peers.

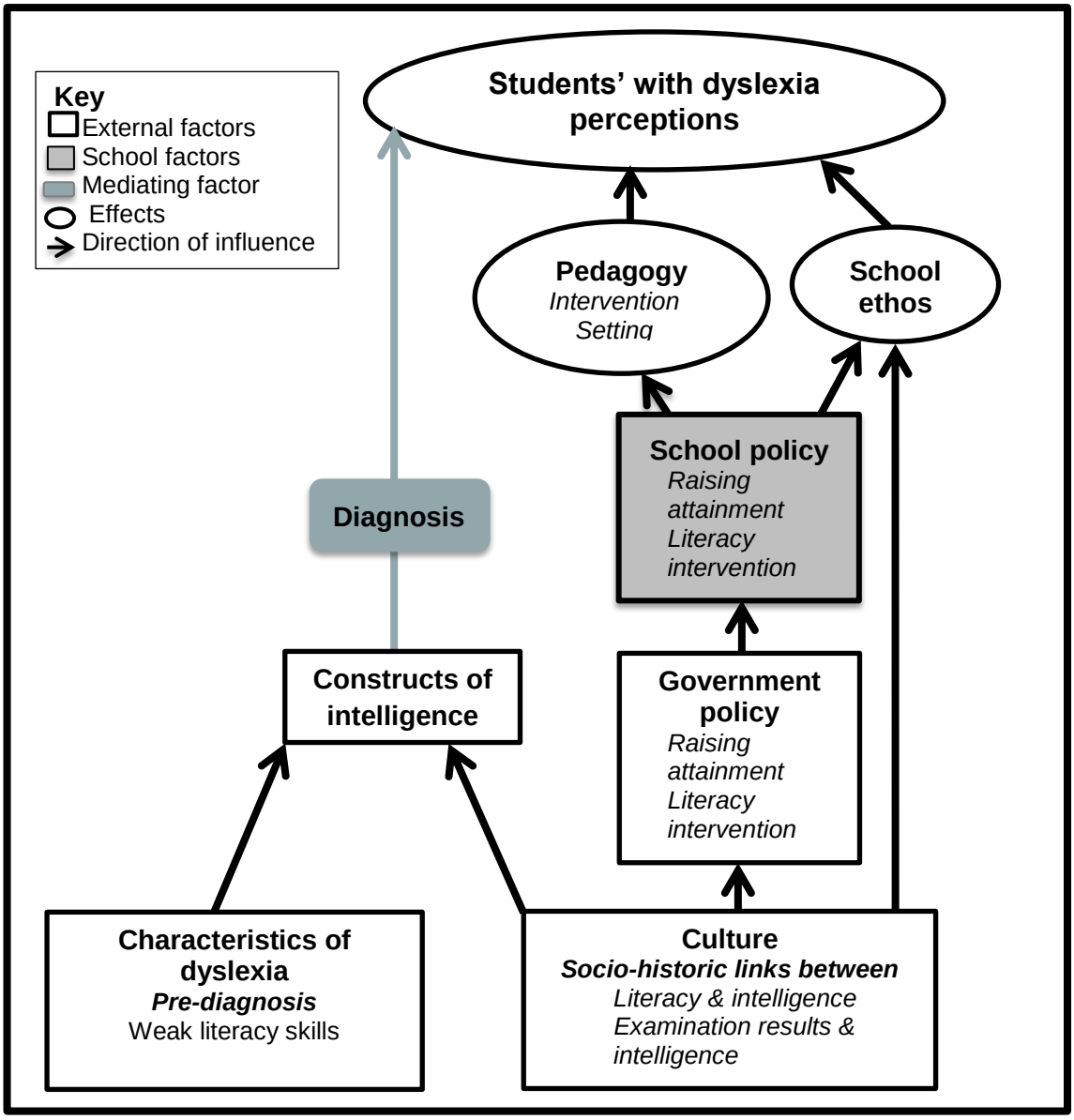


Figure 57 Student component of Conceptual Model

4.5 Conceptual Model

4.5.1 Teacher and adult retrospective

As with the students, the teacher with dyslexia revealed pre-and post-diagnostic perceptions of dyslexia (Table 22).

	Pre-diagnosis	Post-diagnosis
Literacy	View themselves, as 'slow', something being not right, or 'wrong'	Dyslexia explains difficulties
		Hard work, intervention strategies and support mediates difficulties
Intelligence	Literacy equated with intelligence	Intelligence unrelated to literacy
Stigma	Poor literacy skills result in embarrassment	Label explains difficulties

Table 22 Pre- and post-diagnostic perceptions

The teacher's language and phrases used to describe perceptions mirroring those of students. Students and teacher both suggesting that pre-diagnosis, when difficulties with literacy became apparent, there was something 'wrong' with them:

> 'there was something wrong with my brain, or my memory, or something, that there was something wrong anyway - that was at primary school' line 29

Correspondingly it was comparison with peers that signified to them to be 'slow' or less able: 'I knew I was slower doing things than everybody else' (line 32).

> 'I just thought. I'm just slow [*pause*] I'm actually just slow, that's what I've been called for years' line 196

The similarity in language used indicating socio-historic links between literacy and intelligence. Intelligence attributed to observable characteristics such as literacy (Pumfrey & Reason, 1991; Mackay, 2006).

Issues such as the frustration of trying to learn spellings were similarly identified:

> 'I've learnt a particular word and then trying to spelling it, and then I'd still get it wrong, and that was so frustrating' line 188

Likewise post-diagnosis dyslexia is viewed as a medical condition: 'when I was diagnosed they put it down as dyslexia' (line 122). Corresponding to the

student's views, dyslexia is brain based (Cerebellar deficit hypothesis) producing 'an alternative way of thinking' (line 16). Similarly literacy difficulties are no longer related to intelligence: 'nothing to do with literacy at all' (line 139) and as with the older students, recognition that dyslexia is life-long:

> 'you think that it's something that has to be fixed … and it's not something that can be fixed it something that has to be worked with'
> line 114

There was empathy with the isolating effects of intervention strategies which remove students from the classroom, which students sensed strongly:

> 'students that I have are taken out of the class. [*pause*] I know that actually they get better, and they get 1:1 but it means there not with the other group, there is a sort of, erm, exclusion because of it, [*pause*] and you know. [*pause*] I think there can be sometimes, long term effects on them so; I would like to see them a bit more integrated within the class'
> lines 205 – 212

Corresponding with the semi-structured interviews with teachers, there was an element of realism to the degree of intervention given to students within the classroom:

> 'in the real world they won't have that 1:1' line 21

4.5.2 Integration and synthesis of all data sources

Integration identifies components of both social and medical models of disability within all data sources (Figure 58). Teachers and students with dyslexia in the study perceive dyslexia mainly through a medical model, necessitating intervention although both groups perceive intervention differently, students perceive it as remediation whilst teachers as barrier removal; a social model, demonstrating constructs of disability are not discreet (Palmer & Harley, 2012) suggesting perceptions of intelligence based upon the construct of disability are likely to be unpredictable.

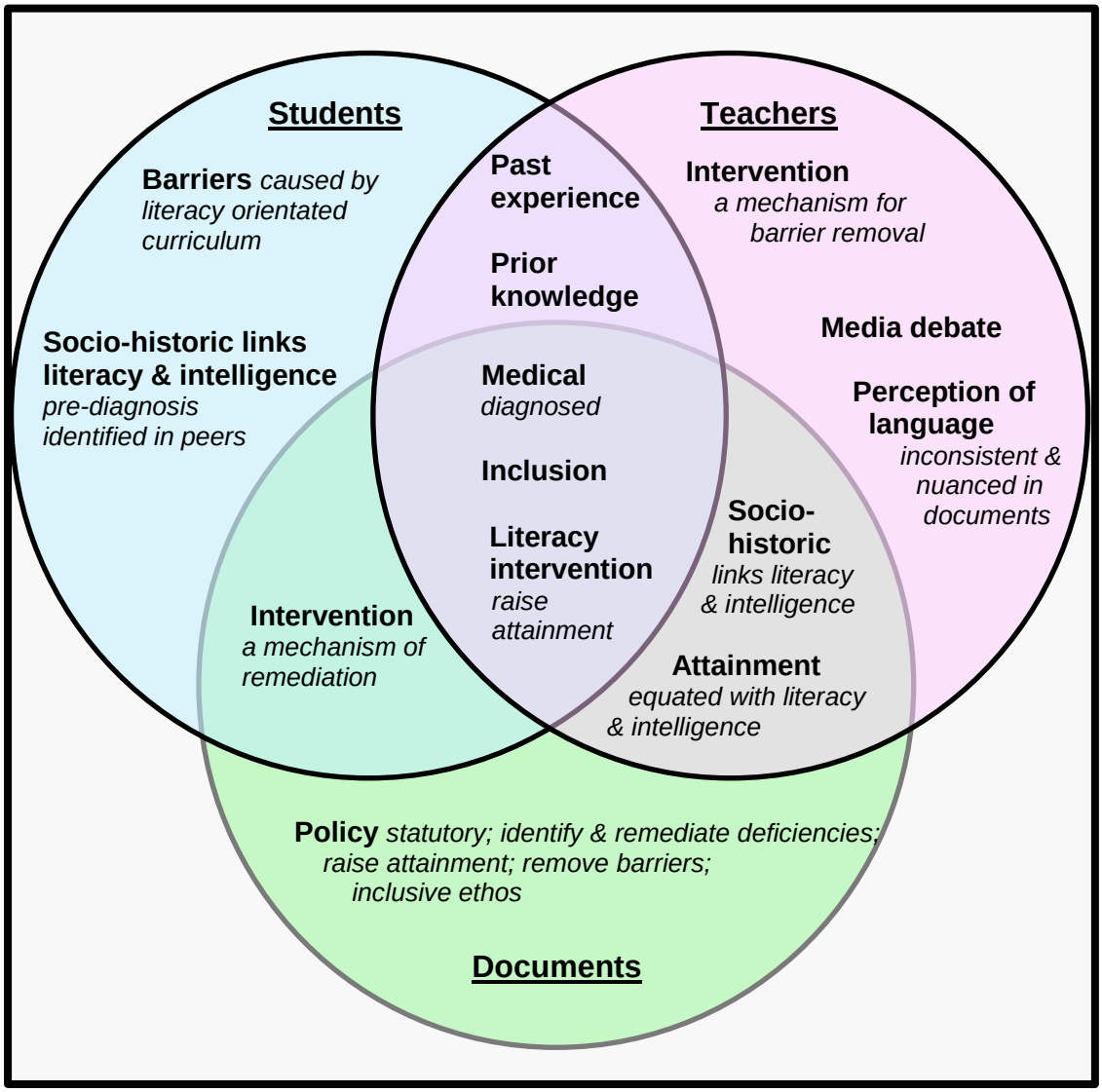


Figure 58 Integration and synthesis of analyses from all data sources

Socio-historic links between literacy and intelligence were found in all sources albeit pre-diagnosis in students with dyslexia, prior experience and knowledge serving to moderate or strengthen teachers' perceptions of literacy skills and intelligence. Literacy intervention, a substantive component of policy reinforces socio-historic links between achievement, intelligence and literacy. Examination success is equated with proficient literacy skills and subsequently examination success. Examination success was viewed as a measure of intelligence, reinforced by media.

4.5.3 Synthesis of Conceptual Model

The issues surrounding perceptions of dyslexia are complicated, as Shakespeare and Watson (2002, p. 32) identify 'disability is a complex dialectic of biological, psychological, cultural and socio-political factors, which cannot be extricated except with imprecision'. Perception of disability is a complex and convoluted relationship between many factors, individual elements of one factor impinging upon elements of other factors. Relationships are not simple, single factors (variables) cannot be extracted and controlled to examine their effect as they might in a positivistic scientific manner.

The Conceptual Model (Figure 59) integrates the Conceptual Models of documents (Figure 27, p.136), teachers (Figure 41, p.157), and students (Figure 57, p.178). To enable the model to be constructed on one page, some of the information within factors, which Miles, Huberman and Saldaña (2014) term 'bins' have been reduced and repositioned to reduce the number of arrows, representing the direction of influence each factor possesses crossing, to aid clarity. The Conceptual Model has become correspondingly more differentiated and integrated than the original Conceptual Framework.

The argument the Conceptual Model presents is one of a complex interaction between many factors influencing perception. Teachers' perceptions of dyslexia are constructed within a prevailing UK culture of mutual respect, tolerance, and understanding difference (Fundamental British Values, DfE, 2014c). The Academy ethos its vision of inclusivity, which aspires to fairness and equal opportunity for all supplanted by the Governments demand for increasing student attainment underpins policy and pedagogy.

Socio-historic links between literacy, attainment and intelligence, form the crux of teachers' perceptions of dyslexia, supporting the epistemological stance of the study, that reality is socially constructed. A complex amalgam of factors influences teachers' perceptions of dyslexia, some factors mediating, others exacerbating previously held convictions or attitudes.

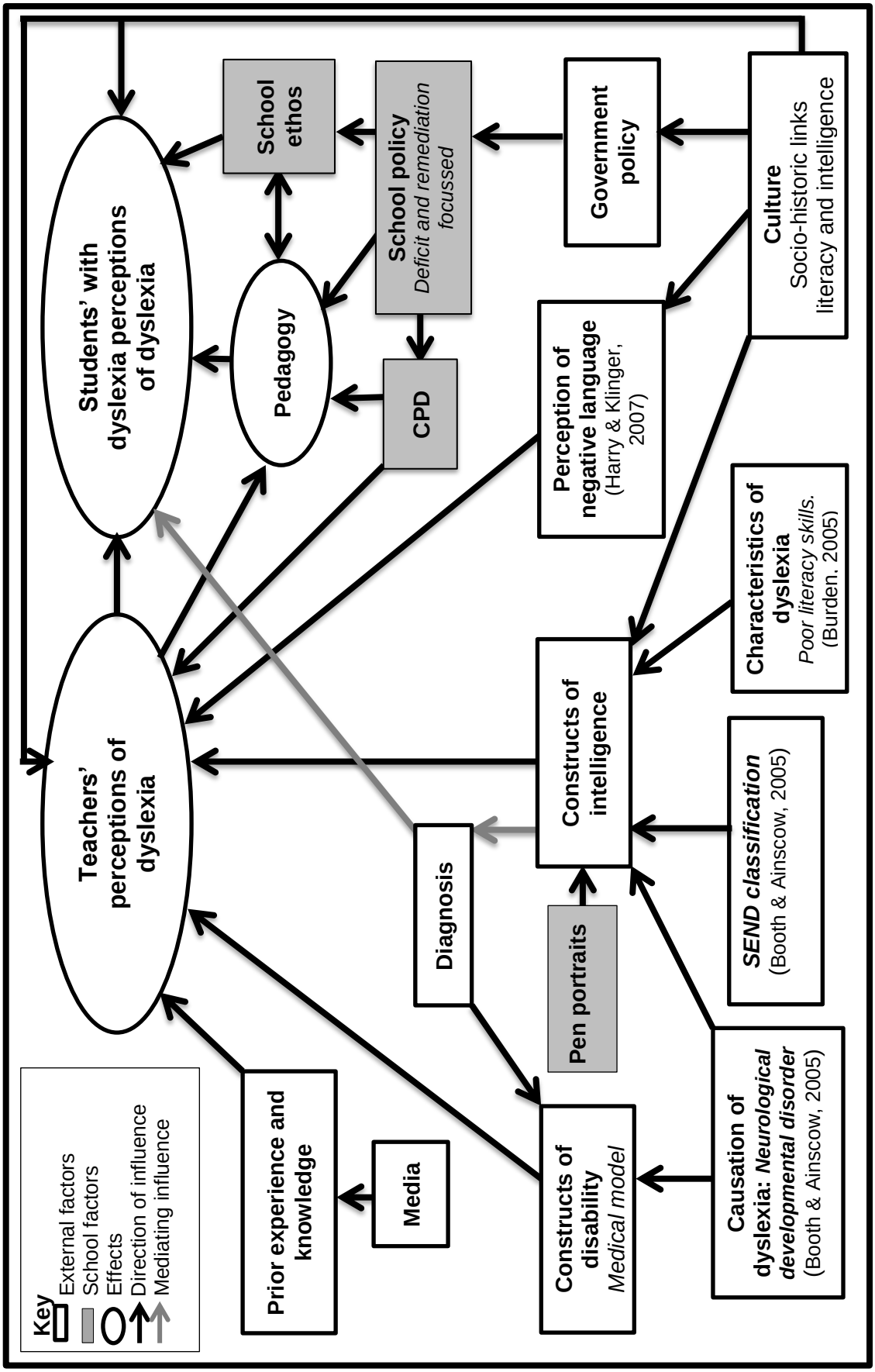


Figure 59 Conceptual Model

Characteristics of dyslexia, affect both constructs of intelligence and constructs of disability. Language and content of school policy documents and their dissemination during inset similarly influence both constructs of intelligence and constructs of disability, affecting pedagogy.

Students' perceptions of dyslexia are similarly rooted within prevailing culture, socio-historic links between intelligence and literacy influencing concepts of intelligence although diagnosis significantly mediates these connections. Perceptions influenced by the school ethos and pedagogy; curricular and instructional opportunities offered and teacher interaction, which in turn affects motivation for learning and academic achievement an observation similarly identified by Hornstra et al., (2010).

The dichotomy observed in this study between policy and practice. Policy conceived within a social model of disability and practice of intervention and remediation; a medical model, appears to be a consequence of socio-political factors demanding increasing student attainment by Government to place the UK education system within the top echelons of the world's education ranking system, and the long established systems of written examinations which accentuate socio-historic links between literacy and intelligence promulgating intervention, which teachers in the study view as barrier removal. Policy driven by the School Development Plan (SDP) focused upon school improvement, school targets, performance league tables, student attainment, and target-led performance management invariably results in pedagogy of target-led teaching, intervention and remediation.

Chapter 5

Conclusion

5.1 Introduction

This chapter critically examines the findings to address each research question, exploring tensions and offering plausible explanations. The purpose of the study is to explore how dyslexia is perceived by students with dyslexia and their teachers and examine factors that may influence perception together with a consideration of how these contribute to a Conceptual Model. The nature of the study is interpretive; to listen and reflect with the purpose of adding to knowledge of dyslexia and informing policy and practice. This chapter reflects upon the research, making recommendations, identifying further areas for research and concludes with a personal reflection upon teaching pedagogy and response to Jeff, who inspired the research.

The research identified that whilst Academy policy is conceived within a social model of disability its vision and ethos being one of inclusivity. Inconsistent terminology and language within documents reduced inclusivity, leading teachers to perceive students with SEND as less academically able. The predominant discourse within the Academy is of students with SEND having deficiencies requiring remediation and intervention; a medical model of disability. Paradoxically, teachers view intervention as barrier removal. The dual classification of students with dyslexia within the Inclusion Handbook, in both the medical section and the SEND section as SpLD lead teachers to view dyslexia through a medical model of disability although, teachers were confused by the term SpLD. Characteristics of dyslexia, principally weak literacy skills, and strong socio-historic links between literacy and intelligence, affect constructs of intelligence.

Literacy is identified as important to learning and socio-historic relationships between literacy and intelligence were identified amongst some teachers and students albeit pre-diagnosis.

Students with dyslexia perceive dyslexia as a medical condition, unrelated to intelligence. Students identified dyslexia as a learning difference, principally affecting literacy skills. However, students identified that literacy focussed curricular produced barriers to learning. A number questioned the validity and fairness of setting, based upon what they perceived as solely literacy skills.

5.2 Addressing the research questions

Question 1

How do teachers within the Chestnut Academy perceive students with dyslexia?

The prevalent view held by teachers of students with dyslexia in the study is of dyslexia as a medical construct; deficiencies innate to the individual necessitating intervention. Teachers identified students with dyslexia as being ‘diagnosed’. Diagnosis viewed, by most, as a medical process which together with the identification of students with dyslexia within the Medical Register, confirms dyslexia’s medical status. Teachers identified that dyslexia was of neurological origin, which may give rise to misconceptions that all students with dyslexia have some form of cognitive impairment.

Dyslexia is perceived as a learning difficulty, primarily affecting literacy. Literacy identified as important to learning and attainment. A number of the teachers suggested students with dyslexia would be concentrated within, or confined to, the lower bands within the Academy, identifying socio-historic connections between literacy and intelligence, perceiving most students with dyslexia to be of lower intelligence and with it lowered expectations and lower attainment. Students with poor literacy skills were perceived to be disadvantaged, particularly in examinations. Relationships between literacy and examination results, links between examination results and intelligence, intuitively re-enforce socio-historic links between literacy and intelligence.

All of the teachers described characteristics of dyslexia in deficit terms, although a number also identified students may exhibit strengths. One explanation for a deficit narrative is that intervention pinpoints what students are unable to do. Pen portraits (previously IEPs) perpetuate the notion of the deficient student (Riddick, 2001), policy documents, and much of the literature on dyslexia, use discrepancy based definitions, deficit-laden language bringing with it the perception of irreversible and inherent inability (Harry & Klinger, 2007). Further dyslexia's classification within the SEND category of cognition and learning needs, may give rise to misconceptions that all students have some form of cognitive impairment. The term 'cognition' suggesting students possess lower intelligence.

A significant finding of the research was that teachers view intervention as barrier removal, a concept associated with the social model of disability, which confirms Palmer and Harley's assertions (2010) that constructs of disability are not clearly defined, but lie on a continuum. Intervention viewed as barrier removal, may be socially learnt, with the consequence that teachers may fail to consider the role of the environment, their practices, as contributing to students' with dyslexia problems within the classroom, which was exemplified by comments that students with dyslexia were entitled to learn in the same way as others, and questioned whether in the 'real world' all material would be amended, endorsing Ho's view (2004) that changing pedagogy for the few, may be deemed impracticable.

Question 2

Does the Chestnut Academy policy and guidance on dyslexia affect teachers' perceptions of students with dyslexia?

Acknowledging that documents do not have the capacity to form perceptions, the language and content of policy documents is perceived as reflecting normative views of the teaching profession, which may influence teachers' perceptions; confirming existing perceptions and stereo-types, influencing both

constructs of intelligence and conceptual models of disability, which affect pedagogy.

Policy is driven by the School Development Plan (SDP) which is focused upon school improvement, performance league tables and student attainment. The SDP informs CPD and inset. The low literacy levels of many students on entry to the Academy results in policy focussed upon literacy intervention which reinforces socio-historic connections between literacy and intelligence. Policy driven by the SDP identifies and responds to deficits within provision and achievement of students with SEND. Policy focused upon intervention and remediation suggests innate deficiencies which promulgates a medical model of disability rather than focussing upon barrier removal; a social model of disability (Shakespeare & Watson, 2002).

Academy targets and target-led performance management of teachers result in target-led teaching, which may exacerbate teachers' perceptions of lower intelligence amongst students with weak literacy skills. Implicit socio-historic links between intelligence and literacy were drawn. One teacher identifying that proficient literacy skills affected intelligence and two further teachers identifying that students with dyslexia, would be in the bottom sets.

The Vision Statement and policy documents affirm the Academy's concepts of a fair and inclusive society. An inclusive ethos, derived from a social model of disability. However, documents show discrepancies. Inconsistency in language and terminology allow for multiple readings of text producing mixed messages. Terms such as SEND learner suggest students who lack autonomy. The predominant discourse is that of students with SEND having deficiencies requiring remediation and intervention; a medical model of disability.

The classification of dyslexia within the Medical Register of the Inclusion Handbook establishes difficulties as innate; a medical concept. Whilst classification as SpLD within the SEND Register confirms students with dyslexia as having special educational needs. The term SEND is not value free, it is laden with meaning signifying students with issues, difficulties, and needs,

learning and behavioural or both. Words such as ‘problem’, ‘difficulty’, ‘poor’ and ‘need’ inferring innate deficiencies appear regularly throughout documents providing evidence for an argument that deficit nuanced language contributes towards teachers conceptualising dyslexia through a medical model. Although, assigning a label establishes eligibility for provision (Ho, 2004).

Whilst teachers in the study identified they had read school policy documents, they did not consult them regularly, which might suggest the content, nuances of language and conceptual models of disability contained within them may have little, or no, influence upon teachers’ perceptions of dyslexia. However, policy is implicit, reflecting and setting the school ethos and informing CPD. Policy driven by the School Development Plan (SDP) focused upon school improvement, school targets, performance league tables, student attainment, and target-led performance management invariably results in pedagogy of target-led teaching.

Question 3

To what extent do teachers’ perceptions of dyslexia converge with their perceptions of literacy?

All teachers in the study identified dyslexia in terms of literacy difficulties. Subtle links between literacy and intelligence were drawn. Data identifies links between literacy and examination success, and examination results and a notion of intelligence although this was explicitly rejected by two teachers. It was suggested that in order to access the curriculum proficient literacy skills were required, a lack of proficiency reducing attainment. Confirming implicit socio-historic links between intelligence and literacy exist, one teacher identified that proficient literacy skills positively affected intelligence. Two further teachers identified that students with dyslexia would be in the bottom sets. Setting, based upon literacy skills was suggested as limiting student achievement. The attention paid to literacy within the classroom, to remediate

difficulties, identified as reducing opportunities for students with dyslexia to excel.

Teachers' existing socio-historic concepts of intelligence re-enforced by the Academy policy of setting students according to literacy ability and promotion of proficient literacy skills as essential for academic achievement. Students with poor literacy skills were perceived to be disadvantaged, particularly in examinations. Teachers suggested students with dyslexia would not be in the top sets, identifies socio-historic connections between literacy and intelligence. They perceived students with poor literacy skills, and therefore students with dyslexia, to be of lower intelligence and with it lowered attainment and lower expectation matching Elliott and Grigorenko's observations (2014) of teachers making inappropriate attributions of lower intelligence to poor readers, and having lowered expectation.

Target-led teaching, school targets and target-led performance management of teachers further exacerbated teachers' perceptions of lack of intelligence amongst students with weaker literacy skills. Intervention perpetuating the notion of deficiencies 'intrinsic to the individual' (Pfeiffer, 2002, p.3), and contributing to a medical model of dyslexia.

Question 4

How do students with dyslexia within the Chestnut Academy perceive dyslexia?

Students in the study view dyslexia through a medical model of disability. Dyslexia is medical condition diagnosed and intervention strategies remediate difficulties. They were aware of a biological causal explanation for dyslexia (Brain-based) and its inheritability. Diagnosis is significant, identifying dyslexia as a medical condition with difficulties overcome through strategies, support and hard work. Older students identified dyslexia as life-long, necessitating continued management.

Whilst not using the technical vocabulary students acknowledged most of the characteristics of dyslexia (Section 1.1.1, p.2). Difficulties with phonological processing articulated through descriptions of problems spelling irregular words (exception words). Difficulties with short term memory identified when instructions and information in lessons are mainly given orally. Problems with processing speed expressed as an inability to convey onto paper ideas contained within their heads. Difficulties with literacy, attributed to their 'medical condition' rather than intelligence. Viewing dyslexia as a medical condition, difficulties can be remediated through intervention strategies, support and hard work. Older students identified dyslexia as life-long, necessitating continued management, corresponding to a medical understanding of dyslexia (Figure 55, p.175), a view-point substantiated by the adult retrospective (Section 4.5.1, p.178). Whilst Macdonald (2009, p. 273) suggests that 'children should not be labelled with dyslexia because this encourages parents to understand their children's educational difficulties as a medical (rather than social) problem', the study indicates that students with dyslexia possess this construct viewing dyslexia as a medical condition.

Students value the label dyslexia. A view-point running contrary to protagonists of the social model who advocate labels to be loaded with social meanings and preconceptions (Söder, 1989) which perpetuate misconception, and reinforce stereotypes (Macdonald, 2009). This I believe to be a contentious argument, based upon the assumption labels always carry stigma, and the belief that abolishing labels automatically abolishes stigmatisation and discrimination as 'labels on their own do not necessarily lead to stigma' they simply 'encapsulate or distil stigmatisation that already exists' (Riddick, 2002b, p.305). However, negative connotations and stigma attached to the label SEND were clear, most students within the study attributing lower intelligence and a limit to achievement to students with the label SEND, adamant that dyslexia was not SEND, distancing themselves from a group they perceive to have far greater negative characteristics, and from miss-attributions of lower intelligence matching Riddick's (2002b) description of elitism.

Diagnosis explains difficulties and contrary to assertions that labels may lead to stigmatisation, students used the label of dyslexia to explain difficulties and reduce stigmatisation, suggesting stigma to be associated with the symptoms rather than the label. Ownership of the dyslexia label provides self-definition and personal understanding, a means of overcoming social barriers, the notion that they are 'stupid', 'thick' or 'lazy' replaced by the concept of a learning difference. Literature similarly identifies the label of dyslexia to explaining difficulties and reducing the stigma associated with poor literacy skills and also to be useful in improving self-esteem (Humphries, 2001; Humphries & Mullen, 2002; Glazzard, 2010; Riddick, 2002b). Implicit within the improvement of self–esteem is the notion that diagnosis changes self-perception.

Question 5

To what extent do students perceptions of literacy converge with perceptions of ability?

Both the literature and the study identify students with dyslexia use the label to explain literacy difficulties and to reduce the stigma associated with poor literacy skills (Humphries, 2001; Humphries and Mullen, 2002; Glazzard, 2010: Riddick, 2002b). Implicit within literature is the notion that diagnosis altered perception. However, explicit references to changes in students' constructs of intelligence were not drawn. In contrast, in the study, changes to students' constructs of intelligence were evident. Pre-diagnosis students identified clear correlations between literacy and intelligence, comparison with peers influencing students' own attributions of intelligence; speed and fluency of writing appearing as the most affective factors. Students perceived themselves to be less intelligent than peers, recounting stories of name-calling being called 'stupid' or 'thick' by peers and identifying that they, their parents, and their teachers knew 'something' to be 'wrong' or 'not right'.

A significant finding of this study is that students with dyslexia hold separate pre- and post-diagnostic perceptions of literacy and intelligence, which was substantiated by the adult retrospective. The studies identification of

differences in pre- and post-diagnosis constructs of intelligence contributing to both literature and the dyslexia debate.

Pre-diagnosis, data identifies a correlation between intelligence and literacy based upon comparison with peers. Students recounting stories of name-calling and being called stupid or thick by peers and identifying that they, their parents and their teachers knew ‘something’ to be ‘wrong’ or ‘not right’. Pre-diagnosis, implicit socio-historic links between intelligence and literacy were identified.

Post-diagnosis, dyslexia explains difficulties, weak literacy skills no longer a measure of intelligence although links between examination results and notion of intelligence remain. Diagnosis mediates socio-historic links between literacy and intelligence, the label dyslexia explains literacy difficulties, literacy no-longer a measure of intelligence. A view-point substantiated by the adult retrospective.

Students identified that literacy oriented curricula caused barriers to learning, suggesting that some teachers did not recognise or understand their difficulties. Students raised concerns over written examinations and targets, and whilst aspiration to raise student attainment is not in itself deleterious, it may affect students with poor literacy skills perceptions of themselves. Setting according to literacy skills, and intervention strategies that remove students from the classroom, may similarly affect student perception.

5.3 Contribution of research to literature

5.3.1 The dyslexia debate

> ‘Dyslexia is a social fig leaf used by middle-class parents who fear their children will be labelled as low achievers …There is a huge stigma attached to low intelligence…After years of working with parents, I have seen how they don't want their child to be considered lazy, thick or stupid’
>
> ‘If they get called this medically diagnosed term dyslexic, then it is a signal to all that it's not to do with intelligence. There are all sorts of reasons why people don't read well but we can't determine why that is. Dyslexia, as a term, is becoming meaningless’
>
> Macrae, 2014: Interview with Professor G. Elliott

There is much debate about dyslexia which varies from suggestions that dyslexia is not real; but an excuse made by middle-class parents for a child with reading difficulties who is actually not very bright, or is lazy (Crabtree, 1975; Pollock & Waller, 1994), to criticism which is much more direct, accusatory and inflammatory. Graham Stringer MP caused furore in January 2009 by claiming that dyslexia is a ‘cruel fiction, no more real than the 19th century scientific construction of the æther’, the term dyslexia invented as an excuse by a poor education system, which confused and failed children.

The majority of criticism and debate surrounding dyslexia is not focussed upon its existence for which there is much evidence (Elliott & Grigorenko, 2014) but on the extent to which dyslexia operates as a rigorous scientific construct. In their book *‘The Dyslexia debate’* Elliott and Grigorenko (2014) questioned the the utility of the term dyslexia and the validity of diagnostic testing contending that definitions of dyslexia are so broad it is impossible to separate sufferers from those who are poor readers. The complexity, both conceptual and definitional, produces arbitrary boundaries creating unfairness and inequality of provision, indicating the term dyslexia is not a scientifically rigorous construct. Elliott and Grigorenko advocate that to reduce inequality of provision the term dyslexia should be replaced by the term SpLD.

The central tenant of '*The dyslexia debate'* (Elliott & Grigorenko, 2014) focusses upon the use of the label dyslexia, which they recommend being replaced by the term SpLD. However, this research suggests that neither label affords an individually specific definition for each student. Whilst acknowledging the conceptual and definitional complexity of dyslexia, and empathising with Elliott and Grigorenko's intensions to create equality (2014). Advocating the replacement of the label dyslexia with the term SpLD, may still not provide equality of provision. Classroom teachers in the study were confused by the term SpLD. The wide ability spectrum, variety and range of learning differences the label SpLD encompass also being considerable. It is insufficient to describe a student's difficulties as being 'specific' without indeed being specific in identifying the precise areas of difficulty which also has implications for policy and practice. Further, as identified by Vellutino (2014, p. xvi) the term SpLD is so closely associated with the term dyslexia it is 'probably loaded with as much excess meaning' and negative stereotyping. Vellutino (p. xvi) calls for both terms to be 'jettisoned' in favour of more neutral terms such as 'reading difficulties' or 'learning difficulties'.

Providing the student voice, this research contributes to the dyslexia debate. It supports the findings of Humphries (2001); Humphries and Mullen (2002); Glazzard (2010), and Riddick (2002b) who identified the importance the label dyslexia plays in the self-concept of students with dyslexia. The label dyslexia providing students themselves with self-definition and personal understanding, a viewpoint not considered within Elliott and Grigorenko's argument (2014) for its replacement by the term SpLD.

5.3.2 Effect of diagnosis on constructs of intelligence

The research identified pre- and post-diagnostic differences in students' constructs of intelligence, which were substantiated by the adult retrospective. These differences were alluded to in literature, there being no specific and explicit references to actual changes within students' constructs of intelligence.

Pre-diagnosis students within the Chestnut Academy identified socio-historic links between literacy and intelligence, comparison with peers influencing attribution of their own intelligence. Speed and fluency of writing identified as the most affective factors. Diagnosis mediated socio-historic links between literacy and intelligence. Post diagnosis the label dyslexia explains difficulties. Literacy skills no longer perceived as indicative of intelligence, replaced by the concept of a learning difference.

5.4 Implications for policy and practice and recommendations

Perception plays a significant role in the learning process, impacting upon teacher pedagogy, students' perceptions of themselves and subsequently motivation and academic outcome. The research identified issues relating to policy and practice. The following observations and recommendations may help to remove barriers to learning, promote staff awareness and competence, and foster an empowering inclusive classroom environment in which all students aim to be the best they can be.

5.4.1 Language and terminology

The research identifies the importance language plays in perception, inconsistencies in terminology and language within documents resulting in mixed and contradictory messages. The implication for policy makers; to ensure terminology is consistent.

Whilst the Academy ethos is of inclusivity the inconsistent use of terminology, particularly the terms student, pupil and learner which appear within single documents reduces inclusivity. The Academy is recommended to reconsider the use of the term 'learner' which infers a lack of autonomy and accentuates the notion of lower intelligence and consider adopting a single term either student or pupil.

The research identified that language within documents may lead teachers to perceive students with SEND as less academically able. The Academy is

recommended to examine documents to ensure they are truly inclusive and consider replacing adjuncts identifying students with SEND as different with truly inclusive phrases for example:

> ‘The school’s robust quality assurance processes enable provision for SEND learners to be monitored and evaluated annually’ SP, line 40

Could become:

> The school’s robust quality assurance processes enable provision for ***all students*** to be monitored and evaluated annually

Similarly:

> ‘If SEND learners are victims of discrimination or bullying, the school’s restorative approach ensures that perpetrators learn about the impact of their actions’ SP, line 132

Could become:

> If ***students*** are victims of discrimination or bullying, the school’s restorative approach ensures that perpetrators learn about the impact of their actions

To identify that it is not just students with SEND who may be victims of bullying or discrimination.

5.4.2 Labels: SpLD, SEND and Dyslexia

The research showed that the classroom teachers in the study were confused by the term SpLD and did not understand or appreciate the diversity encompassed within the term. One teacher identified that SpLD referred to a single learning difficulty. Another teacher suggested that dyslexia, being a broad term, encompasses several difficulties and could not be specific, whilst two teachers proposed the label dyslexia was more specific than SpLD.

The implication for policy is that the labels, dyslexia and SpLD both cover a wide spectrum of difficulties. Both terms are inadequate by themselves. Whichever term is chosen, students learning differences must be specified precisely; it being inadequate to label a student as SpLD without specifying the exact difficulties. The Academy could consider placing individual additional information either within the handbook or electronic data base (SIMs).

The research suggests teachers predominantly view dyslexia through a deficit-focussed medical model. The Chestnut Academy Inclusion Handbook contains two sections, a SEND Register and a Medical Register. Students with diagnoses of dyslexia appear within both, identified as SpLD within the SEND Register, a diagnosis of dyslexia appearing again within the medical section (Figure 22, p.120). Dual identification promulgating a deficit-focussed medical model of dyslexia, to limit this disposition, the Academy could consider including the diagnosis of dyslexia within the SEND Register and its removal from the Medical Register.

Dyslexia is classified within the SEND category of 'Cognition and Learning Needs'. The research suggests that the term 'cognition' may give rise to the misconception that having some form of cognitive impairment, all dyslexic students possess lower intelligence. Dyslexia is a complex neuro-developmental disorder which is not equated to intelligence. The label SEND was also identified as implying a self-fulfilling prophesy of lower achievement, suggesting a need for further training to remove misconceptions, although as teachers in the study identified it is important to choose a model of CPD which increases teacher autonomy to maximise the potential of transforming practice.

5.4.3 Literacy and pedagogy

Students with dyslexia identified that literacy based curricula; curricula which rely heavily upon text to access lessons and materials, and written assessment produce barriers. However, given the long established systems of written examinations literacy based curricula are not unsurprising.

Teachers in the study viewed dyslexia as a medical condition, which may result in failure to consider the role of the environment, or the practices occurring within it, as contributing to students' problems. Whilst advocating support, for students with dyslexia, teachers identified that these 'students were entitled to 'learn the same as the others', 'you do owe it to them to see how much they can manage'. Support being 'quiet; more than explicit' (Figure 32, p.144) Identifying that rather than adopt 'flexible learning curricula that accommodate

learning diversity' (Ho, 2004, p.84) teachers provide quiet support within the classroom for students with dyslexia, further this intervention was viewed as barrier removal, a relationship which may be socially learnt. In-service training to improve knowledge and reduce misconceptions should be seen as a high priority to ensure all students with dyslexia achieve their potential.

Students with dyslexia identified many barriers to inclusion caused by a literacy focussed curriculum, principally copying large quantities of text, particularly from the board as they often lose their place, having to go back to the beginning each time. The ability to copy relies upon highly developed tracking skills, requiring stable eye movements (saccades), which many students with dyslexia do not possess, increasing the time it takes them to copy and multiplying the chances of portions of text being missed.

Students identified difficulties remembering long complicated instructions due to problems with short term memory and difficulties holding verbal information, difficulties which also affect the ability to organise and sequence ideas, and transfer ideas onto paper.

Most students with dyslexia have difficulty with identifying and manipulating the sounds of language; ordering sounds in words (phonology), sequencing visual and/or auditory symbols (graphemes) and remembering the visual forms of words (orthography), particularly irregularly spelt words. Although spelling is always important, it is essential to encourage students to use a wide vocabulary. Students identified deterioration in spelling when 'in the flow' of writing, and acknowledged the temptation to 'dumb down' on language by employing words they know they can spell.

Difficulties with identifying and manipulating the sounds of language affect reading fluency and comprehension. Students worry about making mistakes when being asked to read aloud and being ridiculed by peers. Consistent and regular success helps and empowers students to move from their zone of comfort to a zone of challenge (Mackay, 2006).

A list of strategies adapted from '*Removing dyslexia as a barrier to achievement'* (Mackay, 2006) that reduce barriers to inclusion appear in Appendix 24. The Academy could consider including these in its Inclusion Handbook.

5.4.4 Inset

Teachers within the study identified the current generic whole school approach to inset, which one teacher suggested as 'filling' contractual hours, as being unproductive. The SLT teacher identified the need 'to target staff'; the Academy could consider their suggestion. Humphrey (2002) identified that successful students with dyslexia accredited their achievement to teacher quality rather than their own ability. In-service training to improve knowledge and reduce misconceptions should be seen as a high priority to ensure all students with dyslexia achieve their potential.

The Academy could also consider examining Dyslexia friendly status and training. Dyslexic friendly teaching isn't about reducing the content or challenge within lessons. It is simply good teaching and all pupils benefit (Mackay, 2009). All members of a school community should actively build and share a common vision of their main purpose by adopting a 'classroom exceeding' perspective (Hopkins, 2009, p.60).

5.5 Limitations of the research

Limitations occur in all studies. Owing to the nature of the study, codes and themes were identified solely by the researcher although checked by a fellow researcher acting as a critical friend and discussed with supervisors. Whilst this provides methodological consistency it may fail to offer multiple perspectives which might be afforded from a variety of people with differing backgrounds and expertise.

The study relates to one situation, The Chestnut Academy hence the Conceptual Model and findings may have limited application relevant to the one situation, although Pring (2006, p.42) identifies that ‘concepts are necessarily general in their application’, counselling that we must be careful not to draw quite mistaken philosophical conclusions about the inability to generalise when studying the singular, as ‘all situations are unique in some aspects’.

The number of participants was small, invited to participate from a purposefully selected group. The limiting parameter in terms of group interviews being the relative small number of students with diagnoses of dyslexia and owing to the sensitivity of the subject some students felt unable to participate, further reducing numbers. Those volunteering may not necessarily be a representative sample.

During the course of the research my status from insider researcher changed I became an outsider researcher upon retiring. My access to participants diminished. Having gained the school permission and written letters to all the parents and guardians of students with diagnoses of dyslexia only four gave permission and one further group interview conducted. Similarly requests made to staff were declined and access to materials was significantly reduced.

Analysis of group interviews suggested students with dyslexia perceived their non-dyslexic peers to identify literacy as a measure of intelligence. Viewed from the students with dyslexia perspective, these perceptions may be biased. Group interviews with students without dyslexia would have confirmed or refuted these perceptions however, with diminished access, this was not undertaken.

However, I believe that the data gathered is credible. The findings may have a significant effect within the Academy and may stimulate further research; its value should not be diminished due to a lack of scale. The aspiration of the study is for transparency in both methodology and analysis. Selection of participants has been fully explained and everyone who volunteered to participate was interviewed. No material was discarded, all interviews were fully

transcribed. All themes and claims in the data analysis are linked to line references in transcripts and documents. Incongruities and discrepancies are noted along with points of agreement. All resulting claims are entirely tentative and measured.

5.6 Further research

Students were willing to talk about their experiences at primary school but were more circumspect about secondary school. Whilst not part of the study, students with dyslexia identified some primary school intervention methods had done little to preserve their self-esteem; being placed within lower aged classes with resultant name calling, bullying and discrimination. Within a larger secondary school where students follow different timetables removal for intervention is less visible. Although some students identified that they did not like being removed from classes for 1:1 intervention.

Possible areas for further research could include:

- the effect of removing students for 1:1 intervention
- the effect of primary school interventions
- an exploration of the origins of socio-historic connections between literacy and intelligence using group interviews with non-dyslexic students. As identified in the research, perceptions described as being held by non-dyslexic students came from the students with dyslexia themselves, and these may be biased

5.7 Reflection

> ‘No judgement of a child’s ability should be based on their performance in word-reading skills. Instead teacher’s academic expectations and demand should be dependent on the child’ performance across multiple domains’ Elliott and Grigorenko, 2014, p.163

Intelligence manifests itself in multiple forms, although ‘most definitions of intelligence [*appear to*] focus on the capacities that are important for success in

school' (Gardner & Hatch, 1989, p.5). The measure of intelligence is not accurate reading, writing, spelling and number; the key measures are thinking and conceptual development (Mackay, 2006). Considering the criteria used to identify Gifted and Talented students in science (Appendix 3), which require students to be able to: make connections between facts and concepts; ask questions; hypothesise; speculate; use evidence and creative ideas to question other students' ideas and draw conclusions. Then intelligence involves the ability to reason, plan, problem solve, think abstractly, comprehend complex ideas, and learn from experience. It is not merely the acquisition of academic skills involved in book learning, or test-taking (Gottfredson, 1997). Listening carefully to what students say and using a range of methods to assess knowledge and understanding is essential. Differences in learning should not be viewed as obstacles, rather a clear indication of the need for high-quality teaching (Mackay, 2006). Effective inclusion involves reflexive practice, sensitivity and acceptance of individuals' needs and differences (Salend, 2001).

5.7.1 Research

As a novice researcher, I was keenly aware of the tensions existing within educational research. A need to demonstrate my research as rigorous and trustworthy, the acknowledgment of the potential for researcher bias through a failure to observe anything falling outside the Conceptual Framework resulted in two analytical frameworks. However, during the writing of the analysis, findings and discussion chapter I became acutely aware of the similarity between inductive and deductive analyses, and to avoid repetition, deductive analyses sections are more succinct, contain fewer quotes and are considerably shorter in comparison to the inductive analyses sections. Summative analysis of specific themes with their mirroring patterns (Figure 24, p.128); and correspondence of inductive and deductive analyses (Figure 36, p. 151; Figure 54, p.174) suggest a lack of necessity for the inductive analysis.

Were I to repeat the research I would use only the deductive analysis, applying the lens of the Conceptual Framework, but being mindful to examine data

critically to identify anything falling outside the framework and acknowledging and recording faithfully all findings. I would also include group interviews with the students without dyslexia. These interviews would confirm, or refute, the suggestions made by the students within the study of socio-historic connections between literacy and intelligence they perceived within their peers and ascertain whether socio-historic connections between literacy and intelligence commence at an early age.

5.7.2 How would I have responded to Jeff?

It was a shocking revelation, ‘over-stretched’ and ‘ill-prepared’, deep-down had lurked a socio-historic view of intelligence linking literacy to ability; everything pedagogically I believed I was vehemently opposed to. I had no excuses, I needed to examine what had happened and why.

The yr.7 class was taken by a supply teacher, who with no science qualifications could not undertake practical investigations and who would continue to teach them for the majority of their science lessons. My brief: develop practical skills; to develop positivistic values of science: identifying and controlling variables; testing hypotheses; using data to draw conclusions linking independent variables to dependent variables. My planning and marking time devoted into ensuring the extra GCSE class I was also now teaching completed the requisite coursework to meet, or exceed, their targets.

I planned to use previously prepared material with the yr.7 class, to incorporate Cognitive Acceleration through Science Education materials (CASE) (Shayer et al., 2001; Shayer & Adey, 2002) to develop complex levels of thinking. During these lessons, students work together on practical problems. They are asked to observe patterns and relationships, provide coherent explanations for what they have observed to enable them to construct hypotheses and theories, and are expected to ask questions, express ideas, give explanations and reasons, agree and disagree with peers.

The lessons encourage students to be more conscious of their cognitive processes by the teacher playing the role of mediator asking them, 'Why do you think that?' cognitive conflict, stimulating cognitive growth (Piaget & Inhelder, 1969). As students talk amongst themselves and discuss with the teacher meaning is constructed; thinking and doing connected; a process called *bridging* (Vygotsky, 1978). By becoming more aware of the process of learning, students take greater control of their learning. The corollary being students become more effective learners, and attain more from their education.

Jeff demonstrated his reasoning skills in one of the first practical lessons. A lighted candle was placed on a float in a trough of water, a jam jar placed over the top and students asked to make two observations. Students generally move between work areas and the demonstration desk to discuss findings. Normally this lesson requires lots of to-ing and fro-ing between work areas to extract all the relevant observations and lots of questioning, to elicit that the candle goes out, because oxygen has been used up, water rising in the jar to replace the oxygen. Jeff however suggested that it was 'really obvious' and came up to the demonstration desk to show and explain, to his confused peers, exactly what was going on.

Pring (1978, p. 244) identifies that classroom research helps practitioners think systematically, critically and intelligently about their practice. I concur, research has allowed me both to reflect upon and modify my teaching practice. As a reflexive practitioner I have thought long and hard about whether having prior knowledge of Jeff's dyslexia I would have challenged him so openly and identified him as G&T so quickly.

Recognising that by incorporating CASE materials I had already instigated an atmosphere of questioning and challenge in the classroom, I examined my own practice with the 'smaller classes' of students who's IEPs I was so familiar. I identified that my usual practice is to challenge students with SEND quietly during practical work on a one-to-one basis until I was certain they were capable of answering questions and confident and resilient enough to accept challenge. Often asking a student during this quiet questioning if they are

prepared to explain their results during the conclusion and plenary to the whole class.

I am convinced that Jeff, a stoic individual who both offered and responded to challenge would have been identified as G&T. Jeff confided that given his poor literacy skills other students were often confused by his ability to reason and answer questions as they equated literacy with intelligence:

> ‘Because they see that I struggle with English, when I am in other lessons that I am good at they just look weirdly at me, thinking how can I be so good at something else?’ [*they = other students*]

> *‘*Lots of students don’t actually understand what dyslexia is. Because a lot of the time when I say that I’m dyslexic they say ‘*Are you*? *Because you’re really smart’*
>
> Jeff, pilot study

Appendices

Appendix 1 Classification of dyslexia as SEND

(Inclusion Handbook, 2014-15)

SEN Categories

A. Cognition and Learning Needs

SpLD (Specific Learning Difficulty)

An umbrella term covering dyslexia, dyscalculia and dyspraxia.

MLD (Moderate Learning Difficulty)

Attainments well below expectation in all areas of the curriculum. Poor concentration and low self-esteem often a feature.

SLD (Severe Learning Difficulty)

Attainments below Level 1 (P scales) throughout schooling

Appendix 2 Strategies

(From Inclusion Handbook, 2014 -15)

A. Cognition and Learning Needs

Including Learners with Dyslexia (SpLD)

12 Strategies for Supporting Dyslexic Students and Struggling Readers

1. Create dyslexia friendly handouts by using
   - Comic Sans, Century Gothic or Times New Roman fonts
   - Simple sentences containing one main idea
   - Visuals that reinforce the text
   - Spaced out information
   - Tasks broken down into small steps

2. Use charts and other visual aids (e.g a colour coded timeline) to provide a visual overview of a topic. Get students to create their own visual aids.

3. Provide a vocabulary list at the start of a topic. Provide [redacted] with a copy so that the words can be pre-learned during 1:1 sessions.

4. Use starter activities/games to embed vocabulary (e.g Keyword bingo, which is the odd word out? Articulate, Hangman etc)

5. Ask students to highlight key words in a text. Try turning this into a game e.g 'How many key words can you find in 45 seconds?'

6. When spelling errors are highlighted in work, write the correct spelling and encourage students to *look – say – cover – write – check* the target words.

7. Provide extra time for completion of assessments so that students have practice in making effective use of additional time.

8. Encourage students to use heading and sub-headings in written work to help provide them with a structure.

9. Allow students to display their competence in other ways than through writing (e.g designing a poster, role play, a rap or song, comic strip, making crosswords or quizzes, oral presentations, completing tables, mind maps.)

10. **Avoid asking dyslexic students to copy information from the board**. Provide printed notes and allow students to focus on processing activities. (e.g composing questions for other students) It is especially important that homework is given in printed form.

11. **Never ask a dyslexic student to read aloud unless s/he volunteers.**

12. Keep oral input to a minimum and ensure learning is multi-sensory (incorporate VAK elements when planning lessons).

6

Appendix 3 Identification of Gifted and Talented students

Definition (From G&T Policy, 2014 - 2015)

- A 'talented' student is one who is in the top 5-10% of the student population in a non- academic area: Art and Design, Drama, Dance, Music, PE.
- A 'gifted student is one who is in the top 5-10% in an academic area of the curriculum, or has the potential to be in the top 5-10%

Identifying gifted pupils: Science (From School Handbook, 2014 - 2015)

Pupils who are gifted in science are likely to:

- be imaginative
- read widely, particularly science or science fiction
- have scientific hobbies and/or be members of scientific clubs and societies
- be extremely interested in finding out more about themselves and things around them
- enjoy researching obscure facts and applying scientific theories, ideas and models when explaining a range of phenomena
- be able to sustain their interest and go beyond an obvious answer to underlying mechanisms and greater depth
- be inquisitive about how things work and why things happen (they may be dissatisfied with simplified explanations and insufficient detail)
- ask many questions, suggesting that they are willing to hypothesise and speculate
- use different strategies for finding things out (practical and intellectual) -- they may be able to miss out steps when reasoning the answers to problems
- think logically, providing plausible explanations for phenomena (they may be methodical in their thinking, but not in their recording)
- put forward objective arguments, using combinations of evidence and creative ideas, and question other people's conclusions (including their teacher's!)
- decide quickly how to investigate fairly and manipulate variables
- consider alternative suggestions and strategies for investigations
- analyse data or observations and spot patterns easily
- strive for maximum accuracy in measurements of all sorts, and take pleasure, for example, from reading gauges as accurately as possible (sometimes beyond the accuracy of the instrument)
- make connections quickly between facts and concepts they have learned, using more extensive vocabulary than their peers
- think abstractly at an earlier age than usual and understand models and use modelling to explain ideas and observations. For example, key stage 3 pupils may be willing to apply abstract ideas in new situations; key stage 4 pupils may be able to use higher-order mathematical skills such as proportionality, ratio and equilibrium with some complex abstract ideas when offering explanations
- understand the concepts of reliability and validity when drawing conclusions from evidence
- be easily bored by over-repetition of basic ideas
- enjoy challenges and problem solving, while often being self-critical
- enjoy talking to the teacher about new information or ideas
- be self-motivated, willingly putting in extra time -- (but they may approach undemanding work casually and carelessly)
- show intense interest in one particular area of science (such as astrophysics), to the exclusion of other topics.

Appendix 4 Definitions of dyslexia

Key
Highlighting in definitions indicates reference to:
Reading, writing, spelling .Phonological processing. Biological origin. Deficit terms.
Co-morbid difficulties

1. British Dyslexia Association (BDA) (2016)

'[A] specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be life-long in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities.

'It tends to be resistant to conventional teaching methods, but its effect can be mitigated by appropriately specific intervention, including the application of information technology and supportive counselling.'

2. BDA Code of Practice for Employers (2016)

…'is a combination of abilities and difficulties that affect the learning process in one or more of reading, spelling and writing. It is a persistent condition. Accompanying weaknesses may be identified in areas of speed of processing, short-term memory, organisation, sequencing, spoken language and motor skills. There may be difficulties with auditory and /or visual perception. It is particularly related to mastering and using written language, which may include alphabetic, numeric and musical notation.'

…'can occur despite normal intellectual ability and teaching. It is constitutional in origin, part of one's make-up and independent of socio-economic or language background.'

'Some learners have very well developed creative skills and/or interpersonal skills, others have strong oral skills. Some have no outstanding talents. All have strengths.'

3. Dyslexia Action (2010)

'Dyslexia is a specific learning difficulty that primarily affects the ability to learn to read and spell. It often runs in families and stems from a difficulty in processing the sounds in words. Some 10% of the UK population are affected.'

4. International Dyslexia Association (IDA) (2007)

'Dyslexia is a specific learning difficulty that is neurobiological in origin, it is characterised by differences with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.'

5. National Institute of Neurological disorders and Stroke (NINDS, 2013, USA)

'Dyslexia is a brain-based type of learning disability that specifically impairs a person's ability to read. These individuals typically read at levels significantly lower than expected despite having normal intelligence. Although the disorder varies from person to person, common characteristics among people with dyslexia are: difficulty with phonological processing (the manipulation of sounds), spelling, and/or rapid visual-verbal responding. In individuals with adult onset of dyslexia, it usually occurs as a result of brain injury or in the context of dementia; this contrasts with individuals with dyslexia who simply were never identified as children or adolescents. Dyslexia can be inherited in some families, and recent studies have identified a number of genes that may predispose an individual to developing dyslexia.'

6. Rose Report (DCSF, 2009)

'Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling.

- *Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed.*
- *Dyslexia occurs across the range of intellectual abilities.*
- *It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points.*
- *Co-occurring difficulties may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia.*
- *A good indication of the severity and persistence of dyslexic difficulties can be gained by examining how the individual responds or has responded to well-founded intervention.'*

7. Snowling (2000)

'Dyslexia is a specific form of language impairment that affects the way in which the brain encodes the phonological features of spoken words. The core deficit is in phonological processing and stems from poorly specified phonological representations. Dyslexia specifically affects the development of reading and spelling skills but its effects can be modified through development leading to a variety of behavioural manifestations … the impairment in dyslexia does not affect reading directly but affects the development of the spoken language substrate that is critical for learning to read … it has its origins in early spoken language skills.'

8. The British Psychological Society (1999)

'*Dyslexia is evident when accurate and fluent word reading and/or spelling develops very incompletely or with great difficulty'*.

Appendix 5 Research consent form (*student*)

RESEARCH CONSENT FORM

Title of research project:

Dyslexia in school: policy, perception and provision

Name of researcher: Mrs Vanessa Majer.

I understand that my child will be involved in a research project at his/her school and give my permission for them to participate.	Yes	No

Name of student……

Name of parent/ guardian…….

Signature ……...

Date: ……..

Student:

1. I confirm that I have read and understood the research project information sheet and have had the opportunity to ask questions.	Yes	No
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	Yes	No
3. I agree to take part in this research project and that anything I say will be recorded and may appear in a publication.	Yes	No

Signature

…….....

Date: …….

Please return completed consent form in the stamped addressed envelope

Should you have any further questions please email [Detail removed]

Appendix 6 Research information sheet (*student*)

RESEARCH INFORMATI0N SHEET

Outline of the research
The study seeks to find out teachers and students understanding of dyslexia and how this affects teaching and learning within the classroom.

Researcher: Mrs V Majer
Institution: Bishop Grosseteste University
Contact details: [Detail removed]

What will my participation in the research involve?
Several one hour meeting with fellow dyslexic students from [Detail removed] to discuss: '*What does dyslexia mean to you?'*

Will there be any benefits in taking part?
Teachers may get a better understanding of how dyslexic students prefer to be taught.

Will there be any risks in taking part?
No risks are likely from participating. Students will know in advance where and when meetings will be held. Meetings will run the length of a standard lesson. The electronic registration form (SIMs) will be completed in advance by the researcher. As removal to participate in activities is common place, these measures should minimise questioning and stigmatisation by fellow students.

What happens if I decide I don't want to take part during the actual research study, or decide I don't want the information I've given to be used?
Participation is voluntary. You may withdraw at any time, without any consequences. If you withdraw consent for information to be used, it will be destroyed.

What happens to the research?
The research may be used in a thesis and some parts may be published.

How will you ensure that my contribution is anonymous?
Names and place names will be anonymised to minimise the chance that individuals can be identified. Although it might be possible to identify the school, should the research be published due to the uncommon surname of the researcher.

Please note that your confidentiality and anonymity cannot be assured if, during the research, it comes to light you are involved in illegal or harmful behaviours which I may disclose to the appropriate authorities.

Appendix 7 Research information sheet (*teacher*)

RESEARCH INFORMATION SHEET

Outline of the research
The study seeks to find out teachers and students understanding of dyslexia and how this affects teaching methodology and learning within the classroom.

Researcher: Mrs V Majer
Institution: Bishop Grosseteste University
Contact details: [Detail removed]

What will my participation in the research involve?
One single 45minute interview regarding your understanding of dyslexia and teaching methodologies/ strategies used to support dyslexic students.

Will there be any benefits in taking part?
It is hoped that the research will lead to improved understanding of teaching methodology and support strategies, which will be shared with all staff.

Will there be any risks in taking part?
No risks are envisaged from participation.

What happens if I decide I don't want to take part during the actual research study, or decide I don't want the information I've given to be used?
Participation is voluntary. You may withdraw at any time, without any consequences. If you withdraw consent for the information to be used, then it will be destroyed.

What happens to the research?
The research may be used in a thesis and some parts may be published.

How will you ensure that my contribution is anonymous?
Names, and place names, subject specific references will be anonymised or removed to minimise the chance of individuals being identified. Although it might be possible to identify the school, should the research be published due to the uncommon surname of the researcher.

Please note that your confidentiality and anonymity cannot be assured if, during the research, it comes to light you are involved in illegal or harmful behaviours which I may disclose to the appropriate authorities.

Appendix 8 Research consent form (*teacher*)

RESEARCH CONSENT FORM

Title of research project:

Dyslexia in school: policy, perception and provision

Name of researcher: Mrs Vanessa Majer

1. I confirm that I have read and understand the information sheet for the above research project and have had the opportunity to ask questions.	Yes	No
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	Yes	No
3. I agree to take part in this research project and understand that interviews will be recorded and that the data may appear in a publication.	Yes	No

Name of participant

……

Signature ……

Date: ……

Appendix 9 Group interview questions

(Adapted from Glazzard, 2010)

- *Commence with pleasantries -welcome, thank you etc.,*
- *Check happy for interview to be audio-recorded.*
- *Explain work might be included in thesis, anonymity, right to withdraw,*
- *Remind students about confidentiality 'what is said within these walls; stays within these walls'*

Introductory questions

1 When did you find out that you had difficulties arising from dyslexia?

2. When did you discover you had dyslexia?

3. What things did you find difficult at school because of having dyslexia?

Prompt: *Did you find it difficult to learn to read?*

Did you find it difficult to learn to write?

Summarise main points – ask for agreement and amendments

Questions relating to literacy: comparisons with peers

1. When you were learning to read, were you aware that other pupils were reading better than you were? ***Prompt:*** *What made you aware of this?*

2. When you were learning to write, were you aware that other pupils found writing easier than you did? ***Prompt****: What made you aware of this?*

Summarise main points – ask for agreement and amendments

Questions related to comparisons with peers

1. How did it make you feel when you were struggling with reading and/or spelling?***Prompt:*** *Can you give me any examples of times when you felt unhappy?*

2. When you were younger did you feel that you would do well in school?

Prompt: *Why did you think this?*

3. Now that you are older, have you changed your opinion about how you will do in school**? *Prompt:*** *In what way have you changed your opinion?*

4. What job/career would you like to pursue when you leave school?

Summarise main points – ask for agreement and amendments

Questions related to peer relations

1. Can you think of any experiences you have had where members of your peer group have made negative comments about you *because* of your dyslexia? ***Prompt****: What sort of things do they say*?

2. How do you explain your difficulties to others?

Summarise main points – ask for agreement and amendments

Questions related to experiences of teachers

Remind students not refer to teachers by name.

1. Did you find your primary teachers to be generally supportive of your dyslexia? ***Prompt****: How did they help?*

2. Have you found your secondary teachers to be generally supportive of you? **Yes –** *How have they helped*? **No** – *Why are they not supportive?*

3. Can you think of any experiences you have had where teachers have not been supportive?

4. Can you remember any experiences where teachers have been supportive of your special educational needs?

Summarise main points – ask for agreement and amendments

Question related to parents

1. Do your parents understand the problems or difficulties you have at school?

Prompts: *How are they supportive? Can you explain why you feel this*?

2. Do you talk to your parents about any problems you have at school because of being dyslexic?

Summarise main points – ask for agreement and amendments

Sweep question

Is there anything else that you want to tell me about being a dyslexic?

Thank you for taking the time to answer these questions – it is very much appreciated.

Appendix 10 Semi-structured interview questions: teachers

- *Commence with pleasantries -welcome, thank you, etc.*
- *Check happy for interview to be audio-recorded. Explain work might be included in thesis, anonymity, right to withdraw*
- *Consent form signed*
- *Ask about teaching experience – number years, type of school etc*.

1. What does the term SEN /SEND mean to you?

2. Are you aware of the term SpLD? What does that mean to you?

3. What does the term dyslexia mean to you?

4. Dyslexia is classified under the heading cognitive and learning difficulties in the Inclusion handbook. What do you understand by this classification?

5. Dyslexia is identified within the 'medical record section of the Inclusion Handbook. What does this mean to you?

6. Dyslexia is often classified as a SpLD is there a difference between SpLD and dyslexia? (*Dependant on answer- Is dyslexia an inappropriate label?)*

7. Is there any link between literacy skills and intelligence? (Is literacy a measure of intelligence?)

8. Does dyslexia cause any there any barriers to learning?

9. It has been suggested that dyslexic students possess strengths and abilities, have you any experience of this?

10. It is suggested that dyslexia is accompanied by a range of social problems, what are your perceptions?

11. Where has your knowledge/understanding of dyslexia/ SpLDs/SEN come from? Is it primary training or from in-service training?

12 What is your understanding of the schools SEN policy? (*Do they know where all relevant documents are? Accessibility? Usefulness?*)

13. Do you regularly consult the inclusion handbook and IEPs? (*How do they use? Are they useful?*)

14. How do you accommodate learning for SEN / SpLD students in your classroom?

Finally - . Are there any questions you would like to ask? Further information you would like to add? Follow by Thank you

Appendix 11 Semi-structured interview questions: SLT teacher

- *Commence with pleasantries -thank you, etc.*
- *Check happy for interview to be audio-recorded*
- *Explain work might be included in thesis, anonymity, right to withdraw*
- *Consent form signed*
- *Ask about Teaching experience – number years, type of school, experience of working with pupils with SEN*
- *Explain thesis - Looking into teachers' perceptions of pupils with SEN and in particular dyslexia and how they may be shaped – two aspects of which are policy and CPD*
- *In this interview I would like to examine the philosophy in school surrounding Policy and CPD*

Policy *I would like to examine the philosophy in school surrounding CPD.*

- In general terms, how is policy determined? (*What? Who? - Government, Governors, SLT, staff?)*
- Where does policy come from? *If Government / county council documents adopted are they amended/ modified? Is type and nature of the language considered?*
- How are policies implemented? How are they managed and monitored? *Who is responsible for overseeing?*
- How are policies reviewed? Who? When? How? Is there a structure to the review? (E.g. *Calendar item/ Governors/ SLT?) Can effectiveness be determined and how?*

CPD There are many different models of CPD (deficit based, informative, Transformative, skills based, to provide teacher autonomy)

- What do you consider to be the principle purpose of CPD? (Is it Individual/collective?)
- How are training needs established? *Individually? Collectively?*
- How is CPD implemented? How is it monitored?
- What impact does CPD have? Individual/ collectively? On teaching and learning?

Moving specifically to **SEND**

- How are staff training needs determined?
- Who do you anticipate leading? SENCO, SLT?
- How are strategies monitored? Who? How?

Pupil assessment

School has moved from CATs to PIE and PIMs.

- What was the purpose of the CATs tests? Were they effective?

- What information/ different information will the PIE and PIMs assessments provide? How will this data be used?
- Will PIE and PIMs be able to identify pupils with SEND
- What are the reasons for the switch?

Dyslexia

- What does the term dyslexia mean to you?
- There are some that suggest that there is a perceived innate link between a literacy levels and intelligence? Is there a link between literacy and intelligence?
- Does dyslexia cause any barriers to learning? *What are these barriers to learning?*
- It is suggested that dyslexic students possess strengths and abilities, have you any experience of this? *(Higher intelligence, creativity, thinking outside the box)*

SIMS –
Whilst not part of my research per se – a finding of my pilot – was the SIMs not fully utilised – could be used effectively as a one stop source of information – IEPs, reviews etc.?

Finally - Are there any questions you would like to ask? Further information you would like to add?

Thank you ….. Ask if can come back to interview more pupils and staff.
That would like to come back to feedback findings.

Appendix 12 Summary of Pilot study findings

Question	Summary of findings	
How is dyslexia perceived by teachers and students with dyslexia?	Teachers	• Cognitive difficulties • Lower ability • Bottom sets • Poor literacy skills • Requiring extra help - although some conflict between experience and perception. • Biggest barriers to learning: Poor motivation. • Self-fulfilling prophesy of label
	Students	• Perceived by others as being of 'lower ability' • Barriers to learning: literacy, difficulties with reading & writing particularly when 'rushed' to complete tasks • Easily distracted • Difficulty remembering long lists of instructions • Copying off board • Unable to read handwriting on whiteboards
What factors influence teachers and students perceptions of dyslexia?	• Characteristics of dyslexia: poor literacy skills. (T&S) • Setting according to literacy skills (T) • IEPs, Inclusion Handbook (T) • TAs used to support SEND pupils(T)	
Does teacher perception influence pedagogy?	• In interviews teachers identified strategies employed as: Differentiated tasks based upon prior attainment. Keywords. Literary strategies employed to model answers to examination questions • Teachers' response to students with dyslexia Included: not treating differently, pupils not singled out. Help given when requested • Students identified strategies not consistently applied	
Are there perceived links between literacy levels and ability?	• Poor literacy skills perceived by others (*peers, teachers, parents*) as related to 'lower ability' (S) • Poor literacy skills affect attainment (T)	
Does the label dyslexia infer low ability?	• Lower sets (T) • Differentiated tasks (T) • Self-fulfilling prophesy of label (T)	

Key: T = Teachers
S = Students with dyslexia

Appendix 13 SEND Policy (*inductive analysis*)

Coding				
In vivo			**Axial**	**Themes**
Accessibility	Community spirit	Communication (2)	Community membership (8)	Inclusion (17)
All learners	All teachers	Whole school clubs		
Discrimination *(eliminated)*				
Ethos of school	Inclusive vision	Student voice	Ethos (9)	
Respect	All members of school community cherished(2)			
Co-operative enterprise	SEND students represented (2)			
Legislative requirements (2)			Law (2)	Policy (2)
Progress tracking	Provision reviewed (2)	Intervention data	Monitoring (6)	Attainment (6)
Achievement *(SEND Learners*)		Performance management		
Staff training (2)		Staff inset	Deficit (3)	Staff development (6)
Own SEND training needs identified (*Staff*)			Individual deficit	
Strategies shared *(Staff)*			Community of practice (2)	
SENCo goes through Inclusion handbook				
SEND information	SEND learners	SEND focus	Label (10)	Classification (22)
SEND *evening*	SEND clubs (2)	SEND trip		
Students with SEND		Transition (2)		
Areas of need	Need (3)	Basic skills	Deficit (8)	
Needs identified	Difficulties identified	Referrals		
Reading age less than 9 in smaller class	Screening for spelling and reading	Identification significant gaps	Literacy deficits (3)	
Cognition			Cognitive deficit(1)	
Negative impact	Impulsivity	Social skills (3)	Affective nature SEND (13)	Behavioural outcomes of SEND (13)
Worries	Concerns	Vulnerable (3)		
Emotional problems		Emotional intelligence		
Social & emotional well being				
Consolidate English skills		Consolidate reading skill	Literacy strategies (2)	Intervention and Remediation (35)
Intervention (4)	1:1 intervention	Smaller classes	General strategies (17)	
Support (2)	Key workers	Case worker		
Learning mentor	Chunked activities	Specialist services		
Nurturing environment	Pen portraits(2)	Personalised education		
Counselling		Self-referral	Behavioural strategies (4)	
Support (*social skills*)		Restorative approach		
Promoting independence		Active encouragement	Promoting self-esteem (3)	
Involvement (*SEND students*)				
Progress (3)	Progress review	Evaluation progress	Monitoring (9)	
Response to intervention	Gaps closed (2)	Resources allocated by need		

Number in brackets indicates frequency of code, where no number given n =1

Appendix 14 SEND Information Report (*inductive analysis*)

In vivo			Axial	Themes
Access	Activities all inclusive	Discrimination - *Eliminated*	Community membership (7)	Inclusion (13)
Whole school clubs	Stretch all learners	Adjustments made so all can thrive		
Differentiation essential feature of all lessons				
Inclusive ethos (2)	Inclusive learning environment		Ethos (5)	
Student voice (2)				
Barriers associated			Barriers	
SENCO complies with all legal requirements			Law	Policy
Strategies shared *(Staff)*		Staff inset (2)	Community of practice (4)	Staff development (8)
SENCo goes through Inclusion handbook (*with staff*)				
Staff identify own SEN training needs			Individual deficit	
Performance management (3)			Monitoring (3)	
Identification	Our SEND learners	Transition (3)	Label (8)	Classification (15)
SEND information (2)	Arrive at school already identified			
Difficulties	Significant gaps	Needs of SEND learners	Deficit (6)	
Identify difficulties	Cognition & learning	Comprehension issues		
Skills SEND learners			Skills	
SEND pupils make mistakes	Emotional &social problems	Emotional &social needs	Affective nature SEND (5)	Behavioural outcomes (5)
Impulsivity	Vulnerable			
Provision for pupils with SEND needs	Resources allocated by need	SEND learners do not study French	Provision (13)	Intervention and Remediation (68)
Adjustment to provision	Smaller classes	Inclusion team		
Keyworker system (2)	Keyworkers liaise	SEND evening		
Personalised timetable (KS4)	Own extra-curricular activities	Trips for SEND learners		
Support (11)	Plan support	Guidance (2)	General strategies (28)	
Support adapted	SEND intervention	1:1 Intervention		
Referrals	Other interventions	Small group intervention		
Stepwise tasks	Activities chunked	Pen portraits(4)		
Information re-enforced visually	Strengthen basic skills			
Reading age <9 taught in smaller class	Consolidate English	Consolidate reading & writing skills SEND learners	Literacy strategies (7)	
Literacy intervention (4)				
Strengthen social skills	SEND learners supported by pastoral system	School is restorative	Behavioural strategies (7)	
Developing emotional intelligence		Restorative approach		
Counselling skills *(staff)*	Social skill intervention			
encouraged to develop leadership skills	Goal is to promote independence	Goal is to promote independence	Promoting self-esteem (3)	
Progress tracking	Progress review	Evaluation progress	Monitoring (10)	
Spelling & reading age	Gaps closed	Reading in correct ZPD		
SEND provision monitored & evaluated	Provision reviewed & adjusted	Concerns if intervention not making impact		
Response to intervention				

Appendix 15 Equality of Opportunity Policy (*inductive analysis*)

Coding			
In vivo		Axial	Themes
Appropriate language Prejudice Discourage stereotyping Avoid confirming stereotypes Challenge discrimination Not measured against others	Appropriate terminology Do not discriminate (2) Without stereotyping (2) Challenge discriminatory behaviour Eliminate discrimination	Reducing discriminatory behaviour (13)	Inclusion (39)
Access All aspects curriculum All aspects school life All members All pupils Ability Diversity (2) Value diversity Mutual respect	Equality Openness Opportunity Equal access(4) Equal opportunities (6) Equal value Ethos & atmosphere Individuals respected	Community Membership (26)	
Acts (9)	Duty (6)	Law (15)	Policy (17)
Policies monitored	SENCO Complies with statutory requirements	Meeting statutory requirements (2)	
Analysis (*SEND*) Inconsistences identified Equality goals and actions Monitoring (2)	Achievement Under achievement High expectation Achievement monitored (2)	Assessment for learning (AFL) (10)	Attainment (10)
Staff training		Deficit	Staff development
Favourable treatment *(SEND)*		Label	Classification (3)
Disability	Impairment	Deficit (2)	
Provision SEND Additional action (2) Composition of groups Range teaching methods	Monitor Support (3) Programme of work	General strategies (10)	Intervention and remediation (20)
Encouraged Self-esteem developed Promoting equality Promoting positive attitudes Talents of disabled students	Positive contribution Positive relationships Promote shared values Promote positive images (2)	Promoting self-esteem (10)	

Number in brackets indicates frequency of code, where no number given n =1

Appendix 16 Continuing Professional Development Policy

(*inductive analysis*)

Coding			
In vivo		Axial	Themes
Business is learning Culture of continuous improvement	Benefit all students (2) Raising achievement (2)	Purpose (6)	School Improvement (19)
On-going CPD (2)	Staff an important asset	Rationale (3)	
Governors Prioritise (2) Needs (2) Strategic statement of intent	Processes Evaluation Monitored Performance management	Processes (10)	
Support (*staff*) (2) Improving job related skills	Support teachers and learning	Deficit (4)	Staff development (16)
Induction (2) Build co-operation Learning opportunities (*staff*)	Learning partnership (2) Community of Practice	Community of practice (7)	
Own training needs Professional recognition (2)	Personal advancement Professional development	Personal development (*staff*) (5)	

Number in brackets indicates frequency of code, where no number given n =1

Appendix 17 Inclusion Handbook (*inductive analysis*)

Coding			
In vivo		Axial	Themes
Inclusion	Not Isolate	Community membership (2)	Inclusion (2)
Assessment (2)		Assessment for Learning (AFL) (2)	Attainment (2)
Medical register Dyslexia (2)	Dyslexic student (2) SpLD (2)	Label (7)	Classification (19)
Need (2) Cognition (2) Poor handwriting Spelling errors (2)	Work avoidance Poor memory Processing difficulties Vocabulary (2)	Deficit (12)	
Extra time (2) Support Supporting Tasks broken into steps (2) Differentiation *(2)*	Strategies VAK Small groups (TA) Selective use of strategies	General strategies (12)	Intervention and Remediation (36)
Learning mentor	Personalised timetable (2)	Key stage 4 strategies (3)	
Colour coding Coloured glasses	Visual aids Coloured overlay	Visual strategies (4)	
Dyslexia friendly text Literacy groups Group reading Spelling groups Simple sentences	Key words (2) Spaced out information Structured writing Group literacy sessions 	Literacy strategies (10)	
Display competence (2) Promote independence	Encourage (2)	Promotion self-esteem (5)	
Never ask dyslexic student to read aloud	Never ask dyslexic students to copy from board	Maintenance self-esteem (2)	

Number in brackets indicates frequency of code, where no number given n =1

Appendix 18 SEND Policy (*deductive analysis*)

Coding				
			Axial	**Themes**
• SEND information • SEND learners • Students with SEND	• SEND focus • SEND trip • SEND clubs	• Transition (2) • SEND clubs • SEND *evening*	Label (10)	**Constructs of disability** (65) *Medical model (49)*
• Basic skills			Deficits	
• Emotional intelligence • Emotional problems	• Negative impact • Social & emotional well being • Impulsivity	• Social skills (3) • Vulnerable (3) • Worries • Concerns	Affective nature SEND (13)	
• Case worker • Key workers • Learning mentor • Specialist services • Pen portraits (2) • Restorative approach • Promoting independence	• Nurturing environment • Smaller classes • Chunked activities • Counselling • Self-referral • Active encouragement • Referrals	• Intervention (4) • 1:1 intervention • Support (2) • Personalised education • Support (*social skills*) • Involvement (SEND students)	Intervention (25)	
• Accessibility • All learners • All teachers	• Discrimination (*eliminated)* • Community spirit	• Whole school clubs • Communication(2)	Community membership (8)	*Social model (16)*
• All members of school community cherished (2) • Ethos of school	• SEND students represented (2) • Inclusive vision	• Co-operative enterprise • Respect • Student voice	Inclusion (8)	
• Screening for spelling and reading	• Identification significant gap • Reading age less than 9 in smaller class	• Consolidate English skills • Consolidate reading skill	Literacy deficiencies (5)	Constructs of intelligence (6)
• Cognition			Deficits	
• Need (3)	• Areas of need • Needs identified	• Difficulties identified	Deficiencies (6)	Perception of Language (6)
• Staff training(2) • Staff inset • Strategies shared *(Staff)*	• SENCo goes through Inclusion handbook (*Start of academic year)*	• Own SEND training needs identified (*Staff*)	Transmission model CPD (6)	CPD model (6)
• Achievement (*SEND learners*) • Intervention data • Response to intervention • Progress tracking	• Performance management • Progress (3) • Gaps closed (2) • Provision reviewed (2)	• Evaluation progress • Progress review • Resources allocated by need	Monitoring (14)	Policy (School Development) (16)
• Legislative requirements (2)			Law (2)	

Number in brackets indicates frequency of code, where no number given n =1.

Appendix 19 SEND Information Report (*deductive analysis*)

<table>
<tr><th colspan="4">Coding</th></tr>
<tr><th colspan="3"></th><th>Axial</th><th>Themes</th></tr>
<tr><td>• SEND information
• SEND learners
• Students with SEND</td><td>• SEND focus
• SEND trip
• SEND clubs</td><td>• Transition (2)
• SEND clubs
• SEND evening</td><td>Label (10)</td><td rowspan="4">Constructs of disability (65)
Medical model (49)</td></tr>
<tr><td colspan="3">• Basic skills</td><td>Deficits</td></tr>
<tr><td>• Emotional intelligence
• Emotional problems</td><td>• Negative impact
• Social & emotional well being
• Impulsivity</td><td>• Social skills (3)
• Vulnerable (3)
• Worries
• Concerns</td><td>Affective nature SEND (13)</td></tr>
<tr><td>• Case worker
• Key workers
• Learning mentor
• Specialist services
• Pen portraits (2)
• Restorative approach
• Promoting independence</td><td>• Nurturing environment
• Smaller classes
• Chunked activities
• Counselling
• Self-referral
• Active encouragement
• Referrals</td><td>• Intervention (4)
• 1:1 intervention
• Support (2)
• Personalised education
• Support (social skills)
• Involvement (SEND students)</td><td>Intervention (25)</td></tr>
<tr><td>• Accessibility
• All learners
• All teachers</td><td>• Discrimination (eliminated)
• Community spirit</td><td>• Whole school clubs
• Communication(2)</td><td>Community membership (8)</td><td rowspan="2">Social model (16)</td></tr>
<tr><td>• All members of school community cherished (2)
• Ethos of school</td><td>• SEND students represented (2)
• Inclusive vision</td><td>• Co-operative enterprise
• Respect
• Student voice</td><td>Inclusion (8)</td></tr>
<tr><td>• Screening for spelling and reading</td><td>• Identification significant gap
• Reading age less than 9 in smaller class</td><td>• Consolidate English skills
• Consolidate reading skill</td><td>Literacy deficiencies (5)</td><td rowspan="2">Constructs of intelligence (6)</td></tr>
<tr><td colspan="3">• Cognition</td><td>Deficits</td></tr>
<tr><td>• Need (3)</td><td>• Areas of need
• Needs identified</td><td>• Difficulties identified</td><td>Deficiencies (6)</td><td>Perception of Language (6)</td></tr>
<tr><td>• Staff training(2)
• Staff inset
• Strategies shared (Staff)</td><td>• SENCo goes through Inclusion handbook (Start of academic year)</td><td>• Own SEND training needs identified (Staff)</td><td>Transmission model CPD (6)</td><td>CPD model (6)</td></tr>
<tr><td>• Achievement (SEND learners)
• Intervention data
• Response to intervention
• Progress tracking</td><td>• Performance management
• Progress (3)
• Gaps closed (2)
• Provision reviewed (2)</td><td>• Evaluation progress
• Progress review
• Resources allocated by need</td><td>Monitoring (14)</td><td rowspan="2">Policy (School Development) (16)</td></tr>
<tr><td colspan="3">• Legislative requirements (2)</td><td>Law (2)</td></tr>
</table>

Number in brackets indicates frequency of code, where no number given n =1

Appendix 20 Equality of Opportunity Policy (*deductive analysis*)

Coding			
		Axial	**Themes**
• Provision SEND	• Programme of work	Label (3)	Constructs of disability (62) *Medical model* (13)
• Ability/disability	• Impairment	Deficits (2)	
• Additional action (2) • Composition of groups • Range teaching methods	• Monitor • Support(3)	Intervention (8)	
• Encouraged • Promote positive images (2) • Promoting equality • Promoting positive attitudes	• Positive contribution • Positive relationships • Promote shared values • Self-esteem developed • Talents of disabled students • Favourable treatment *(SEND)*	Promoting equality (11)	*Social model* (49)
• Discourage stereotyping • Eliminate discrimination • Challenge discrimination • Not measured against others • Prejudice	• Challenge discriminatory behaviour • Do not discriminate (2) • Without stereotyping (2) • Avoid confirming stereotypes	Reducing discriminatory behaviour (12)	
• Access • All aspects curriculum • All aspects school life • All members • All pupils • Ability • Diversity (2) • Value diversity • Mutual respect	• Equality • Openness • Opportunity • Equal access(4) • Equal opportunities (6) • Equal value • Ethos & atmosphere • Individuals respected	Inclusion (26)	
• Appropriate language	• Appropriate terminology (2)	Deficiencies (3)	Perception of Language (3)
• Staff training		Transmission	CPD models
• Analysis (*SEND*) • Monitoring (2)	• Achievement monitored (2) • Policy monitoring	Monitoring (6)	Policy (26)
• Inconsistences identified	• Under achievement	Deficiencies (2)	
• High expectation • Achievement	• Equality goals and actions	Raising Attainment (3)	
• Acts (9)	• Duty (6)	Law (15)	

Number in brackets indicates frequency of code, where no number given n =1

Appendix 21 Continuing Professional Development

(*deductive analysis*)

Coding			
		Axial	**Themes**
Benefit all students (2)		Inclusivity (2)	Constructs of disability Social model (2)
• Staff an important asset	• On-going CPD (2) • Business is learning	Rationale (4)	Policy School Development (17)
• Culture of continuous improvement	• Raising achievement (2)	Raising attainment (3)	
• Prioritise (2) • Needs (2) • Strategic statement of intent • Governors	• Processes • Evaluation • Monitored • Performance management	Monitoring (10)	
• Support (*staff*) (2) • Improving job related skills	• Support teachers and learning • Own training needs (*staff*)	Deficiencies (5)	Perception of negative language (5)
• Professional recognition (2)	• Induction(2)	Transmission CPD model (4)	CPD models (11)
• Build co-operation • Learning opportunities (*staff*)	• Community of Practice • Learning partnership (2)	Transitional CPD model (5)	
• Professional development	• Personal advancement	Transformative CPD model (2)	

Number in brackets indicates frequency of code, where no number given n =1

Appendix 22 Inclusion Handbook (*deductive analysis*)

Coding			
		Axial	**Themes**
• Medical register • Dyslexia (2)	• Dyslexic student (2) • SpLD (2)	Label (7)	Constructs of disability (42) *Medical model (35)*
• Cognition (2) • Poor handwriting • Spelling errors (2)	• Poor memory • Processing difficulties • Vocabulary (2)	Symptoms (9)	
• Extra time (2) • Support • Supporting • Tasks broken into steps (2) • Differentiation *(2)* • Learning mentor • Colour coding • Coloured glasses	• Strategies • Selective use of strategies • Small groups (*TA)* • VAK • Personalised timetable (2) • Visual aids • Coloured overlay	Intervention and remediation (19)	
• Display competence (2) • Inclusion	• Encourage (2) • Promote independence • Not isolate	Inclusivity (7)	*Social model* (7)
• Need (2)	• Work avoidance	Deficit (3)	Perception of language (3)
• Dyslexia friendly text • Group literacy sessions • Literacy groups • Group reading • Never ask dyslexic student to read aloud	• Simple sentences • Key words (2) • Spaced out information • Spelling groups • Structured writing • Never ask dyslexic students to copy from board	Literacy (12)	Constructs of intelligence (12)
• Assessment (2)		Attainment (2)	Policy (2)

Number in brackets indicates frequency of code, where no number given n =1

Appendix 23 Axial codes and themes used in deductive analysis

Themes		Axial	Codes
Constructs of disability	*Medical model*	Label *(Classification)*	SEND :information; learners; students; focus; transition; club; trip; evening; provision; programme of work. Medical register. Diagnosis: tests; hospital. Inherited. Dyslexia. Dyslexic. SpLD.
		Symptoms	Poor: spelling; memory; handwriting; vocabulary. Processing difficulties.
		Deficits	Impairment. Disability. [in] basic skills.
		Intervention & Remediation	Intervention. 1:1; discreet. Support. Help. Counselling. Referrals. Self-referral. Penportraits.Case worker. Key worker. Learning mentor. Specialist services. TAs. Restorative approach. Smaller classes. Composition of groups. Additional action. Range teaching methods. Strategies: selective use. VAK. AfL. Chunked activities.Extra time. Differentiation. Different work.Visual aids.Colour: coding; overlays; glasses. Personalised: education; timetable. Active encouragement. Nurturing . Involvement.Promoting independence. Overcome. Practice . Effort.
		Affective nature SEND	Emotional: intelligence; problems;well being. Worries. Concerns.Impulsivity. Vulnerable. Negative impact SEND.
	Social model	Inclusion	Ethos. Respect. Diversity. Inclusive vision. Inclusion. Equality. Equal: access; opportunity; value. Access: all areas curriculum; school life. Student voice. All : members of school; pupils/students; ability. Co-operative enterprise. SEND students represented. Display competence. Not isolate. Barrier removal: barriers to learning.Openness
		Promoting equality	Promote:positive images;attitudes; equality;contributions; relationships; shared values. Develop -talents; self-esteem. Favourable treatment (SEND)
		Reducing discriminatory behaviour	Discourage/avoid stereotyping. Discrimination: eliminate;challenge. Prejudice. Not measured against others.
		Community membership	Accessibility: All learners;All teachers. Discrimination*(eliminated)*. Community spirit. Whole school clubs. Communication.
Constructs of intelligence		Literacy deficiencies	Screening: spelling; reading. Reading ages < 9 in smaller classes. Identification significant gap. Consolidate skills: English ; reading . Literacy groups. Group reading. Spelling groups. Dyslexia friendly text. Simple sentences. Structured writing. Reading strategies: *never ask dyslexic to read aloud.*
		Deficits	Cognition: Slower; limited. Achievement. Memory.
Perception of language		Deficiencies	Use of/need for : appropriate language; terminology. Need: identified; areas of. Difficulties ; identified. Work avoidance. Improve job related skills. Support teachers and learning. Own training needs (*staff*). Support (*staff*). SEND: Issues; limited; setting; needs; behaviour. Cognition: slower; poor reasoning; processing; memory.
CPD model		Transmission	Disseminated; SENCO goes through inclusion book; Guidance. Strategies shared . Training. Inset. Professional recognition.
		Transitional	Community of practice. Learning partnership. Co-operation. Learning opportunities(staff).
		Transformative	Professional development. Personal advancement.
Policy (School development)		Law	Legislative requirement. Duty. Acts. Statutory; guidance.Ofsted.
		Rationale	Staff important asset. CPD ongoing. Business is learning.
		Monitoring	Analysis. Intervention: data; response to. Monitoring: evaluation progress; progress tracking;Progress review; gaps closed. Governors: processes; strategic statement of intent.Provision review; resources allocate by need. Prioritise. Evaluation. Policy monitoring.Achievement (*SEND learners*). Performance management
		Deficiencies	Inconsistencies. Underachievement.
		Raising attainment	Culture of continuous improvement. Raising achievement. High expectation. Equality goals and actions. Assessment.

Notes on coding

Constructs of disability: Axial codes within theme have been sub-divided into medical and social models. The axial code of label assigned into the medical

model, as the social model supports an anti-labelling approach to disability, labels having the potential to perpetuate misconception, reinforce stereotypes and ‘encourage parents to understand their children’s educational difficulties as a medical rather than a social problem’ (Macdonald, 2009, p. 273). Similarly the axial code ‘deficit’ which re-enforces concepts of norm has been assigned to the medical model.

Condensed codes: A colon indicates where terms have been condensed. For example within Constructs of disability: axial code, label, appears as:

SEND: information; learners; students; focus; transition; club; trip; evening; provision; programme of work.

The colon *s*ignifies terms that are preceded or followed by the term SEND, For example, SEND information; SEND learners; students with SEND; SEND club or SEND programme of work.

Appendix 24 Barrier removal strategies

These useful dyslexia friendly strategies are adapted from '*Removing dyslexia as a barrier to achievement'* (Mackay, 2006).

They do not reduce the content or challenge within lessons and most importantly all students within the classroom may benefit (Mackay, 2009).

Copying

Students with dyslexia often lose their place within text, as the ability to copy relies upon highly developed tracking skills, requiring stable eye movements (saccades), which many students with dyslexia do not possess, necessitating them to scan text to find where they were, often having to go back to the beginning each time, increasing the time it takes them to copy and multiplying the chances of portions of text being missed.

If work must be copied, consider how much is really necessary and help students to keep track by employing some of the following strategies:

- writing lines in differing colours
- when using power point or an interactive whiteboard, use different coloured text boxes for different points
- write in short paragraphs with clear spaces between paragraphs
- number lines at both ends (particularly if there are considerable amounts of prose)
- give students their own hard copy to annotate with ideas and additional information

Reducing information overload

Many students with dyslexia have problems with short term memory and as a consequence often experience difficulty with holding verbal information such as instructions. To reduce information overload consider some of the following strategies:

- make instructions clear and concise
- provide both verbal and written instructions
- bullet point instructions
- chunk tasks and instructions
- ask students to para phrase instructions to a peer, TA or to themselves to ensure they have understood the instructions

Organising and sequence ideas

Many students with dyslexia have difficulty in accurately sequencing information and ideas, as a consequence of difficulties holding verbal information and difficulties with short term memory. To aid organisation consider:

- providing information in strips which can be re-ordered
- scaffolding sentence or paragraph starters
- providing a writing frame

Getting ideas on paper

Students identified difficulties with short term memory and processing resulting in an inability to get their ideas on paper. To aid writing consider:

- asking student to make a plan and talk it through with teacher or TA
- using an amanuensis
- being prepared to accept work in different forms such as a mind map, flow chart, bullet points or story board and possibly consider these as a starting point for a longer piece of written work

Reducing students worry over spelling

Most students with dyslexia have difficulty with identifying and manipulating the sounds of language; ordering sounds in words (phonology), sequencing visual and/or auditory symbols (graphemes) and remembering the visual forms of words (orthography), particularly irregularly spelt words. Although spelling is always important, it is essential to encourage students to use a wide vocabulary.

Students identified deterioration in spelling when ‘in the flow’ of writing, and a temptation to ‘dumb down’ on language, to use words they can spell. To remove the fear of misspelt words and improve quality of written work, consider:

- providing key words
- correcting only a few spelling mistakes
- target marking, focus upon what is achievable using a tactic of ‘less is more’
- mark for success, identify aspects that have been well-done and provide ‘tips’ to improve work independently

Reading aloud

Many students with dyslexia have problems with word decoding, affecting reading fluency and comprehension. Students worry about making mistakes when being asked to read aloud and being ridiculed by peers. To reduce anxiety, consider:

- asking for volunteer readers
- shadow reading with students, saying irregularly spelt (exception words) or difficult words if the student struggles

Remember consistent and regular success helps and empowers students to move from their zone of comfort to a zone of challenge (Mackay, 2006).

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[1] *South African spelling*