An exploratory study of dyslexic students' self-efficacy and the influence on engagement with higher education learning

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Abstract

This study explores dyslexic students' self-efficacy and how it impacts their engagement with HE learning. Few studies have focused on dyslexic students' lived experiences to develop understanding of the personal and educational impact of a diagnosis of dyslexia in adulthood. Therefore, dyslexic students' experiences before and after diagnosis were considered, and factors that shaped their self-efficacy and learning, including previous education, experience and process of diagnosis, and HE support.

A qualitatively driven mixed methods approach included an online survey (n=59) and semi-structured interviews (n=17). Bandura's (1977;1997) self-efficacy theory (SET) and Braun and Clarke's (2022) reflexive thematic analysis (RTA) provided an overarching framework. Data analysis generated three overarching themes: *Diagnosis matters, Perceptions of support, and Finding ways to learn*.

Findings report on my original contribution, what I refer to as *foundational efficacy,* which builds on Bandura's SET (1997). I define foundational efficacy as efficacy to learn that develops when self-belief is fostered at an early age by supportive educational and social environments that provide opportunities for all learners to build and gain essential knowledge and skills to progress in life. Findings revealed almost all interviewees lacked support at school which hindered self-efficacy, development of knowledge and skills, and had repercussions for adulthood and engagement with HE learning.

Findings established relationships between the timing of diagnosis, reactions to diagnosis, and learning developed. All interviewees managed to develop learning strategies post-diagnosis, but unexpectedly those who felt *unsettled* reported the most development in terms of 'types of learning strategies' acquired.

Overall, 15 interviewees reported *using a range of technologies*, (e.g. built-in software and AT) to develop learning strategies; while 14 developed *writing strategies* due to DSA-related support from specialist dyslexia study skills tutors (SSTs), and 8 referred to lecturers aiding writing development. Key factors that

influenced students' self-efficacy and learning were the timing of diagnosis, emotional state post-diagnosis, perceptions of ability, and HE support.

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List of Abbreviations

ADHD:	Attention deficit hyperactivity disorder.
APA:	American Psychological Association.
APPs:	Access and participation plans.
APS:	Association for Psychological Science.
ASD:	Autism Spectrum Disorder.
AT:	Assistive Technology
BDA:	British Dyslexia Association.
BERA:	British Educational Research Association.
BOS:	Bristol Online Surveys.
CPD:	Continuing professional development.
DA:	Disability advisor.
DfE:	Department for Education.
DLD:	Developmental language disorder.
DSA:	Disabled Students' Allowance.
DSC:	Disabled Students' Commission.
EHRC:	Equality and Human Rights Commission.
F or **M** or **NS**:	Female or Male or Not Stated.
FE:	Further education.
HE:	Higher education.
HEFCE:	Higher Education Funding Council for England.
HEFCW:	Higher Education Funding Council for Wales.
HEPs:	Higher education providers.
HESA:	Higher Education Statistics Agency.
LU:	Lancaster University.
MBA:	Master of Business Administration.
NADP:	National Association of Disability Practitioners.
NU:	North University. Pseudonym for the university where this study was based.
NVQ:	National Vocational Qualification.
OfS:	Office for Students.

PGs or **UGs**: Postgraduates or Undergraduates.

RESE: Regulatory emotional self-efficacy.

RTA: Reflexive thematic analysis.

SASC: SpLD Assessment Standards Committee.

SCT: Social cognitive theory.

SEND: Special educational needs and disabilities.

SES: Socioeconomic status.

SET: Self-efficacy theory.

SFE: Student Finance England.

SLC: Student Loans Company.

SpLDs: Specific learning difficulties.

SRL: Self-regulated learning.

SSTs: Specialist dyslexia study skills tutors.

STT: Speech to text software.

TA: Thematic analysis.

UKRI: UK Research and Innovation.

VLE: Virtual learning environment.

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My husband, Darren, who always believes in me. I would never have reached the end without your love, support and understanding. I dedicate this thesis to you.

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Thank you to the students who participated in this study. Without your valuable insight this research and contribution to the field of dyslexia would not have been possible.

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Lastly, thank you to my family for always being there. Especially my parents who made sure I developed a strong sense of self-belief from an early age. Some people go through life without ‘special’ people to guide them; I consider myself lucky to be surrounded by them.

Author's declaration: The thesis is my own work and has not been submitted elsewhere for the award of a higher degree.

Signature .....

Chapter 1: Introduction

1.1 Aims of the research

The aim of my research is to explore dyslexic students' self-efficacy and how it impacts their engagement with higher education (HE) learning. Bandura's (1977;1997) self-efficacy theory (SET), which focuses on individuals' self-beliefs about their capabilities, is used as a lens to understand dyslexic students' lived experiences and how the timing of a diagnosis of dyslexia affects students' self-efficacy, interaction with sources of support, and development of learning strategies. Students' perceptions of learning capabilities before and after diagnosis, and influential factors that helped or hindered self-efficacy and learning are considered.

1.2 Personal background

I have been described by family as a 'serial student' due to my track record of continuous learning. It is fair to say I am a firm believer in lifelong learning; education has been a way of life and opened many doors.

Before conducting this research at North University (NU), my master's dissertation assessed the impact of NU's peer mentoring scheme on students' literacy development. Although dyslexia did not feature in my master's dissertation, comments from disabled students who struggled to write but overcame difficulties with support made me stop and think.

The motivation to embark on this research journey was sparked by my interest in dyslexia, a drive to better understand what it is like to be a dyslexic university student, and a desire to make a difference by contributing to dyslexia literature.

As I am not dyslexic, I may understandably be viewed as an outsider with no relatable experience to draw on. However, as I represent approximately 90% of people who are not dyslexic, I believe this thesis will convey important research findings to inform and educate individuals who have a limited understanding of dyslexia or little interaction with dyslexic students. I hope the research will prove to be of interest to dyslexic individuals too.

Although I completed dyslexia CPD and courses, my knowledge of dyslexia was greatly informed and shaped by dyslexic students at NU where I worked for thirteen years, firstly in student support services and later as an English tutor. Meetings with dyslexic students raised my awareness that dyslexia is a complex condition presenting unique cognitive, social and emotional challenges for students. I became interested in the influence of a diagnosis of dyslexia and how this factor shaped students experiences. I wondered: Why does a diagnosis deeply affect some students more than others? What hinders or helps students to develop or adapt learning approaches post-diagnosis? How does the timing of diagnosis impact students' self-efficacy? This curiosity formed the rationale for the study and is embedded in the research questions.

1.3 Rationale for the research and Research Questions

Personal interest in dyslexia, combined with curiosity about how dyslexic students' self-efficacy influences engagement with HE learning provided the rationale for this study and generated three research questions.

> RQ1. What influence does a diagnosis of dyslexia have on university students' self-efficacy and engagement with learning?
>
> RQ2. How does the timing of a diagnosis of dyslexia impact on students' perceived academic self-efficacy and influence their self-regulated learning strategies?
>
> RQ3. How does diagnosis and HE support influence students to develop or adapt their learning strategies?

Figure 1.1 illustrates core areas of the research whereby *Dyslexic students* are central with three interrelated areas, namely: (1) *Diagnosis*; (2) *Sources of support*; (3) *Self-efficacy*. The following subsections link the core areas to literature and address knowledge gaps.

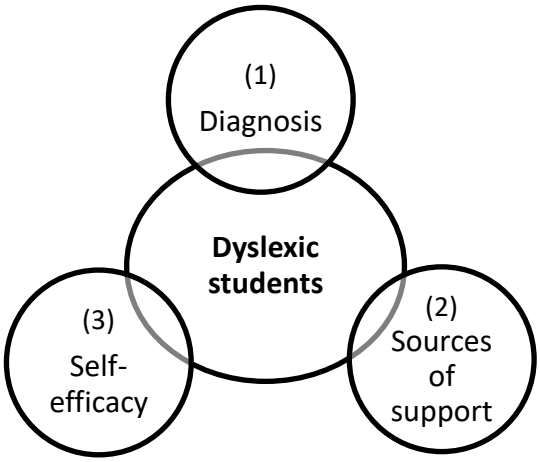

Figure 1.1 Core areas of the research

The four subsections: Dyslexic students; Diagnosis; Sources of support; and Self-efficacy were chosen as the foci of this study because they featured in my interactions with this student group. I purposely place 'Dyslexic students' at the centre, as they are the main focus and at the heart of this study. Remaining foci, (diagnosis; sources of support; self-efficacy), I see as links in a chain of events that this thesis will explore.

Prior to this study I thought obtaining a diagnosis helped students, but I observed mixed reactions post-diagnosis. I also began to see the cracks in the HE system, as the support gap between students with and without diagnoses became visible. Furthermore, students' support experiences prior to HE appeared to be inconsistent, and further inconsistencies post-diagnosis influenced students' self-efficacy. To summarise, HE was a tricky learning path for students to follow as most arrived feeling uncertain, many were signposted to be diagnosed and labelled, and all were left to seek out support. And critically, all had to find ways to learn.

1.3.1 Dyslexic students

First-hand learning experiences of UK dyslexic university students remain under-researched. While most studies adopt a qualitative approach, few use mixed

methods (Kinder and Elander, 2012; Stagg et al., 2018). Therefore, my study which employs a survey and interviews will contribute to mixed methods research.

Literature focuses on three core areas: (1) the cognitive impact of dyslexia (2) social-emotional issues, and (3) challenges of HE learning. Burden's (2008) advice advocates moving beyond dyslexic difficulties to better understand influential factors that help or hinder dyslexic students to engage and learn at university (Agiobani and Scott-Roberts, 2015; Sumner et al., 2021). My study explores dyslexic students' lived experiences and examines how students transition from a late diagnosis of dyslexia in adulthood to develop learning strategies at university. A range of influential factors that positively or otherwise impact dyslexic students' self-efficacy to learn are also considered.

1.3.2 Diagnosis

The benefits of 'early identification and intervention' to enable dyslexic learners to adapt and thrive are well-known (Colenbrander et al., 2018). Yet, despite this knowledge many individuals are diagnosed late at university and experience mixed emotions (Livingston et al., 2018).

Few studies (Cameron, 2021; Loveland-Armour, 2018; Young Kong, 2012) have focused on university students' lived experiences of dyslexia diagnoses and how the process shapes self-perception. My research adds to existing studies by exploring under-researched areas such as the timing of diagnosis (Loveland-Armour, 2018), the dyslexia label (Cameron, 2021), and how support post-diagnosis (Young Kong, 2012) influences students' self-efficacy.

1.3.3 Sources of support

Sources of support to enable dyslexic students to learn at university fall into three broad categories: (1) In-house support provided by universities, (2) External support via government-funded provision, i.e. Disabled Students' Allowance (DSA), and (3) Social support.

In-house support from universities is typically facilitated by disability services who assist and advise dyslexic students regarding support, funding, reasonable

adjustments, exam arrangements, amongst other matters. However, the extent of in-house support available to dyslexic students, (for example: dyslexia support groups or specialist staff), depends on the university. Few universities provide specialist dyslexia tuition (Dobson, 2019), and this gap in support is influenced by two factors. Firstly, current DSA funding continues to offer dyslexic students specialist support, (subject to evidence of a diagnostic assessment). Secondly, universities are likely to focus on multiple 'at risk' student groups and implement broad support strategies. Consequently, this means less specialised provision but research highlights the importance of reading, writing and emotional support to meet dyslexic students' needs (Brunswick and Bargary, 2022; Carter and Sellman, 2013; Cornwell and Shaw, 2023; Davies, 2023; Kinder and Elander, 2012; Sumner and Connelly, 2020; Tobias-Green, 2014; Whitfield, 2017).

It is therefore vital that universities create inclusive learning environments and staff understand how to support and teach dyslexic students, as strategies for dyslexia will enable all students (Hill, 2021). But HE's shift towards inclusivity appears to be slow. In 2019, the Office for Students (OfS) reported that 'inclusive pedagogy remains irregular at best' (p7). More recently in 2024, OfS established a *Disability in Higher Education Advisory Panel* (2024) to review how universities support disabled students' educational experiences. It seems that inclusivity which requires a 'whole-institution approach' with senior management driving long-term inclusive policies and practice (Disabled Students Commission, 2023a) is a destination many universities have not reached yet. This leaves a question mark over the support of dyslexic students to develop and learn at HE, student experiences considered in this study.

Accessing external support through government-funded DSA creates barriers for many dyslexic students (Johnson et al., 2019:26) as the process includes form filling, obtaining and enclosing official evidence of dyslexia, and around fourteen weeks to get support arranged. Despite the time and effort to apply, personal concerns about the dyslexic label, stigma, or future employment can deter students from booking diagnostic assessments to obtain official diagnoses to access support. Furthermore, long-term coping strategies adopted to mask dyslexic difficulties may decrease students' ability to ask for support or be receptive to new learning strategies. However, obtaining a diagnosis of dyslexia and accessing external DSA-related

support, such as specialist dyslexia study skills tutors (SSTs) or assistive technologies, can be beneficial and enable dyslexic students to progress.

Social support from family is one factor that can help students cope with a late diagnosis of dyslexia (Carawan et al., 2016). Murphy and Stevenson (2019) highlight the dynamic interplay between family, supportive educational environments, students' sense of agency, and learning strategies developed; factors that are explored in this study.

1.3.4 Self-efficacy

Bandura (1997) applied self-efficacy theory (SET) to many areas, including HE and university students, but it appears dyslexic university students were not research and SET was mainly explored by quantitative methods. However, one UK study by Stagg et al. (2018) investigated dyslexic undergraduates' self-efficacy with SET and mixed methods. The exploratory nature of my research differs from Bandura's as it combines quantitative and qualitative methods to gain a greater understanding of dyslexic students' lived experiences. Furthermore, it builds on and extends Stagg et al.'s findings as my research examines dyslexic students' coping mechanisms and how engagement with support influences students' self-efficacy to learn.

International (Alegre, 2014; Elgendi et al., 2021; Jameson and Fusco, 2014; Matoti, 2011) and UK studies (Brunswick and Bargary, 2022) have utilised various self-efficacy scales as part of their methods to assess dyslexic students. However, it seems only three UK studies focused entirely on SET and dyslexic students. Two quantitative studies by Byrne et al. (2014) and Prat-Sala and Redford (2012) measured and reported students' self-efficacy levels, while one qualitative study by Parsons et al. (2011) matched interview data to Bandura's four sources of self-efficacy. My research differs to those three UK studies as I utilise mixed methods and RTA (Braun and Clarke, 2022) to analyse and enable a more questioning approach to SET, and nuanced examination of dyslexic students' self-efficacy and learning.

Bandura identified four sources of self-efficacy (figure 1.2) and stated the most influential source was *performance accomplishments,* or self-efficacy built by first-

hand experience to evidence what one can do, for example: overcoming setbacks or developing skills. While Bandura did not prioritise the remaining three sources of self-efficacy, recent meta-analyses (Alessandri et al., 2023; Livingston et al., 2018; Won et al., 2023;) indicate further research is warranted to expand understanding of 'Regulatory Emotional Self-Efficacy' (RESE) and how managing emotions impacts social functioning. Given my research foci centres on *dyslexic students*, *diagnosis*, *sources of support* and *self-efficacy*, emotional state plays a vital role in driving students' thoughts and actions and is considered in this study.

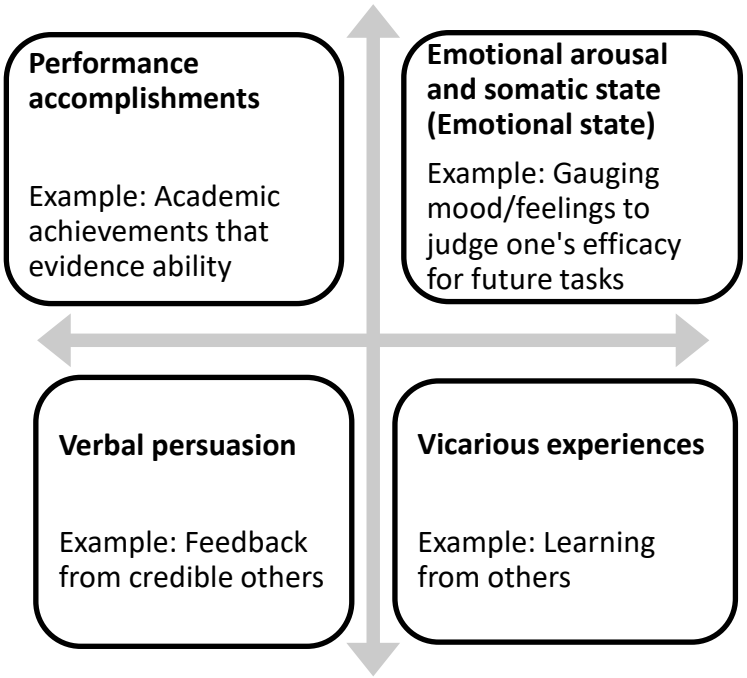

Figure 1.2 The four principal sources of self-efficacy (Bandura, 1997;2023)

1.4 Background of the research university

My research was conducted with dyslexic students at a post-92 university in England during 2017/18 and 2018/19. Throughout this thesis, the university is referred to as North University or NU. To aid understanding of the dyslexic students in this study, information about NU's student body and disability data from the Higher Education Statistics Agency (HESA) will provide contextual background.

NU delivers a range of programmes, including art and design, technologies, health and wellbeing, engineering, management, and social sciences. NU is considered a small but expanding institution that is teaching-focused with a diverse community,

and this is reflected in the number of disabled students who have increased steadily from 10.1% in 2009/10 to 17% in 2018/19. Factors that encourage diverse students to study at NU include pre-university and foundation courses, the region's economic and employment situation, and NU's location and transport links which enable many students to commute and avoid accommodation expenses.

Table 1.1 shows NU's disabled student population was 3% higher than the UK national statistics in 2017/18 and 2018/19 (HESA, 2020). NU's *Equality and Diversity Report* (2018/19) indicated over one-third of disabled students declared specific learning difficulties (SpLDs), including dyslexia. Additionally, 7% of NU's disabled students in 2017/18, and 8% in 2018/19 stated two or more impairments and/or disabling conditions.

Academic Year	% Disabled students at NU	% Disabled students in the UK	% students disclosing SpLDs at NU	% students disclosing SpLDs in the UK
2017/2018	16% (1075 of 6540)	13%	37%	38%
2018/2019	17% (1160 of 6945)	14%	35%	36%

Table 1.1: Reported student disabilities in NU and the UK (HESA, 2020)

While data in table 1.1 provides a useful snapshot of NU's disabled students, the statistics do not answer questions this study intends to explore, including: 'How' and 'why' dyslexic students engage or disengage with HE learning? 'What' hinders or helps dyslexic students' self-efficacy? 'Which' learning strategies were developed before and after diagnosis? And more importantly: 'What' can we learn from dyslexic students' lived experiences?

1.5 Introduction to Dyslexia

1.5.1 The origins of dyslexia

The word 'dyslexia' was first introduced by German Ophthalmologist, Professor Rudolph Berlin in 1887 and features in his book, *Eine besondere Art der Wortblindheit (Dyslexie),* which translates to *A special type of word blindness (Dyslexia).* Berlin described six adults with reading difficulties and concluded patients' difficulties were due to brain disorders, which links to current understanding of neural mechanisms. Berlin also referred to two existing medical conditions related

to reading and writing issues, Alexia and Paralexia. Hence, Berlin suggested the term ‘dyslexia’ rather than ‘word blindness’ (Wagner, 1973). The word dyslexia combines the Greek prefix ‘dys’ with ‘lexia’ and means difficulty with words.

The first case study on dyslexia was published in the British Medical Journal by William Pringle Morgan (1896), an English physician, who determined his 14-year-old patient had ‘*A case of congenital word blindness’* (Pringle Morgan,1896).

1.5.2 Defining dyslexia

Dyslexia is challenging to define due to multiple characteristics that go beyond reading and writing difficulties and can influence well-being and working life (Kirby and Snowling, 2022). The complex nature of dyslexia experienced by individuals is unique, like fingerprints (BDA, 2023), making it difficult to provide a universal definition.

Theories of dyslexia provide differing explanations about the cause of dyslexia, but theories often link. For example, phonological deficit theory pioneered by Snowling (2000) considers difficulties dyslexic individuals may have in processing speech sounds in words and the subsequent impact on decoding and reading. Whereas cerebellar theory examines literacy difficulties and brain differences, including individuals' processing speed, memory and motor ability (Nicolson and Fawcett, 1990).

Thus, various definitions of dyslexia have developed and inevitably this has led to different viewpoints and misconceptions. However, the following information presents a few definitions of dyslexia to illustrate how understanding has evolved, and I conclude with my thoughts.

In 1969, the Orton Society Bulletin featured an article entitled: *Specific Reading Disability Information for Teachers and Parents* which explained what we acknowledge today, intelligence is not affected (Eustis, 1969). In 1994, Lyon collaborated with researchers, clinicians and parents on behalf of the Orton Dyslexia Research Committee to formulate a research-driven, working definition of dyslexia (Lyon, 1995). But the dynamic nature of dyslexia research meant the longevity of the

definition was limited. Nevertheless, Lyon's (1995:9) reference to dyslexic individuals experiencing 'variable difficulty' remains valid.

More recently in 2020, Shaywitz and Shaywitz reviewed the American definition of dyslexia in U.S. law (2018) which states the condition is an 'unexpected difficulty' that restricts an individual's ability to read, speak and spell. The word 'unexpected' reiterates the importance of ongoing studies to drive the definition, research, education policy and practice forward (Shaywitz and Shaywitz, 2020).

The British Dyslexia Association (BDA) (2024a), a recognised advocate and popular source of information describes dyslexia as follows.

> Dyslexia is a specific learning difficulty which primarily affects reading and writing skills. However, it does not only affect these skills. Dyslexia is actually about information processing. Dyslexic people may have difficulty processing and remembering information they see and hear, which can affect learning and the acquisition of literacy skills. Dyslexia can also impact on other areas such as organisational skills. It is important to remember that there are positives to thinking differently. Many dyslexic people show strengths in areas such as reasoning and in visual and creative fields.

To further aid understanding about dyslexia, the BDA website provides a range of online resources, including checklists, to assist dyslexic learners.

In May 2024, findings from the Delphi Dyslexia Study proposed an updated definition of dyslexia (Carroll et al., 2024; Kirby et al., 2024). Two statements from Delphi's definition are of particular importance. Firstly, the influence of dyslexia on 'literacy attainment' and secondly, the interaction of dyslexia and 'environmental influences' as follows.

- **In dyslexia, some or all aspects of literacy attainment are weak** in relation to age, **standard teaching and instruction**, and level of other attainments.
- **The nature and developmental trajectory of dyslexia depends** on multiple genetic and **environmental influences** (Kirby et al., 2024:9).

The new Delphi definition aims to aid judgements to support dyslexic learners. But in my view, it also serves as a prompt to HE and HE staff who can make 'literacy attainment' and 'environmental influences' more dyslexia-friendly, thus enabling dyslexic learners to build successful strategies and realise their potential.

Current thinking about dyslexia that blends scientific knowledge with interventions provides dyslexic learners with opportunities to adapt and cope with literacy difficulties. I believe this is helpful for all learners, but especially for those who have not formed compensatory coping strategies. For example, Stacey and Fowler (2021) refer to Alan Baddeley's (2007) research on the capacity of working memory and use this knowledge to breakdown learning into bitesize chunks and activities to support dyslexic learners' recall.

Similarly, I believe dyslexia definitions that take a more holistic approach and represent the multifaceted nature of dyslexia can help to develop understanding of dyslexia. Uta Frith's work with John Morton recognised the complexities experienced by dyslexic individuals, as their framework encapsulated biological, cognitive, behavioural and environmental factors (Morton and Frith, 1995). Frith (1999:192) succinctly stated: "Dyslexia can be defined as a neuro-developmental disorder with a biological origin and behavioural signs which extend far beyond problems with written language". Frith also highlighted how compensatory learning can help dyslexic individuals achieve adequate language processing. Most importantly, Frith's (2018) latest message reinforces educators to try 'different strategies' with dyslexic individuals. I wholeheartedly agree with this sentiment; we have a duty to try.

1.5.3 Different terminologies associated with dyslexia

Dyslexia is referred to by a range of terminologies. The following subsections focus on four common terms: acquired dyslexia, developmental dyslexia or dyslexia, neurodiversity, and Specific Learning Difficulty (SpLD).

Developmental dyslexia

In UK education, developmental dyslexia (DD) is commonly referred to as 'dyslexia' (Thambirajah, 2018). The word 'developmental' indicates this major category of dyslexia is genetic (Paracchini et al., 2016). However, timely intervention at approximately age eight can enable individuals to improve speech and language skills (Snowling, 2019).

Despite evidence-based knowledge (Griffiths and Stewart, 2013), early identification of dyslexia in primary school children remains problematic for several reasons,

including poor parental support with reading skills (Giménez et al., 2017), lack of screening facilities and specialist dyslexia staff in schools (Colenbrander et al., 2018), delays in testing because children's language and skills are expected to improve with additional tuition at school (Thompson et al., 2015), large class sizes and children's behavioural issues can also divert attention (O'Brien, 2019).

Acquired dyslexia

Acquired dyslexia occurs due to brain damage, usually to the left cerebral hemisphere' (Colman, 2015) and results in profound reading difficulties (Stuart-Hamilton, 1995). Unlike developmental dyslexia, acquired dyslexia may diminish over time, but this will depend on the impact of the trauma.

Specific Learning Difficulty (SpLD)

Specific learning difficulty or SpLD is an umbrella term referring to several conditions including dyslexia, dyspraxia, ADHD, developmental language disorder (DLD) and autism spectrum disorder (ASD). Dyslexia is the most commonly diagnosed SpLD in England (Carroll et al., 2020) and this is partly due to the publicity this condition has received. Universities in England use the term SpLD as specified by HESA (2007) to report student population data.

Although SpLD stands for 'specific learning difficulty', some individuals or organisations prefer to use the term: 'specific learning difference'. Drawing on personal experience, I have heard both terms used by students who wish to convey how they see and experience dyslexia.

The *Special Educational Needs and Disability (SEND) Code of Practice* (2015) describe SpLDs as impacting on 'one or more specific aspects of learning'. As Mencap (2024) highlights, SpLDs exist on a scale so individuals with the same learning difficulty can experience mild or severe learning difficulties with different issues.

Neurodiversity

The term 'neurodiversity' contains various SpLDs and seems to be in vogue and conveyed as a relatively new umbrella term. Being 'neurodivergent', opposed to having a SpLD, positively promotes the view that neurological differences are not

issues to be cured (BDA, 2024b). Therefore, ‘neurodiversity’ emphasises what someone can do, and while positive framing helps, I would argue that grouping different conditions hinders the understanding of dyslexia which remains misunderstood.

1.6 Terminology in the thesis

The following terminology is used in this thesis.

Self-efficacy in relation to people is defined as “… people’s beliefs about their capabilities to exert control over the diverse challenges of their lives” (Bandura, 2023:7). Hence, people make daily decisions to positively engage or disengage with given tasks based on what they believe their capabilities are and how they perceive the consequences. Throughout the thesis I refer to ‘students’ self-efficacy’, by this I mean students’ beliefs in their capabilities to accomplish a task.

Self-efficacy in relation to a person’s cognitive functioning is defined as follows. Self-efficacy is a psychological construct that influences human behaviour. We cannot see self-efficacy but its effects are visible as ‘people process, weigh and integrate diverse sources of information concerning their capability and regulate their choice of behaviour and effort expenditure accordingly’ (Bandura, 1977:212). To summarise, self-efficacy is an influential mechanism that acts upon a range of cognitive processes and structures to drive human functioning, for example, self-reflection and goal setting (see 2.4.3). Within the thesis, where I refer to self-efficacy as a cognitive function opposed to a person’s beliefs about their capabilities, I use the word ‘mechanism’ to clarify the context.

Self-efficacy beliefs are defined as “…judgments of what one can do in a particular situation” (Bandura, 2023:55). For example, students’ self-efficacy beliefs to pass an exam. The phrase ‘self-efficacy beliefs’ is used a few times in the thesis. In each case, context is provided to ensure the meaning is clear.

Disabled students are used to reflect my thinking and acknowledged the social model of disability which suggests individuals’ impairments are disabled by society’s attitudinal, social and environmental barriers (Oliver and Barnes, 2012).

Student is used to indicate a general, university learner.

Dyslexic student is used to refer to a dyslexic university student. (Students in this study were asked if they preferred ‘dyslexic student’ or ‘student with dyslexia’, there was no preference. I therefore adhere to terminology aligned with the social model).

Pupils describe school children. Other groups of learners will be clearly explained where required.

1.7 Thesis Structure

Following this initial chapter, Chapter 2 presents the literature review in three sections (2.2 to 2.4). Section 2.2 provides the context of dyslexic students in HE and includes statistical data, disability policy and sources of HE support. Section 2.3 focuses on dyslexic students’ HE experiences. Section 2.4 explains the chosen theoretical framework, Bandura’s (1997) Self-efficacy Theory (SET). Chapter 3: Methodology and methods outline the online survey and semi-structured interviews, the qualitatively driven approach to data analysis using Braun and Clarke’s (2022) reflexive thematic analysis (RTA) and Bandura’s lens of SET. Chapter 4 explores findings from survey and interview data and concludes with key points from the combined datasets that lead to Chapter 5: Discussion. Chapter 5 presents the case for foundational efficacy, one of three key findings and discusses the experience of diagnosis and HE support. Chapter 6: Conclusion revisits the research questions, summarises the original contribution of this study, provides recommendations for the education sector, as well as offering ideas for future research and reflecting on the research journey.

Chapter 2: Literature Review

2.1 Introduction

This chapter is presented in three sections. First, section 2.2 provides the context of dyslexic students in HE and key information, including statistical data, relevant legislation and policy pertaining to HE disability funding and inclusive learning provision since 2009 will be presented (explained why in 2.2.3). Furthermore, the effectiveness of key legislation, including the Equality Act (2010) and reasonable adjustments, and the shift to inclusive teaching and learning within the HE sector will be considered.

Despite changes, the HE sector still needs to learn about inclusivity and in some cases, universities could be more proactive regarding the delivery and support of students' teaching, learning, and personal requirements. If institutions gained a better understanding of the issues that affect dyslexic students' engagement with HE learning and adapted accordingly, this would have positive and inclusive outcomes for the entire student body.

Secondly, section 2.3 critically evaluates existing literature featuring dyslexic students' HE experiences, which connects to this study. Literature was identified on two universities' academic search engines to develop my understanding of dyslexia and to ensure this research contributes to the field.

Thirdly, section 2.4 considers Albert Bandura's self-efficacy theory (SET) (1997), the theoretical lens used in this study to link research questions and methods. Therefore, background information regarding how Bandura introduced, defined and considered SET will be provided. Due to my study focusing on dyslexic students' lived experiences at university, the relevance and importance of Bandura's concept will be explored in relation to this student group.

2.2 The context of dyslexic students in Higher Education

2.2.1 Statistics relating to dyslexic students

In the past 10 years, the percentage of disabled students has risen from 11% to 18% of all UK students (see table 2.1), and disabled student numbers have risen from 261,745 to 514,310, showing a percentage increase of 96.5%.

Academic Year	Percentage of disabled students in the UK	Number of disabled students in the UK
2015/16	11%	261,745
2016/17	12%	285,160
2017/18	13%	311,210
2018/19	14%	340,445
2019/20	15%	369,010
2020/21	15%	417,425
2021/22	16%	451,595
2022/23	16%	484,270
2023/24	18%	514,310

Table 2.1: Percentage and number of disabled students in the UK (HESA, 2021 and 2025a)

Data in table 2.1 is based on disability disclosure information collated by HEPs who report to HESA (Advance HE, 2023). Therefore, new or continuing HE students who disclose disabilities on their student records are included in HESA's annual statistical reports. But more importantly, students who choose to disclose disabilities should receive contact from HEPs who have a legal obligation to ensure appropriate support is arranged to enable learning. However, what should happen and what does happen are not always the same due to HEPs 'inconsistent' approaches to supporting disabled students (Rodger et al., 2015:73; Williams et al., 2019:65). Recent sector developments, including The Disabled Student Commitment (2023;2024) and advice from the Equality and Human Rights Commission (2024) concerning anticipatory duty and reasonable adjustments, reinforce HE's accountability for disabled student support.

Given the onus of self-disclosure, not all students will feel comfortable sharing personal information. Historically, disability disclosure rates among specific student groups, such as international students, postgraduates, engineering and technology students, and mature students, are notably lower (Advance HE, 2023). Non-disclosure could be due to, for example, not wishing to be perceived differently at

university (Hamilton Clark, 2024). Therefore, it is important to be mindful of the unknown number of disabled students who are not included in HESA data.

HESA comprehensively collects student data to inform the UK HE sector and related bodies. Therefore, HESA data is used in this thesis. Nevertheless, it is worthwhile noting that under-reporting will occur, as HESA data reflects a snapshot of disclosures and participation rates as some students will disclose later. Furthermore, in my opinion, changes in the categorisation and reporting of disability data by HESA add to the challenge of analysing student data.

Hence, it is challenging to report the precise number of disabled students enrolled on UK HE courses for several reasons, including non-disclosure, changes in the categorisation and reporting of disability data by HESA, and changes to the disabled students' allowance (DSA) system.

Changes to DSA from 2015/16 onwards resulted in aspects of government-funded support for disabled students being transferred to HEPS, for example: note-takers (SFE, 2016). Reductions in funding meant fewer students were eligible for DSA and Advance HE (2023:10) suggests this may have caused 'a decrease in the number of students declaring a disability compared to previous years'. While it is difficult to prove Advance HE's suggestion of a decrease in disability disclosures, HESA data shows the disabled student population steadily increased despite funding reductions. For example, before DSA changes in 2014/15, 44.3% (n=101,035) of all UK HE disabled students received DSA, whereas the latest data for 2021/22 shows 30.1% (n=128,215) received DSA (Advance HE, 2023). Due to funding cuts, a decrease in disabled students receiving DSA was not unexpected, but what happened to ineligible disabled students was not stated. HEPs were expected to respond and fulfil disabled students' support requirements, but reports stated otherwise (Williams, et al., 2019). However, recent sector developments are helping to drive changes in disabled student support, and many universities publicise their efforts.

The category of 'specific learning difficulty' (SpLD) includes dyslexic students and accounts for approximately one-third of all UK disabled students (Advance HE, 2023:90). In 2021/22, OfS (2023:25) reported: '78.6% [of first-degree UK undergraduates qualifiers] with learning difficulties received a 2:1/1st compared to

78.9% with no reported disabilities'. Interestingly, Advance HE (2023:114) reported the opposite and presented slightly different statistics for 2021/22 as follows: '79.0% of SpLD students got a 2:1/1st compared to 78.5% of non-disabled students'. The two differing statistics reinforce how challenging it is to get to grips with student data, and underline how data is fluid. Even so, those statistics indicate a closing attainment gap between SpLD students and non-disabled undergraduate UK students, but I believe HE still has work to do. Given the diversity of the HE sector, it will take time and long-term commitments to make positive changes to ensure every student is fully supported to learn.

Figure 2.1 presents HESA data from 2017/18 to 2022/23 and illustrates a rising trend in students declaring SpLDs up to 2021/22 (HESA, 2025b). Notably, 2022/23 shows a decrease in students declaring SpLDs, but HESA notes changes to their disability coding frame in 2022/23 impacted some HEPs' returns (HESA, 2023). Currently, data for SpLD students is unavailable for 2023/24, but it will be interesting to see if SpLD student numbers follow the previous upward trend.

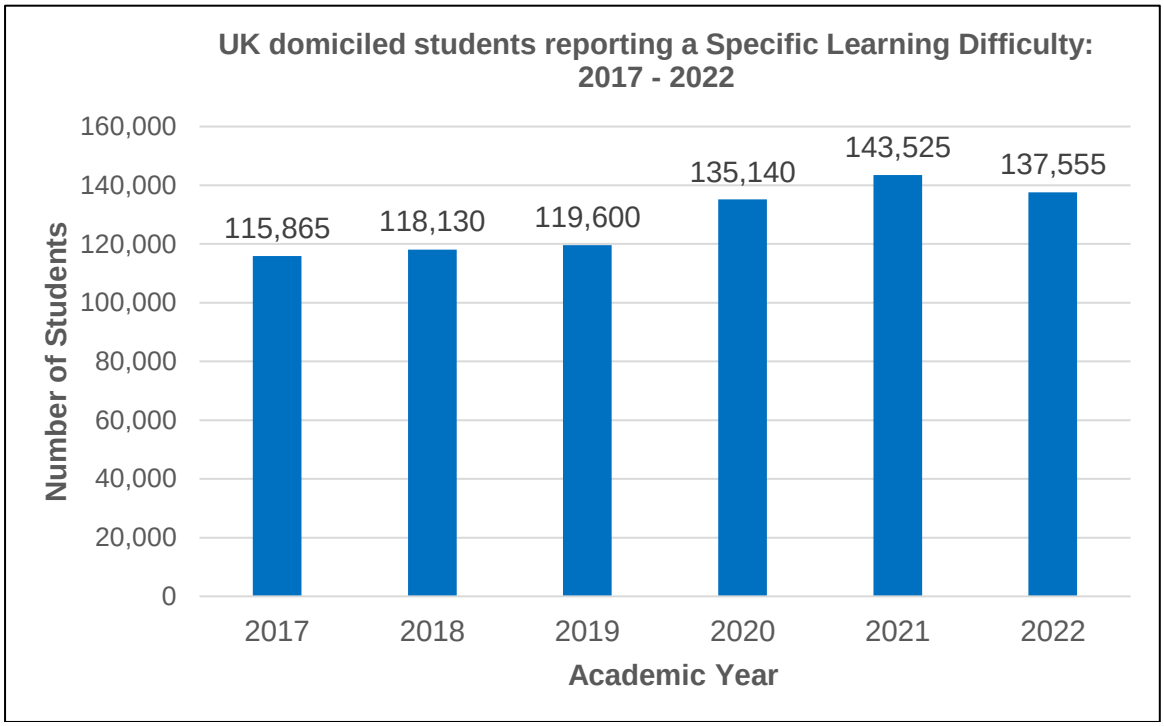

Figure 2.1: HESA data from 2017/18 to 2022/23: UK students reporting Specific Learning Difficulties (HESA, 2025b)

2.2.2 The assessment process of SpLDs: Background and current changes

In 2005, a SpLD Working Group was formed to guide diagnostic assessments and clarify evidence required by students diagnosed with dyslexia, attention deficit disorder, dyspraxia or dyscalculia, to apply for Disabled Students' Allowance (DSA). Later in 2008, the SpLD Assessment Standards Committee (SASC) was established to monitor and evaluate assessment standards, and promote assessor training and good practice (SASC, 2020).

Today, the SpLD Working Group's guidelines include core components of the diagnostic assessment report, which are continuously reviewed by SASC to provide up-to-date guidance for assessors. For example, SASC proposed the ruling on post-16 evidence of dyslexia testing should be changed to make things easier and cut costs for students, Student Finance England (SFE) listened and responded. Also, SASC presented guidelines for assessing remotely when the Covid-19 pandemic started and SFE took that on board too. SASC therefore have a voice to address SFE, but SASC do not have the authority to change things.

In Spring 2024, the government contracted two companies, Capita and Study Tech, to manage disabled students' study needs post-diagnosis (SLC, 2023). Capita and Study Tech therefore conduct students' study needs assessment, (i.e. meet with disabled students to determine their support requirements based on medical evidence) and supply students with equipment, technology, training and aftercare support. The 'streamlining' of the DSA system by the Student Loans Company (SLC) (2023) to 'meet the needs' of students is concerning, as the costs of needs assessments have been driven down and impacted professional needs assessors (NADP, 2023). Lowering costs raises questions about the outcome of students' needs assessments and worries of 'standardising' support for dyslexic students, who are not a homogenous group.

2.2.3 Disability Policy: The impact on dyslexic students

The Higher Education Funding Council for England (HEFCE) and Higher Education Funding Council for Wales (HEFCW) commissioned review document: *Evaluation of provision and Support for Disabled Students in Higher Education (2009)* is an important milestone as it historically reviewed changes from 1998 to 2008, and

considered how disability policy, institutional practices, funding and support for disabled students had evolved. It therefore gave insight into the HE sector at the time and offered institutions exemplars of good practice whilst emphasising three areas for development: (1) physical barriers, (2) teaching, curriculum, assessment and support systems, and (3) incorporating equality strategies to demonstrate fairness by implementing the Equality Impact Assessment (EIA).

In 2015, government commissioned York consulting and University of Leeds to update the 2009 work by HEFCE and HEFCW. The 2015 report, *Support for HE Students with Specific Learning Difficulties* by Rodger et al., reflected changes in legislation by the Equality Act (2010) which increased educational providers' legal and anticipatory responsibilities to disabled students. Furthermore, changes in the HE system following the Browne Report (Browne et al., 2010), such as increases in tuition fees and changes to DSA, were also included.

Rodger et al.'s report (2015) to HEFCE drew several conclusions, two points relating to DSA and student support (listed below) connect to research questions in my study and remain pertinent today.

> Point 1. '[DSA] acts as a potential barrier to closer integration and social model achievement' (p83).
>
> Point 2. '… main avenue of support for [students not supported via DSA] is academic support. This service however is not always resourced sufficiently to meet their needs (p84).

Continuing evidence that HEPs need to improve practice and support was stated in a report to HEFCE (Williams et al., 2019:5) *Review of Support for Disabled Students in Higher Education in England and* restated by DfE's (2019) *Evaluation of disabled students' allowances*. Both reports note adaptations and support for students were problematic, critical points that seem to forget inclusivity and legislation.

In 2023, research and work conducted by the Disabled Students' Commission (2023a) led to the development of the *Disabled Students' Commitment*. The Commitment was based on four factors disabled students told the Disabled Students' Commission (DSC) they wanted from the HE experience, namely: communication, consistency, certainty, and choice. Regarding 'consistency', the

Commitment called upon HEPs to embed inclusive practice to ensure “anticipatory reasonable adjustments are provided with consistency and certainty in the delivery of learning, teaching and assessment” (p12). A further key point in the Commitment referred to transition and “requests to share information” (p8), including consent to share between HEPs and organisations to ensure students are supported seamlessly and in a timely fashion from one institution to another. Journeying through the un-joined systems of school, FE and HE often presents uncertainty and inconsistency for learners, and this point is reflected in the four factors (communication, consistency, certainty, and choice) that disabled students raised with the DSC (2023).

2.3 Dyslexic students’ HE experiences

Dyslexia literature primarily focuses on three areas: scientific research about dyslexia (Stein, 2022), children’s reading development and perspectives (Snowling, 2020) and teachers’ knowledge and awareness of dyslexia (Nevill and Forsey, 2023). Clearly, those areas warrant research as future developments have potential to advance knowledge and reduce dyslexia diagnoses in adulthood. However, a small body of literature has explored the lived experiences of dyslexic students (Cameron, 2021; Jacobs et al., 2020), hence the motivation for this study.

The literature search focused on dyslexic students’ HE experiences and was conducted with a start date of 2009 to align with the HEFCE and HEFCW commissioned review document: *Evaluation of provision and Support for Disabled Students in Higher Education (2009).* (Discussion regarding the importance of this key report is in section 2.2.3).

Primarily, the following keywords: *dyslex**, *self-efficacy*, *diagnos**, *Higher Education, universit** and *disab** were utilised to link to the research questions and appraise existing literature since 2009 (figure 2.2). The first stage of the search returned 151 published studies on two universities search engines, OneSearch and Discover@. Next, the 151 studies identified were filtered and further categorised according to the year of publication, author(s), key theme(s) of the research, institution type, country of publication.

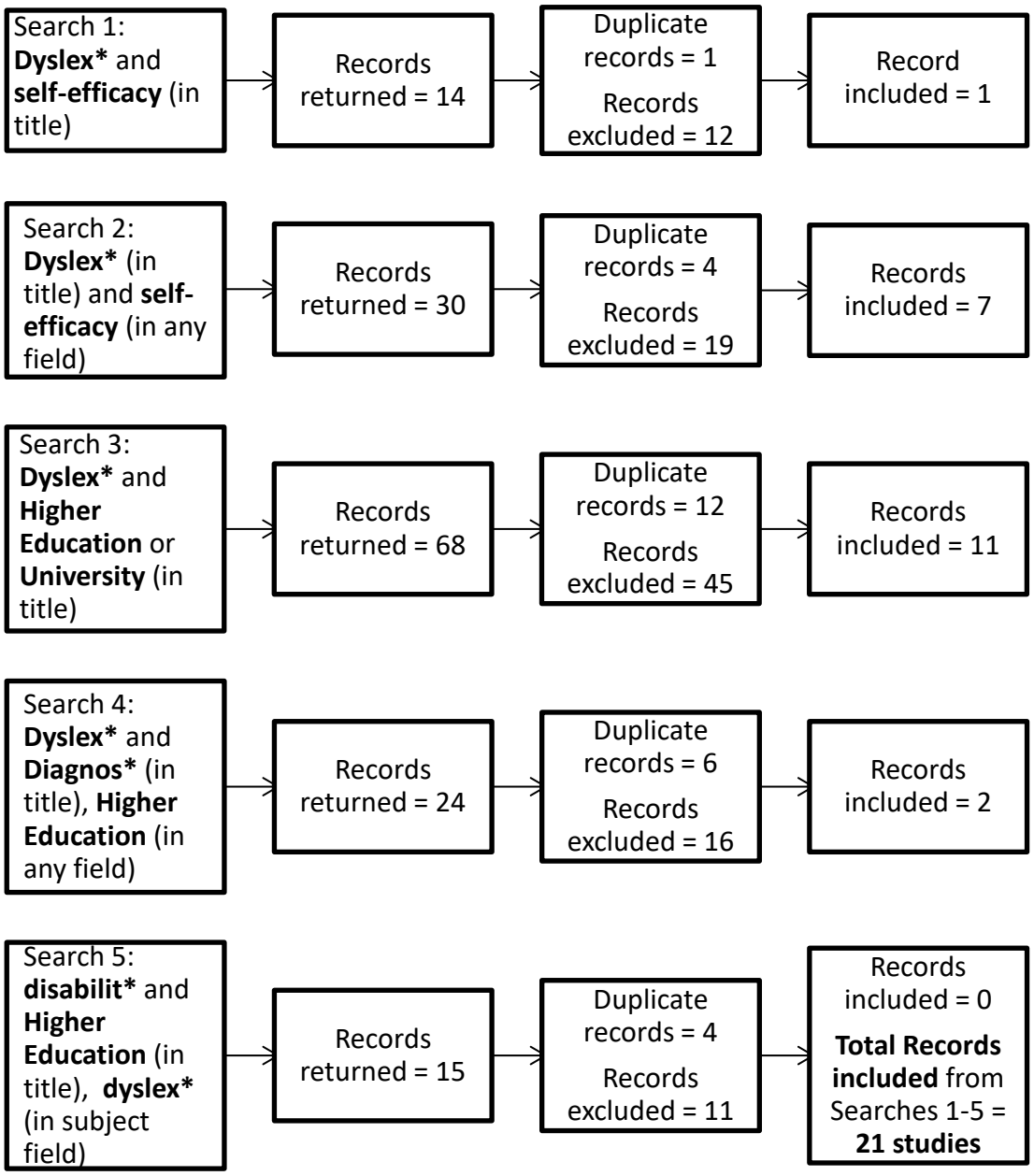

Figure 2.2: Keywords used in literature search

To further refine returned studies and maintain a focused literature search, I applied an inclusion and exclusion criteria to the 151 published studies (see table 2.2). Therefore, relevant studies had to meet inclusion criteria 1, 2 or 3, as a minimum to be selected. Criterion 3 linked to Bandura's (1997) self-efficacy theory (SET); the theoretical framework used in this study.

Inclusion Criteria: Studies included if they met Criterion 1, 2 or 3. • Criterion 1 - Study includes learning and/or personal experiences of dyslexic students at a UK university. • Criterion 2 - The impact of a dyslexia diagnosis is considered and/or investigated. • Criterion 3 - The study considers students' self-efficacy.
Exclusion Criteria: Studies excluded for either of the following reasons. • Criterion 4 - The study does not focus on dyslexic students' lived experiences, i.e., the study is centred on the voices of teaching staff, professional staff, children or learners under the age of 18, or other individuals. • Criterion 5 - The study was not conducted in a UK university.

Table 2.2: Inclusion and exclusion criteria for existing literature search

By filtering and revisiting literature, results were limited to 21 published studies. Upon further reading, applying inclusion and exclusion criteria, this was reduced to 15 studies which linked to research questions (see table 2.2).

136 articles were not selected in the literature searches, for example, studies focused on HE teaching, professional support staff, non-UK studies, and so on. Excluded articles were catalogued and saved in my online library for reference. Throughout this project, I have referred to numerous articles catalogued as my thinking extended beyond the research questions.

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
1) **Cameron (2021)** 'It's been taken away': an experience of a disappearing dyslexia diagnosis.	1 (F) Age not stated	The case study explored one student's experiences of being labelled dyslexic at college and being 'unlabelled' after assessment at university. Findings raised important questions about the fairness of specialist provision and the social and educational impact of labelling.	✓	✓	✓	
2) **Sumner et al. (2021)** Examining academic confidence and study support needs for university students with dyslexia and/or developmental coordination disorder.	367 (163 with dyslexia; 62 with dyslexia and dyspraxia) 70% F; 26% M; 4% not stated. Aged 18-50+	The study aimed to: (1) Determine the academic confidence of university students with and without a SpLD. (2) Ascertain engagement with DSA support and examination adjustments. (3) Discover which teaching practices students found helpful. The study revealed students with dyslexia, (and dyslexia and dyspraxia), continue to highlight the need for writing support.	✓		✓	✓
3) **Jacobs et al. (2020)** Learning at school through to university: the educational experiences of students with dyslexia at one UK higher education institution.	14 (11F, 3M) Aged 18-36	The study aimed to understand educational experiences of 14 dyslexic students. The emergent interview themes were: Managing Feelings of Inferiority, Adapting to the Learning Environment, and Experience of Learning Support. Students reported that staff had inadequate knowledge of dyslexia, and support provision needed improvement.	✓	✓	✓	

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
4) **Loveland-Armour (2018)** Recently identified university students navigate dyslexia.	8 (6F, 2M) Aged 21-52	The study focused on recently diagnosed students. A brief survey, interviews and artefacts created by interviewees were used. Loveland-Armour utilised social identity theory to learn how students understood dyslexia and the associated label. Findings indicated dyslexia did not define students' identities.	✓	✓	✓	
5) **Stagg et al. (2018)** Self-efficacy in undergraduate students with dyslexia: A mixed methods investigation.	44* (29F, 15M) *Survey n=44. Followed by 8 Interviews. (50% dyslexic students in each phase). Aged 18-32	The study investigated students' academic self-beliefs using two self-efficacy scales and interviews. Data gathered from survey scales and follow-up interviews considered Bandura's SET (1997) and suggested negative appraisals at school contributed to dyslexic students' low self-efficacy beliefs in their capabilities.	✓		✓	
6) **Cameron and Billington (2017)** Just deal with it': neoliberalism in dyslexic students' talk about dyslexia and learning at university.	13 (Gender, age not stated)	The study considered dyslexic students' perceptions and behaviours, and how they are driven by discourses influenced by neoliberalism. The authors concluded that a better understanding of discourses surrounding dyslexia is required to ensure a fairer education system.	✓			

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
7) **Cameron (2016)** Beyond cognitive deficit: the everyday lived experience of dyslexic students at university.	3 (2F, 1M) Aged 20-36	The study explored the lived experience of students with a label of dyslexia. Three students kept diaries for three weeks and reflected on a learning situation prior to being interviewed. The study found that structure and language of academic contexts can create barriers to reinforce the negative beliefs of dyslexic students.	✓			
8) **Holgate (2015)** Developing an inclusive curriculum of architecture for students with dyslexia.	Author stated 'around 30' attended a presentation in 2008. 11 interviews in 2009 and 2014. Gender and age not stated.	The study aimed to improve the learning environment and assessments for architectural students. During a five-year period, the author engaged with dyslexic students and reviewed the curriculum, implemented initiatives, and evaluated outcomes. To summarise, student feedback was mixed regarding alternative assessments and use of learning technologies.	✓		✓	✓
9) **Tobias-Green (2014)** The role of the agreement: Art students, dyslexia, reading and writing.	30 Gender and age not stated.	The study analysed dyslexic art undergraduates' relationships with reading and writing, and the impact of one-to-one writing tutorials. The author discusses 'agreements' and how they could be implemented by institutions to clarify students' responsibilities and course expectations.	✓			

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
10) **Bacon and Bennett (2013)** Dyslexia in Higher Education: the decision to study art.	13 (7F, 6M) Aged 19-39	Interviews explored students' lived experiences to understand if dyslexia influenced students' motivation to study art. Findings highlighted that support from family and other social groups were more influential than difficulties encountered at school.	✓			
11) **Carter and Sellman (2013)** A View of Dyslexia in Context: Implications for Understanding Differences in Essay Writing Experience Amongst Higher Education Students Identified as Dyslexic.	11 Gender and age not stated.	The study explored the writing experiences of 11 students, (7 dyslexic, 4 non-dyslexic learners). Three interviews were conducted with each student, i.e., before, during and after writing an essay. The authors concluded that a more inclusive approach to writing support is required by all students, however, there is also a need to retain specialist support.	✓			
12) **Kinder and Elander (2012)** Dyslexia, authorial identity, and approaches to learning and writing: A mixed methods study.	62 (34F, 28M) *Survey n=62. (50% were dyslexic). Followed by 6 interviews with	The study utilised questionnaires and interviews to focus on authorship and compare how 31 dyslexic students and 31 non-dyslexic students approached learning and writing. Findings suggested dyslexic students had weaker writing identities and inconsistent approaches to writing. The	✓			

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
	dyslexic students. Aged 18-55	authors noted more research is required to develop interventions.				
13) **Young Kong (2012)** The emotional impact of being recently diagnosed with dyslexia from the perspective of chiropractic students.	6 (3F, 3M) Aged 28-43	The study investigated postgraduate students' experiences and emotions after being diagnosed as dyslexic at university. Seven major themes were identified from interviews: distress, self-doubt, embarrassment, frustration, relief, confidence and motivation. The author noted post-diagnosis support is crucial to enable students to transition to acceptance.	✓	✓	✓	
14) **Griffin and Pollak (2009)** Student experiences of neurodiversity in HE: Insights from the BrainHE Project.	27* (14M, 13F) *Included 12 dyslexic students. Authors stated mean age: 30.	The study focused on the life and educational experiences of current and past university students and explored how they dealt with learning differences and developed their identities as individuals. The authors conclude language often reinforced deficits, and staff awareness of disabilities was often lacking.	✓	✓	✓	
15) **Taylor et al. (2009)** Teaching students with dyslexia in higher education.	22 Gender and age not stated.	The study used interviews, discussions and observations to evaluate students' adjustments and report how students coped with teaching, assessments and modifications. The authors stressed	✓		✓	✓

Study name and Author(s)	Participant information: Number, gender, age	Summary of study	Key Themes			
			Understanding dyslexic students' experiences	Impact of diagnosis	Support and adjustments for dyslexic students	Institutional approaches to teaching and learning
		the importance of transition and how this should be professionally managed. Findings indicate that adjustments enabled dyslexic students to perform similarly to non-dyslexic individuals.				

Table 2.3: Summary of studies exploring dyslexic students' learning experiences

Table 2.3 highlights fifteen studies since 2009 that feature experiences and voices of dyslexic university students. Eight of the fifteen studies focus completely on dyslexic university students, (studies 1, 3, 4, 6, 7, 9, 10,13). The remaining seven studies considered dyslexic and non-dyslexic students (studies 5, 11, 12), students with dyslexia and other disabilities (studies 2, 14), and dyslexic students and HE staff (studies 8,15).

Three studies (Kinder and Elander, 2012; Loveland-Armour, 2018; Stagg et al., 2018) are similar to my research as they use mixed methods. However, my study builds on existing knowledge and investigates areas of further research including the impact of diagnosis (Loveland-Armour, 2018); students' coping strategies to develop self-efficacy (Stagg et al., 2018); and how students develop academic writing (Kinder and Elander, 2012). Deficiencies in existing literature beyond the fifteen studies will also be considered, as a greater understanding of dyslexic students in HE is still required. Themes highlighted by the fifteen studies will be considered next.

2.3.1 Establishing key themes in existing studies

Table 2.3 summarises the four key themes identified in existing studies. I determined key themes by reviewing each study, reading and re-reading, considering keywords noted by authors, and establishing my keywords for each study. Next, I imported all keywords into NVivo and ran 'word frequency' queries to generate 'word clouds' (see figures 2.3 and 2.4) and aid consideration before finalising the following themes.

Theme 1: Understanding dyslexic students' experiences

Theme 2: Impact of diagnosis

Theme 3: Support and adjustments for dyslexic students

Theme 4: Institutional approaches to teaching and learning

The four themes listed above reflect a range of interconnected and overlapping issues. I therefore selected and reported on popular topics related to each theme and drew on wider literature.

Figure 2.3: Word cloud generated by keywords from existing studies

Figure 2.4: Word cloud generated by my keywords

2.3.2 Theme 1: Understanding dyslexic students' experiences

Fourteen of the fifteen studies in table 2.3 used interviews to understand dyslexic students' lived experiences and generated rich data. The three most common experiences shared by dyslexic students and reported by literature were: past educational experiences (Griffin and Pollak, 2009; Jacobs et al., 2020); learning to read and write at HE (Carter and Sellman, 2013; Kinder and Elander, 2012; Tobias-Green, 2014;) and the emotional impact of dyslexia (Cameron, 2016; Cameron and Billington, 2017; Cameron, 2021; Loveland-Armour, 2018; Young Kong, 2012). The following focuses on 'past educational experiences', as themes 2 to 4 overlap and address the remaining experiences.

Past educational experiences provided context for dyslexic students' learning journeys and mixed views, but school experiences appeared to be dominated by negative opinions about teachers and peers. For instance, Lily (participant in

Stagg et al., 2018) described a lack of support from teachers and moved schools to get extra help. Similarly, ‘S’ (participant in Cameron and Billington, 2017:1363) reported coping alone with dyslexic difficulties because “teachers did not take much notice.” It was unclear if S disclosed dyslexia or if a dyslexia test was conducted at school, as the study does not refer to adjustments or assistance. Nevertheless, S remained engaged despite feeling unsupported, something not all dyslexic (and non-dyslexic) pupils are capable of at this crucial stage when knowledge and self-efficacy beliefs in learning are shaped (Bandura, 2023; Lithari, 2023).

Additional information regarding Lily and S (respective participants in Stagg et al., 2018; Cameron and Billington, 2017) may have usefully revealed how social networks affected their self-efficacy development. Existing literature suggests encouragement often comes from parents, family and friends (Bacon and Bennett, 2013; Burns et al., 2013; Carawan, 2016), but limited research delves further to understand the range of factors that influence and enable dyslexic individuals, particularly when they are trying to understand their diagnosis and move on (Young Kong, 2012). My study aims to fill this gap by applying Bandura’s SET (1997) and using mixed methods to better understand dyslexic students’ lived experiences. Bazeley (2020) refers to multidimensional phenomena requiring multifaceted methods, the approach adopted for my research.

Despite the British Dyslexia Association (BDA) (2025) raising awareness about dyslexia for over fifty years dyslexia remains misunderstood in educational institutions. Findings from recent studies (Cameron, 2021; Wilmot et al., 2023) reiterate how dyslexic pupils felt belittled or perceived as lazy by teaching staff and peers. The lack of dyslexia awareness in schools resulted in a negative learning environment affecting dyslexic pupils' wellbeing and educational development. Furthermore, difficulties encountered by pupils, including lack of support and feelings of stigmatisation are likely to undermine individuals’ self-beliefs in the long-term and impact engagement with HE learning (Stagg et al., 2018; Tobias-Green, 2014). My study addresses the ramifications for dyslexic students studying at HE.

2.3.3 Theme 2: Impact of diagnosis

Qualitative studies by Jacobs et al. (2020), Loveland-Armour (2018) and Young Kong (2012) interviewed students who were diagnosed with dyslexia at university. Detailed accounts of students' experiences revealed how diagnoses at HE affected self-understanding and emotional well-being, and common issues included labelling and acceptance. The range of sensitive topics reported by Jacobs et al. (2020), Loveland-Armour (2018) and Young Kong (2012) indicates to some extent how they carefully approached their studies and built rapport with participants. Few studies have evidenced the challenges surrounding the impact of a dyslexia diagnosis. Therefore, my study seeks to build on existing literature to deepen understanding of students' reactions and subsequent engagement with HE learning. Diagnosis is one factor that shapes students' experiences, which interviews in my study will explore.

Young Kong's (2012) study cites Higgins et al.'s (2002) 'stages of acceptance' model to explain how postgraduates made sense of dyslexia post-diagnosis. The five stages of acceptance within Higgins et al.'s model include: awareness of individual differences, the labelling event, understanding and negotiating the label, compartmentalization, and transformation. Young Kong (2012:143) notes "Our participants broadly followed the stages of acceptance by Higgins and others" and an overview of students' journeys was provided. However, questions to ascertain 'how' participants moved through the stages, interacted socially, and engaged with HE support to move forward to acceptance might have enabled a deeper understanding of post-diagnosis support, points my research questions explore.

Literature suggests how newly diagnosed university students might come to accept dyslexia due to early support or coping strategies developed (Malpas, 2017), but acceptance is far from a linear process. Higgins et al. (2002:16) caution that additional steps in the stages of acceptance should include "rejecting inappropriate labels" and "recognising and combating the negative valuations by others". While both steps warrant inclusion, arguably the stages are debateable and unique to the individual. Interestingly, Bandura (1997) contested 'stages' of change as a way of explaining individuals' transition and

instead preferred to identify determinants. Bandura's view of seeking out factors that help individuals to transition connects with my research, as I seek to establish what helps or hinders dyslexic students to progress and learn at HE.

2.3.4 Theme 3: Support and adjustments for dyslexic students

Most studies in table 2.3 highlight two support issues for dyslexic students: barriers to accessing external government-funded support (i.e. DSA), and HE staff's lack of understanding about dyslexia.

Cameron's (2021) case study focuses on one university student, Beth (pseudonym), and highlights how DSA government-funded support at HE depends on a formal diagnosis of dyslexia from a psychologist or specialist SpLD assessment practitioner. Cameron (2021:3) describes formal diagnosis as a "key gatekeeping tool", and in Beth's case, formal diagnosis at HE determined she was 'not dyslexic' despite a quasi-diagnosis at FE stating, 'strong risk of dyslexia' and Beth being supported and labelled dyslexic for fifteen years. Thus, Beth's interim and further access to dyslexia support at HE was withdrawn, leaving her unsupported and understandably upset.

Although Beth's experience of being 'unlabelled' is not commonly reported in literature, Cameron believes this happens more often and this raises an important point about the fairness of educational support systems. For instance, testing for learning difficulties at FE are less rigid than HE, as FE assessors have some flexibility in the choice of tests to establish learning difficulties (SASC, 2024). Additionally, FE's support system accepts less formalised evidence, making adjustments for dyslexic learners somewhat easier to process. For example, reports from schools/FE tutors may result in extra time or individual/group support interventions. It is therefore likely, as Cameron believes, differences in diagnostic testing between FE and HE systems generate disparity and result in situations like Beth's, leaving individuals with educational and social repercussions. Within my study, RQ3 focuses on diagnosis and HE support, and this will ascertain students' experiences of different educational systems and explore how/if HE support facilitates the gap, meets expectations and develops students' learning.

Cameron’s (2021) reflects on undiagnosed dyslexic students who would equally benefit from support, and students who do not reach the necessary diagnostic assessment thresholds. Cornwell and Shaw's (2023) study emphasises the importance of family support and how career decisions were influenced by ‘Meg's’ undiagnosed dyslexia.

Carter and Sellman (2013) point out numerous difficulties all students will encounter whilst developing learning skills at university, for instance, reading, generating ideas, drafting, and referencing. Carter and Sellman (2013) note that specialist support via DSA warrants funding, but they observe inclusive support is not automatically provided or consistent in HE, yet a more inclusive environment would benefit all students.

Kinder and Elander’s (2012) study aimed to establish which dominant writing strategies and strategic learning approaches were employed by dyslexic and non-dyslexic student groups. Due to the complex nature of the learning and writing process, and the unique way dyslexia affects individuals, Kinder and Elander (2012) found it difficult to substantiate significant patterns in the data between the two student groups. Writing challenges described by dyslexic students included difficulties organising writing and expressing ideas, slower writing and spelling errors, which supports wider research (Davies, 2023; Sumner and Connelly, 2020). The study raised several questions for future research, including: How do dyslexic students develop approaches to learning? Which learning strategies are used by dyslexic students to counteract reading difficulties? These questions form part of my interview schedule and are considered by students in my study.

Jacobs et al. (2020) reinforce how teaching staff need to be equipped with the knowledge and skills to support dyslexic individuals’’ learning. Jacobs et al. (2020) offer two contrasting examples, whereby one individual is identified as dyslexic at school and received inappropriate teaching support that hindered progress. In contrast, those diagnosed and given appropriate support and encouragement grew in self-belief and confidence (Stagg et al., 2018) and self-advocated for learning needs (Pitt and Soni, 2018).

Students' support needs and academic confidence were the focus of Sumner et al.'s (2020) online survey of students (n=367) in England and Wales. A five-point Likert scale was implemented to identify academic confidence, but the exclusion of open questions restricted a deeper understanding. For example, 49.7% of dyslexic students accessed a recording device and 64.4% perceived lecture capture as helpful. Further contextualisation might have highlighted how students used technologies to assist learning. Griffin and Pollak's (2009) study reported 'assistive technology played an important role in the educational lives of many of the participants'. Today, AT is more engrained in everyday life with free accessibility functions built in many devices. Hiscox et al. (2014) theorises autocorrecting alleviates pressure on dyslexic individuals' working memory and Davies (2023) describes one participant's use of AT as 'automatic'. Wider literature contradicts this view at times as Mossige et al. (2023) note, but my survey considers students' choice of technologies.

All issues discussed in 2.3.4 underline the need for more inclusive learning and support environments and are further discussed in Theme 4.

2.3.5 Theme 4: Institutional approaches to teaching and learning

Case studies by Taylor (2009) and Holgate (2015) focused on inclusive teaching practices and rethinking student assessment, and albeit dated both studies reiterate what aspects of an 'inclusive curriculum' should look like today. And critically, Taylor (2009) and Holgate (2015) engaged students' views to influence and shape change. This strategy is reflected in recent HE initiatives including the *Student Engagement Through Partnership Framework* (Advance HE, 2024).

The term 'inclusive curriculum' encapsulates different meanings but within this section I draw on dyslexia literature which refers to the importance of multisensory, structured, and personalised learning, three key components at the centre of Taylor (2009) and Holgate's (2015) plans.

Holgate's (2015) motivation to create an inclusive curriculum for architecture students was to gain an understanding of how to support dyslexic students and

provide alternative assessments. Taylor's (2009) focus was similar in that he wished to impact teaching, assessments and adjustments.

Interestingly, Holgate's (2015) proposal to seek an alternative assessment to the final year written project was met with disapproval from alumni interviewees. But interviewees explained the importance of developing written skills for professional practice, therefore avoiding written assessments could prove detrimental even though many students found projects challenging. Holgate (2015:87) also notes how students built 'self-efficacy and confidence in their abilities' due to self-directed learning. A point of connection with my study. To summarise, striking a balance between assessment and professional practice is a key consideration, as recent calls request the rethinking of assessment for nursing students with dyslexia (Butler, 2024).

Taylor (2009:144) like Holgate incorporated multi-sensory approaches, for example, diagrams, visuals and auditory methods of learning and 'as a minimum, lecture and assessment materials were always available via the system'. The latter point remains an issue, but many HEPs succeed.

Tobias-Green's (2014) paper reinforced how prioritising structured writing support for dyslexic students and making writing support part of the learning contract (between student and university) aided positive outcomes for students and HEPs. My study focuses on the influence of HE support and aims to establish how dyslexic students develop or adapt learning strategies.

2.4 Bandura's Self-efficacy Theory: A lens to understand dyslexic students and learning

Bandura's self-efficacy theory (SET) (1977;1997) has been selected as the theoretical lens for this study because it addresses the complexities of self-belief and influential factors that may affect a person's thoughts, actions or behaviour.

The following sections will present Bandura's timeline with key achievements (2.4.1); A brief history of Social Cognitive Theory (2.4.2); What is self-efficacy? (2.4.3); Where does self-efficacy come from? (2.4.4); How does a person build self-efficacy? (2.4.5); A review of Albert Bandura's self-efficacy literature

(2.4.6); Results of the search on Bandura's self-efficacy literature (2.4.7).

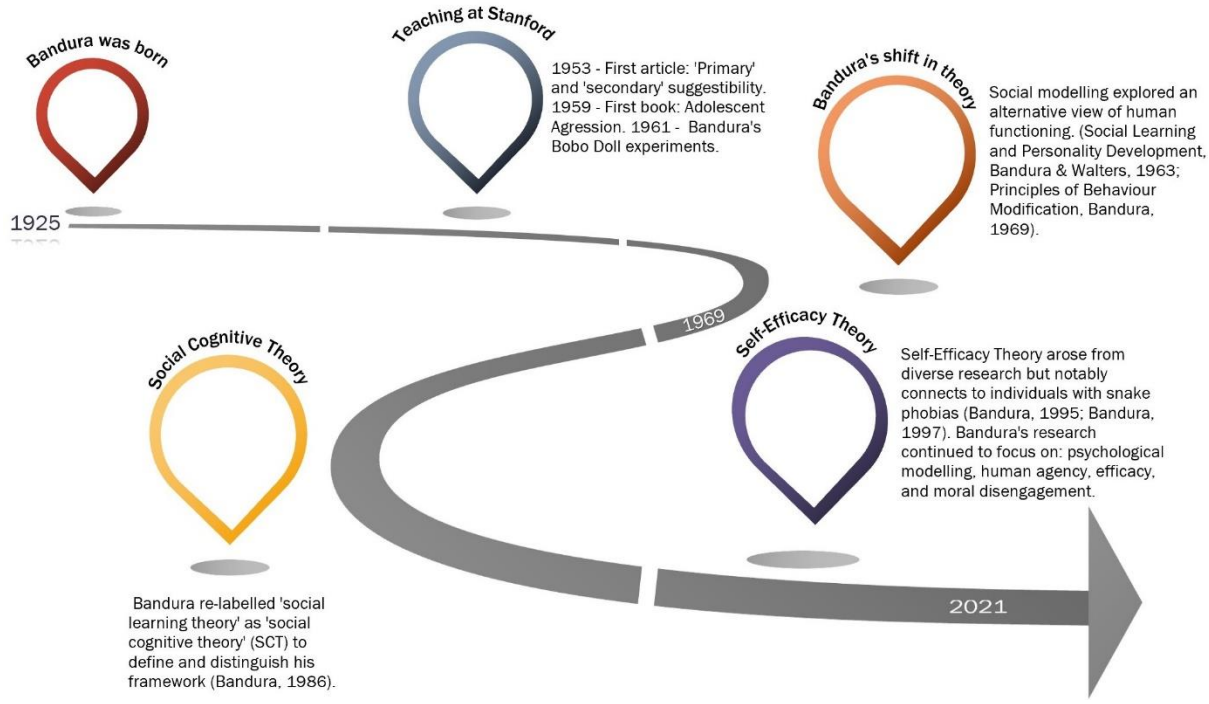

Figure 2.5: A timeline of Bandura's key theoretical developments

2.4.1 Bandura's timeline

Figure 2.5 illustrates a few key points in Bandura's prolific career including early research on social modelling; guided mastery studies (which helped people to overcome snake phobias and sparked Bandura's concept of SET); changing social learning theory to social cognitive theory; forming the additional theory of self-efficacy; considering personal agency and moral disengagement (Bandura, 2006a). Bandura's work continues to be influential in the fields of education, psychology and beyond, as his legacy continues.

2.4.2 A brief history of Social Cognitive Theory

From Bandura's prolific research career there are two key points which are relevant to this thesis. Namely, Social Cognitive Theory (SCT) and Self-Efficacy Theory (SET) which is a part of SCT. SCT focuses on people and agency, in other words, it is a theory for understanding people (Bandura, 2023). Bandura refers to the 'social' portion of the title as referring to human thought and action,

while ‘cognitive’ recognises the influential processes that contribute to daily human functioning including knowledge, motivation, affect, and action.

Self-efficacy is an influential mechanism that acts upon a range of cognitive processes and structures to drive human functioning, for example, self-reflection and goal setting. Self-efficacy plays a central role in SCT and whilst we cannot see self-efficacy, the effects of this psychological construct are visible in people’s choice of behaviour and effort expended to complete tasks (Bandura, 1997). See figure 2.6 for a simplified overview of the self-efficacy mechanism in Social Cognitive Theory.

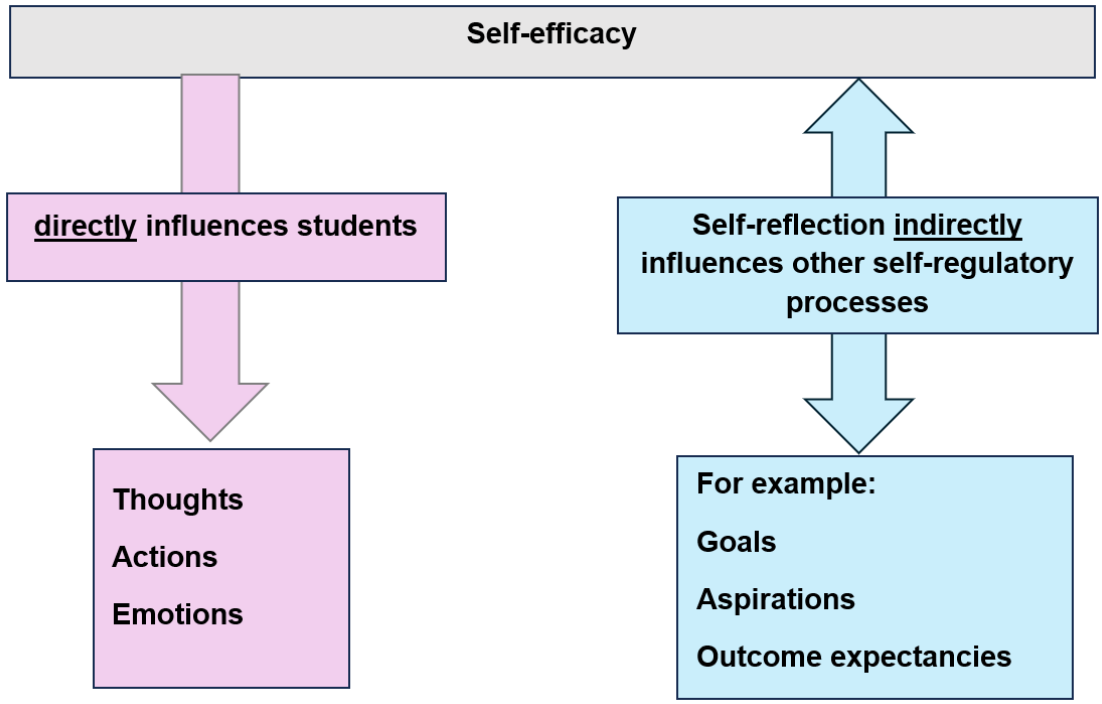

Figure 2.6: Self-efficacy mechanism in Social Cognitive Theory

SCT seeks to understand how individuals influence their lives by developing, adapting and changing. Within SCT, Bandura (2023:11) differentiates three types of environments that impact individuals’ lives, the imposed, selected and created. While the ‘imposed’ environment is usually accepted due to cultural and societal norms, the remaining two can be changed. But individuals’ abilities to shape their lives depends on people’s level of agency, and the sense of control to help drive their lives is underpinned by what Bandura discovered was self-efficacy (1977).

2.4.3 What is self-efficacy?

Bandura (2023:7) defines self-efficacy as "… people's beliefs about their capabilities to exert control over the diverse challenges of their lives." Therefore, people make daily decisions to positively engage or disengage with given tasks based on what they believe their capabilities are and how they perceive the consequences. This may result in people incorrectly over-estimating or under-estimating their capabilities, but nevertheless those judgements or self-appraisals of personal efficacy guide actions.

For routine tasks where individuals' appraisals of self-efficacy have been made, they will not expend time or considerable effort engaging in thought processes, as actions become automatic. However, changes to external factors (including the environment or people) may impact tasks and require individuals to draw on existing skills or re-appraise their self-efficacy based on what they think their capabilities are. The decision-making process is not simplistic or static, as people continually reassess their capabilities, especially when faced with unfamiliar or challenging situations.

For example, first-year dyslexic students might employ learning strategies developed at previous educational institutions, which may or may not work at HE. Students' ability to manage HE learning will draw on their existing knowledge, competencies, and self-efficacy. Collectively, those factors will influence how students control aspects of learning, including planning and organising coursework, asking teaching staff questions, seeking support when required, and managing thoughts and feelings. Bandura notes that people "… have a hand in selecting and shaping their environmental contexts" (1997:vii). Arguably, individuals can create change in their lives, but this is only possible if they are given the tools and/or enabled to do so. Within my study, the research questions explore the lived experiences and challenges faced by dyslexic students.

2.4.4 Where does self-efficacy come from?

Self-efficacy is a mechanism (see figure 2.6) that forms part of human cognitive functioning and is a component of Bandura's (1997) social cognitive theory

(SCT). In contrast to behavioural and psychoanalytic models which respectively focus on the impact of external and personal issues, SCT considers the interplay between the external environment, personal and behavioural factors that impact, guide and regulate human behaviour (figure 2.7).

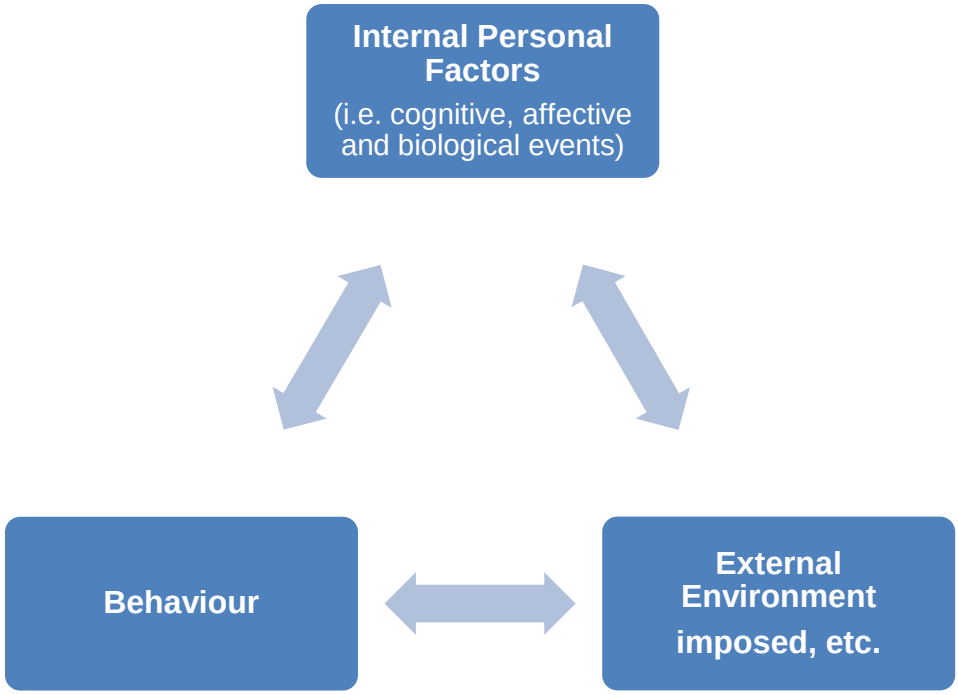

Figure 2.7: Triadic Reciprocal Causation (Bandura, 1997:6)

A person's self-efficacy may therefore be influenced by one or more of three interrelating factors which Bandura (1997) refers to as 'triadic reciprocal causation'. The three major classes of determinants (or influential factors) in 'triadic reciprocal causation' are shown in figure 2.7, but the three causal factors do not have to work collectively. Depending on the situation, they may work independently prior to influencing other factors. Social cognitive determinants include self-efficacy which impacts wellbeing and accomplishments. Other determinants that affect a person's self-efficacy and influence whether they can do a particular task include self-construct, self-esteem, perception and confidence. Prior to reaching decisions on self-efficacy levels, an individual will engage in cognitive processes, such as reflective thinking or drawing on past experience to assess capabilities, predict outcome expectations, organise and judge personal effectiveness.

Bandura (1997) notes how human behaviour is influenced by self-regulation and how forethought informs and appraises a person's capabilities when faced with a new situation. With regards to dyslexic students, the transition to university is an exciting yet daunting prospect, especially for those who are new or returning to education (Fawcett, 2018). The three factors shown in figure 2.7 might operate singularly or collectively to inhibit or boost individuals' self-efficacy, resulting in decreased or increased performance and persistence. For example, educational environments that encourage dyslexic students to learn are more likely to enable abilities, self-efficacy to grow (Burden, 2005) and self-efficacy beliefs in learning to develop (Bandura, 2023).

Consequently, for individuals to exercise intentional control or 'personal agency', self-efficacy is critical (Bandura, 2018). With regards to dyslexic students at university, self-efficacy appraisals will impact how they think, feel and act. In the case of newly diagnosed students, negative appraisals of self-efficacy can trigger anxiety, feelings of helplessness and hinder self-development and transition to HE (Livingston et al., 2018). But interestingly, Brunswick and Bargary's (2022) study found students diagnosed late at HE did not indicate low self-efficacy due to coping strategies and prior academic success. The research questions in my study will explore factors that impact students' self-efficacy and learning strategies.

2.4.5 How does a person build self-efficacy?

A person's self-efficacy develops from four sources: performance accomplishments, vicarious experiences, verbal persuasion, and emotional state (Bandura, 1997). Points 1 to 4 (below) link the four sources of self-efficacy to student learning to convey potential implications for dyslexic students. The quotes alongside each source of self-efficacy are my thoughts to illustrate what a student might think if they were self-appraising personal capabilities in a positive manner. As always, a student's thinking is not fixed, it changes, evolves, and is affected by a variety of factors as described in 2.4.3 and 2.4.4.

Bandura's Four sources of efficacy

1.Performance accomplishments: 'I can do this. I have what it takes to succeed' Performance accomplishments are classed as the 'most influential source of efficacy information' (Bandura, 1997:80), as they are built on evidence of what one can do or first-hand experience, which may include students' experiences of learning a skill or achieving in a particular subject. However, not all students are academically gifted which raises questions about the main source of efficacy, and the impact for those students who struggle to develop it. Dyslexia literature refers to pupils being misunderstood by teachers or experiencing difficulties learning at school, which impacts their ability, achievements and self-efficacy (Lithari, 2023).

2.Vicarious experiences: 'If they can, I can' Bandura (1997) explains that people learn mostly through 'social modelling'. In other words, people learn from observing others and replicate actions to learn themselves. Bandura (2011) quipped that learning achieved through social modelling was much more sophisticated than: 'monkey see, monkey do'. The process of social modelling sounds simple but it is based on a person having several skills including attention, recall and motivation. If a person is equipped with those skills, they have the potential to become self-directed, adapt actions learned, and increase their self-efficacy. However, observational learning hinges on cognitive processing skills that can be challenging for dyslexic students who may be prone to lapses in concentration or issues with short-term memory (Smith-Spark and Gordon, 2022). Dyslexic students who have not developed self-regulatory skills due to unsupportive home and/or educational environments are likely to face a steep learning curve at HE (Bazen, 2023).

3.Verbal persuasion: 'They think I can, and I do too' Receiving verbal persuasion from trusted and reliable individuals, including family and teaching staff, can increase individuals' self-efficacy and motivation for future potential (Zimmerman, 2000). Research shows the important role of family support (Carawan et al. 2016) and the link between teaching and student achievement. Caprara et al. (2006) highlight teachers' competencies are key to encouraging and progressing student learning. Conversely, dyslexia studies signal HE staff

require additional training to effectively support students (Duncan, 2018), and the impact for unsupported students are conveyed by O'Byrne et al. (2019), amongst others.

Lack of verbal persuasion can affect self-development (Bandura, 1997) and manifest in individuals engagement with HE learning. For instance, Cervone et al. (2020:1608) found students' who expressed a lack of self-efficacy to speak out in class did so for diverse reasons, for example, lack of self-efficacy to obtain family support influenced behaviour. Dyslexia literature shows the positive and negative impact of verbal persuasion, but initiatives, such as communities of practice developed by Welton (2023) provide one way to enable dyslexic students.

4.Emotional state: **'I might think or feel I'm nervous, but I can do this'** The fourth way people can build or diminish self-efficacy is by how they interpret their emotions and bodily state. Bandura (2023:77) states that the actions individuals take based on their emotional state 'depends on multiple factors'. Therefore, how a student perceives their mood, and connects it to personal performance is crucial. Feeling anxious as a first-year student might serve as a strong motivator for some, while for others anxiety may inhibit social interaction. Similarly, dyslexia literature shows being diagnosed as dyslexic at university can be uplifting for some students or devastating for others (Livingston et al., 2018). The emotional reaction as Bandura notes 'depends' on the person, and research questions in this study will explore further.

Bandura's early studies with snake phobics illustrate how emotional state can dominate a person's thinking and place limitations on lifestyle and achievements. Whereas steps to overcome can enable individuals. Schunk and DiBenedetto (2020) refer to students with learning disabilities and how sharing steps to learn, (or 'chunking' information as the BDA [2023] recommend), can overcome low self-efficacy and create abilities to increase self-efficacy and a sense of agency.

2.4.6 A review of Albert Bandura's self-efficacy literature

Numerous publications by Bandura were accessed, from early papers (Bandura, 1956) to the latest edited book (Bandura, 2023), to gain an understanding of Albert Bandura's extensive work on SET and establish how and if Bandura applied SET to dyslexic students. While Bandura's educational interventions incorporating SET to measure children's academic self-motivation (Zimmerman et al., 1992), social efficacy (Pastorelli et al., 2001) and family relationships (Bandura et al., 2001a) are evident, Bandura's HE-related studies with adult learners are limited.

Due to the prolific nature of Albert Bandura's work on SET, a separate literature search was conducted on two universities' search engines, OneSearch and Discover@, to identify studies by Bandura pertaining to my research. Table 2.4 illustrates the inclusion and exclusion criteria applied which reflects my extensive reading of Bandura's research. Notably, I did not identify any studies by Bandura that included UK dyslexic university students or UK university students. Although Bandura collaborated with colleagues throughout Europe (for example: Italy, Hungary and Poland), and internationally (including Tanzania, India and Mexico), Bandura's research was primarily based in the USA where he lived for most of his life. Therefore, the broad inclusion criteria in table 2.4 incorporates this information and does not specify: 'UK-based studies only' or 'dyslexic university students'.

Inclusion Criteria

Studies included for review if they met Criterion 1, 2 or 3.

- Criterion 1 - The study refers to SET and includes university students.
- Criterion 2 - The study refers to SET and includes learners aged 18 years or older.
- Criterion 3 – The study includes dyslexic learners aged 18 years or older.

Exclusion Criteria

Studies excluded for the following reason.

- Criterion 4 - The study does not refer to SET and includes learners aged under 18 years.

Table 2.4: Inclusion and exclusion criteria for studies by Bandura

Figure 2.8 shows search terms and records returned based on inclusion and exclusion criteria. As illustrated, a combination of keywords linked to research questions were employed to filter and identify studies.

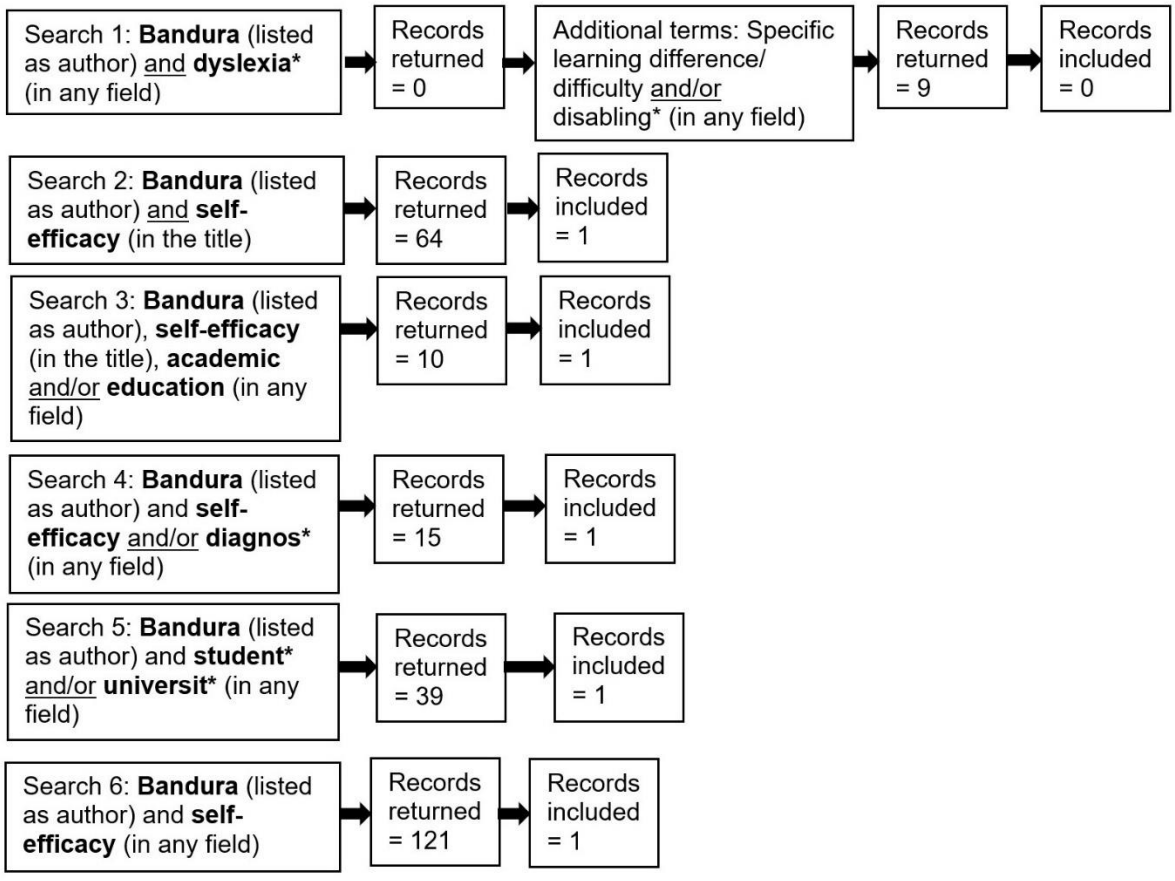

Figure 2.8: Flowchart to illustrate Bandura literature search

2.4.7 Results of the search on Bandura's self-efficacy literature

The search on Bandura's self-efficacy literature identified five studies (figure 2.8) that investigated self-efficacy and included university students aged 18 or older. Each study focuses on a core issue: social comparison, guided and enactive learning, self-regulatory efficacy, and academic performance. Reviews of the five studies follow.

Study 1 Review: Social comparison

Study Title and author(s)	Participants
(Bandura and Jourden, 1991) Self-regulatory mechanisms governing the impact of social comparison on complex decision making.	60 students (20 F, 40 M) Aged: 21-49

Table 2.5: Summary of Bandura study 1

Bandura and Jourden's (1991) study indicated personal performance attainment is not merely determined by past experiences, but positively or negatively influenced by social comparison. In their study, MBA students acted as managers in a simulated business and entered their management decisions online. After every task, Bandura and Jourden sent individual performance feedback to students, so they could evaluate their management decisions. Students also received two scores, the first score indicated their team's performance attainment and the second supposedly revealed how other students' teams performed.

To summarise, Bandura and Jourden (1991:949) found that social comparison had positive and negative effects on students' performance attainment. For instance, they observed a striking contrast in performance between students who received improving scores versus those with lower scores who were self-critical. The authors concluded that those students experiencing self-doubt must decide whether to change direction, create analytical solutions, and retain emotional control.

Despite Bandura and Jourden's (1991) efforts to replicate a complex decision-making environment to investigate social comparison and performance, the use

of deception and lack of comment on ethical issues undermines the findings. Bandura and Jourden (1991:949) state their experimental research "removed some of the ambiguity concerning the source and direction of causality". Yet the study measured four variables: perceived self-efficacy, analytical thinking, personal goal-setting and affective self-reaction. Additional self-regulatory processes which initiate forethought to drive and transfer learning, such as 'planning' or 'seeking help', were not included but will feature in my research.

Social comparisons in the education system are not new, dyslexic university students will typically assess themselves against their peers which may result in low self-confidence (O'Byrne et al., 2019) or feeling less satisfied (Kalka and Lockiewicz, 2018). Bandura and Jourden (1991) question how negative self-comparisons can be minimised and recommend further research.

My study does not aim to explore how negative self-comparisons might be minimised, but the research questions enable dyslexic students to share their perceptions of self, others and describe how this influences their feelings and reactions.

Study 2 Review: Guided and enactive learning

Study Title and author(s)	**Participants**
(Debowski, Wood and Bandura 2001) Impact of guided exploration and enactive exploration on self-regulatory mechanisms and information acquisition through electronic search.	48 students (23 F, 25 M) Mean age: 19

Table 2.6: Summary of Bandura study 2

Debowski et al.'s (2001) research focused on the self-efficacy of university students who were trained to search online databases, either by 'guided' (instructor-led) or 'enactive' (self-directed learning) exploration. Although the study is dated, it highlights two issues that remain relevant today. Firstly, the importance of additional training or scaffolding for learners. Secondly, providing feedback to students who are novice researchers.

To compare students' intrinsic motivation to establish if 'guided' (instructor-led) or 'enactive' (self-directed) training led to improved performance, Debowski et

al. (2001) divided students into two groups. The ‘guided’ group received additional training and feedback, used smarter search strategies, and reported higher levels of self-efficacy. This outcome is unsurprising as additional training time, especially in the early phases of learning, will assist assimilation of new skills to build competencies and strengthen students’ self-regulation (Bandura, 1997). Debowski et al. (2001) note most learners do not receive extended training, therefore, further research to investigate how feedback influences self-regulatory development is required.

More recently in 2020, Alsobhi and Alyoubi investigated e-learning systems and dyslexic students’ user experiences and concluded that technologies would increase dyslexic students’ motivation to learn if they were customised to match students’ learning styles. This is an interesting proposal taking personalisation to another level, but regardless of technological advancements students will require self-belief to drive and accomplish online learning (Bandura, 1997).

Whilst technologies are not the focus of my study, questions within my research will encourage dyslexic students to explain how they engage with a range of technologies.

Study 3 Review: Self-regulatory influences

Study name and author(s)	Participants
(Zimmerman and Bandura, 1994) Impact of self-regulatory influences on writing course attainment.	95 students (52 F, 43 M) Mean age: 18

Table 2.7: Summary of Bandura study 3

Self-regulation (Zimmerman and Bandura, 1994) is how a person guides their learning by drawing on numerous developed subskills, for example, planning, organising and staying motivated. But critically, the self-efficacy mechanism plays an influential role in harnessing and driving self-regulatory subskills (Bandura, 2023). Research suggests students who possess effective self-regulatory skills are more likely to educate themselves and fulfil academic achievements (Zimmerman, 2015). While this may be true for some learners, dyslexia studies evidence how academic success is not easily achievable for

students lacking motivation, learning strategies or self-belief (Schunk and DiBenedetto, 2020). Previous studies have tried to determine motivational factors that predict academic achievement, but this is difficult to report accurately due to the variables involved (Zimmerman et al., 1992).

In 1992, Zimmerman et al. reported two main factors that accounted for pupils' final grades in social studies: (1) Perceived efficacy for academic achievement, and (2) Personal goals. Zimmerman et al. established a third factor: pupils' grade goals were not driven by academic achievement and personal goals as anticipated, but grade goals influenced pupils' academic self-efficacy. Reflecting on the outcome of Zimmerman et al.'s (1992) study, it might have proved useful if the link between pupils' academic achievement, personal goals, and final grades had been examined. Dyslexia studies (Goodacre and Sumner, 2021) report how school grades impact future educational performance, hence additional insight would be beneficial.

Zimmerman and Bandura (1994) further explored self-regulatory factors for academic attainment on a writing course for first-year university students. The lowest mean self-efficacy scores reported by students were 'concentrating on writing when there are distractions' and 'getting themselves to start writing'. Both responses relate to dyslexia studies (Sumner and Connelly, 2020) and highlight the lack of understanding that still exists regarding students' self-regulation, learning strategies, and ability to maintain momentum. Zimmerman et al. (1992) and Zimmerman and Bandura (1994) did not focus in-depth on individuals' concentration but the connection between self-regulated learning and supporting 'working memory' is acknowledged in dyslexia literature, for example, multisensory methods to help learning (Kelly and Phillips, 2016).

In contrast, the highest mean self-efficacy scores related to 'locating and using appropriate reference sources'. Zimmerman and Bandura (1994) note students were 'high achievers' who obtained above average scores on Scholastic Assessment Tests (SATs), consequently their academic abilities would have affected self-efficacy reported. Zimmerman and Bandura (1994) recommended future research to investigate multiple measures of writing skills to comprehend self-regulation, but they did not indicate which factors.

My study will not determine factors that drive student achievement but will seek to understand different aspects of self-regulation that research gives less attention to, including the impact of support and influences on students' learning strategies.

Study 4 Review: Self-regulatory efficacy

Study name and author(s)	Participants
(Caprara et al., 2008) Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement.	412 children tracked for 10yrs (216 F, 196 M) Aged: 12 to 22

Table 2.8: Summary of Bandura study 4

Based on a ten-year study with students aged 18 years and above, Caprara et al. (2008:525) define self-regulatory efficacy as "the capacity to regulate one's thoughts, motivation, affect, and action through self-reactive influence". Their discussion notes the importance of collaborative learning with teachers, parents and peers. Caprara et al.'s concept of academic development driven by self, others and external factors aligns with Bandura's (1986) reciprocal causation model (figure 2.7) which refers to the relationship between personal, behavioural and environmental factors.

Yet self-directed learning is not instinctive. Individuals must judge their self-efficacy before combining existing knowledge, skills, thoughts and motivation to expend effort according to circumstances and perceived capabilities. This process requires an initial level of self-efficacy to take charge and propel one's self-regulatory learning, which can be problematic. For example, first-year university students with no prior HE learning experience will base self-efficacy judgements on similar or past learning situations. Consequently, those judgements may accurately or inaccurately reflect personal capabilities. Literature indicates how difficult self-regulation can be for dyslexic students who were unsupported in earlier education (Rowan, 2010).

Caprara et al. conclude past performance does not contribute to a learner's self-beliefs about academic attainment, but instead the learner's skills contribute independently. This view differs from dyslexia literature which refers

to dyslexic students' accounts of school days and the subsequent impact on educational choices and emotional baggage (Gibson and Kendall, 2010).

Socioeconomic status (SES) in Caprara et al.'s study did not directly impact pupils' self-regulatory efficacy. However, Caprara et al. like Brody and Andrä (2023) noted positive implications of parental influence and monitoring. SES is one factor that might impact on family support, within my study HE support and social support is explored.

Caprara et al. conclude a strong belief in personal efficacy is essential for individuals to counteract difficulties in learning and life. Their findings were based on participants' scores, grades and SES, therefore, chosen methods were not designed to uncover 'how' learners achieved high self-regulatory efficacy.

Within my study, mixed methods (survey and interviews) were chosen to enable access to more subjective, individualised meanings that dyslexic students construct. Research questions explore students' perceptions of academic self-efficacy and self-regulatory learning.

Study 5 Review: Academic performance

Study name and author(s)	**Participants**
(Stajkovic et al., 2018) Test of three conceptual models of influence of the big five personality traits and self-efficacy on academic performance.	875 students (438 F, 437M) Mean age: 22

Table 2.9: Summary of Bandura study 5

Stajkovic et al. (2018) examined the influence of two theories, Big Five personality traits and SET, on university students based in America (n=744) and South Korea (n=131). The authors (2018: 238) theorised "students need both the staying power of their dispositions and efficacy beliefs in their capabilities to succeed." Therefore, Stajkovic et al. incorporated self-efficacy, alongside the Big Five traits (conscientiousness, openness, agreeableness, extraversion and neuroticism) into three conceptual models to test how SET or traits, or a combination of both, influenced students' academic performance.

To measure students' performance within three conceptual models the following were used: a self-efficacy questionnaire (Bandura, 2006b); Big Five trait questionnaire (Goldberg, 1992); university entrance test results (to indicate general mental ability); grade point average (to indicate academic performance and achievement), and final exam scores.

Stajkovic et al. state 'most' participants were undergraduates with an average age of twenty-two, but students' year of study was not specified. To determine students' academic experience, Stajkovic et al. used GPA, (i.e. records of students' academic activities to represent the variable 'experience' in their conceptual models) and concluded GPA and self-efficacy were both positively associated with student performance.

As there is no definitive set of variables to measure academic performance, researchers continue to analyse the impact of Big Five traits and self-efficacy on student performance and reach different conclusions. For example, Barbaranelli et al. (2021) found traits and self-efficacy to be vital for medical students' practice and learning. Whereas De Feyter et al. (2012) determined 'conscientiousness' positively impacted academic performance and low levels of 'neuroticism' driven by high self-efficacy also produced positive results.

Stajkovic et al. (2018:244) conclude "individual differences are likely mediated by self-efficacy" which offers an alternative view and avoids listing self-efficacy and specific traits as being vital for academic performance that individuals might perceive as unattainable. Instead, Stajkovic et al. encourage practical solutions to enable students to develop self-efficacy and engage in learning. This relates to my research as dyslexic students' experiences will be used to inform others how they adapted, developed and studied at university.

My study will also measure students' self-efficacy but unlike Stajkovic et al. who focused on students' efficacy for final exams to analyse performance, my survey questions address four domains (or areas) of efficacy that influence students' learning: (1) Self-efficacy to seek help and interact (Bandura, 2012), (2) Self-efficacy for academic achievement (Bandura, 1997), (3) Self-regulatory

learning (Zimmerman et al., 1992), and (4) Self-efficacy to meet expectations (Bandura, 2023; Burden and Burnett, 2005).

2.5 Conclusion

This chapter reviewed the context of dyslexic students in HE (2.2), and Dyslexic students' HE experiences (2.3) were explored using the four key themes shown below (2.3.1 to 2.3.5). Themes 1 to 4 link to research questions, gaps in literature, and provide a structure for the Findings and Discussion chapters.

Theme 1: Understanding dyslexic students' experiences.

Theme 2: Impact of diagnosis.

Theme 3: Support and adjustments for dyslexic students

Theme 4: Institutional approaches to teaching and learning

Bandura's SET (1997), the theoretical framework used as a lens to understand dyslexic students' learning was explored (2.4), and SET will inform analysis and discussion in chapters four and five. While Bandura suggests 'past accomplishments' are the most important source of efficacy, I am interested to see which source(s) of efficacy prove to be the most valuable for dyslexic students and how they develop self-regulated learning strategies post-diagnosis. Furthermore, given Bandura's emphasis on social modelling (learning by observation) and the cognitive load it places on students, it will also be interesting to establish how students adapt to HE studies. Lastly, having two datasets in my exploratory study will enable a fuller understanding of dyslexic students' self-efficacy and lived experiences.

Chapter 3: Methodology and Methods

3.1 Introduction

This chapter begins with my philosophical position, corresponding ontology and epistemology (3.2) which underpin the research design (3.5) of this study. As explained in chapter one, my curiosity sparked this study and led to research questions about dyslexic students' lived experiences (3.5). In chapter two, literature searches confirmed few studies (Taylor et al., 2009; Kinder and Elander, 2012; Stagg et al., 2018) have investigated dyslexic students' lived experiences using mixed methods. Additionally, the concept of self-efficacy has been traditionally investigated mainly through quantitative methods (Bandura, 1997; 2023). Notably, Bandura's prolific work does not appear to focus on dyslexic university students. Chapter 2 identified a number of gaps in the literature, including a lack of mixed methods studies applying self-efficacy theory (SET). Consequently, this study is exploratory in nature and seeks to gather a rich data to better understand dyslexic students' lived experiences. To undertake the study, mixed methods were implemented including an online survey in phase one of the study, and semi-structured interviews in phase two. The mixed methods explanatory sequential design (Creswell, 2014) is explained (3.7); followed by approach to analysis of survey data (3.7.1) using Bandura's (1997) SET as a lens; related sampling (3.9), and survey participants (3.10.1). Similarly, the approach to analysis of interview data (3.11) is presented: interviewees (3.10.2), followed by reflexive thematic analysis (RTA) (Braun and Clarke, 2022) the method used to analyse interview data and qualitative survey responses (3.12). Ethical procedures (3.13) and considerations (3.14) are also stated.

3.2 Research Paradigm

Literature describes research paradigms as overarching philosophical frameworks encompassing researchers' ontological, epistemological and methodological principles (Grix, 2018). The four main competing paradigms in 1994 were noted as positivism, post-positivism, critical theory and constructivism (Lincoln and Guba, 2016), whereas current literature offers numerous paradigms, each advocating specific methodologies and methods.

Hence, paradigms can be difficult to navigate and connect with (Cohen et al, 2018) as there is no definitive philosophical approach to apply to research phenomena. But crucially, the theoretical framework selected for this study had to align with my views and how the research was undertaken to form the foundations of a well-planned project.

Due to the exploratory nature of this study focusing on dyslexic students' self-efficacy and learning, my philosophical position is social constructivist (Richards and Roth, 2019), as the research is not concerned with proving scientific facts but understanding and discovering individuals' perspectives about dyslexia and the impact on self-belief and engagement with learning. A social constructivist approach compliments SET as Bandura (1997) acknowledges the importance of interacting with participants to establish their lived experiences to understand the contexts that influence and develop human functioning.

Social constructivism introduced by Vygotsky (Frey, 2018) aligns with my study's aim and purpose as it emphasises how individuals' knowledge and realities are shaped and affected by interactions and experiences with structures in the physical and social world, (including educational institutions and informal structures such as personal histories), as individuals observe, understand and attribute meaning to situations (Bryman, 2012). Intangible elements, such as mental constructions of self, create the social worlds and multiple realities of dyslexic students and clearly locate the research within a relativist ontology (Denscombe, 2010).

The social constructivist and relativist positioning, therefore, connects to the underlying epistemology or "how we know what we say we know" (Pearce, 2021:192), which I hold as subjectivist and interpretivist. As the researcher, I aimed to gain a deeper understanding of dyslexic students by interpreting their social realities, but I acknowledge the philosophical framework might be perceived as having limitations, as participants inevitably interpret their experiences and present their 'truths' (Pabel et al., 2021). Therefore, my methodological framework which includes mixed methods to collect and analyse two separate data sets was carefully considered to capture and

embrace the subjectivity multiple perspectives naturally create; it does not seek objectivity.

3.3 Qualitative Approach

The research questions, driven by my philosophy, played an influential role in guiding the choice of methodology or "how one gains knowledge" (Giddings and Grant, 2006:4). As this study aimed to gain a better understanding of dyslexic students' lived experiences by exploring how a diagnosis of dyslexia influences students' self-efficacy and learning at university, a qualitative approach was selected as the most appropriate (Merriam and Tisdell, 2016).

Researchers (Bazeley, 2020; Bloomberg and Volpe, 2008) note how qualitative inquiry is ideally positioned to capture and make sense of the complexities of people's lives. A qualitative approach, therefore, enabled my study to gain insight into what being diagnosed as dyslexic means to students, and how it impacts self-belief and learning to shape their experiences, behaviours and motivations (Billups, 2021).

3.4 Researcher Perspective

Literature categorises researchers as insiders, outsiders, and in-betweeners. Insiders are defined as sharing connections with participants, such as background (ethnicity, language, culture) or life experiences. Whereas outsiders have no connections, and in-betweeners occupy the middle ground with partial overlapping characteristics (Chhadra, 2020).

As a non-dyslexic member of staff but with contextual experience, my perspective was that of an 'inbetweener'. At times, I found myself challenged and influenced by my thinking and interactions with interviewees, as I tried to remove the staff 'hat' and replace it with the researcher's. Examples of my reflexive experiences are woven throughout the thesis.

Berger (2015) discusses reflexivity from three angles which connect to the much-debated topics of insider-outsider and otherness, and Berger asks researchers to consider: (1) What experiences were shared with participants?

(2) How was movement, from outsider to insider, achieved during research? (3) Which strategies were used to understand a topic you were unfamiliar with?

Reflecting on Berger's (2015) first question: What experiences were shared with participants? I identified several. For example, I lived locally, I completed undergraduate and postgraduate studies at NU, I understood what it was like to study, work and juggle commitments. To summarise, I was familiar with NU's student body, student services, staff, structure, institutional jargon and culture, from both a student and staff perspective, and I perceived my knowledge and experience to be extremely beneficial.

However, shared 'insider' experiences I expected to build rapport with students were undoubtedly diminished by my staff status in the early stages of interviewing, when a student tentatively asked: "Can I air my views?" I offered reassurance and checked they wished to proceed, but I wondered if my words eased their concerns.

After the interview, I asked the student if they wanted to add any further comments about dyslexia, or suggestions to improve the interview process. The student advised they felt nervous at the start of the interview, due to not usually talking about dyslexia. Their comments were food for thought as I reflected: Did the student air their views or did they hold back? What did this say about the interview situation? How had I projected myself? How could I address students' perceptions of power within the interview relationship?

Returning to Berger's second question: (2) How was movement, from outsider to insider, achieved during research? My answer, as an inbetweener, was that I could not move and truly become an 'insider', but during interviews I began to learn what dyslexia meant to different individuals and how it shaped their lives. This brings me to Berger's third question: (3) Which strategies were used to understand a topic you were unfamiliar with? My answer is lengthy as I have spent years immersing myself in all things dyslexia-related. But crucially, learning from others, particularly those who have taken time to share personal experiences, have added greatly to my understanding of dyslexia.

3.5 Research Design

This exploratory study focuses on dyslexic students' lived experiences and uses mixed methods, opposed to traditional quantitative methods, to explore students' self-efficacy. The chosen methods, survey and semi-structured interviews, address the research questions shown below. RQ1 is the main research question which reflects the exploratory nature of this study and, therefore, connects to both methods used in this study. RQ2 links to survey data, while RQ3 links to interview data.

> **RQ1.** What influence does a diagnosis of dyslexia have on university students' self-efficacy and engagement with learning?
>
> **RQ2.** How does the timing of a diagnosis of dyslexia impact on students' perceived academic self-efficacy and influence their self-regulated learning strategies?
>
> **RQ3.** How does diagnosis and HE support influence students to develop or adapt their learning strategies?

Figure 3.1 summarises gaps in dyslexia literature linking to three areas: (1) Dyslexia diagnosis (2) Student learning and support, and (3) Teaching staff. The research questions clearly connect with areas 1 and 2, and although area 3 'teaching staff' was not targeted by this research, dyslexic students shared experiences within the interviews of learning and teaching approaches they found beneficial.

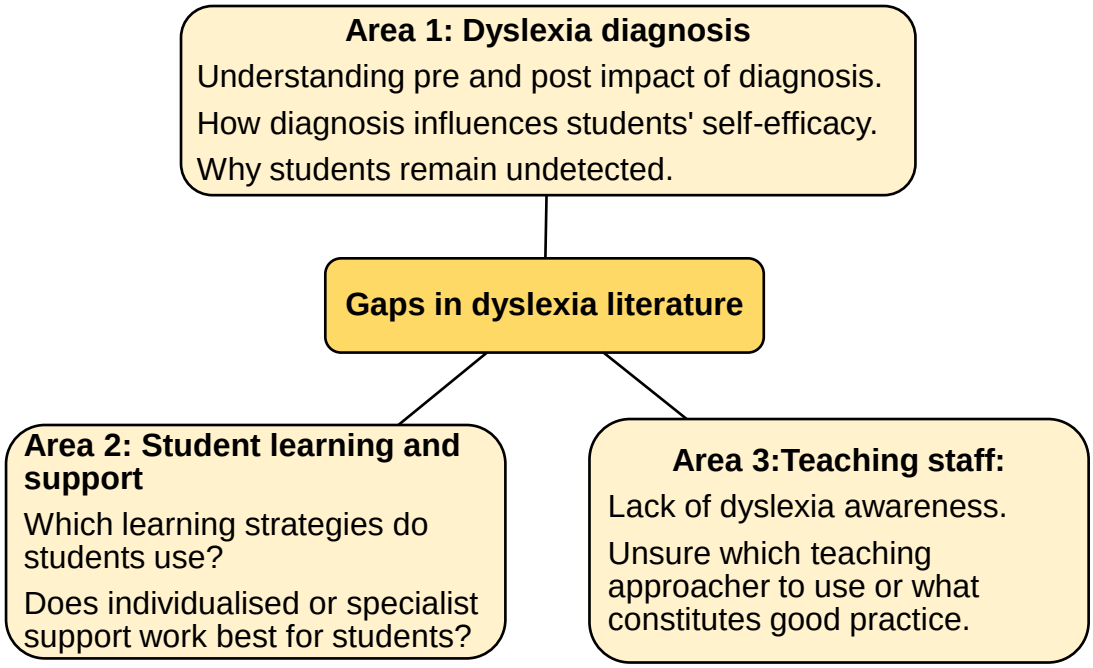

Figure 3.1: Gaps in dyslexia literature related to diagnosis, student learning and support, and teaching staff.

3.6 Diagram of the Research Process

Due to the combination of philosophy, theory, data collection methods and approaches to analysis in this study, finding a way to clearly communicate how the research components fit together was challenging. An explanation to 'tell' is one option, but I agree with Hibbert (2021) that 'showing' with commentary is preferrable to facilitate readers' understanding and reaffirm my thinking.

Figure 3.2 provides an overview of the research process and illustrates: the key themes identified in literature; theoretical framework applied i.e. Bandura's (1997) self-efficacy theory; the main research question (RQ1); data collection methods (survey and semi-structured interviews); and points of connection between the methods and phases one and two in the study. Although figure 3.2 may appear to flow in places, the decision-making process was not linear, as I moved between research components and literature to ensure the overall design was logical, linked and 'fit for purpose' (Denscombe, 2010).

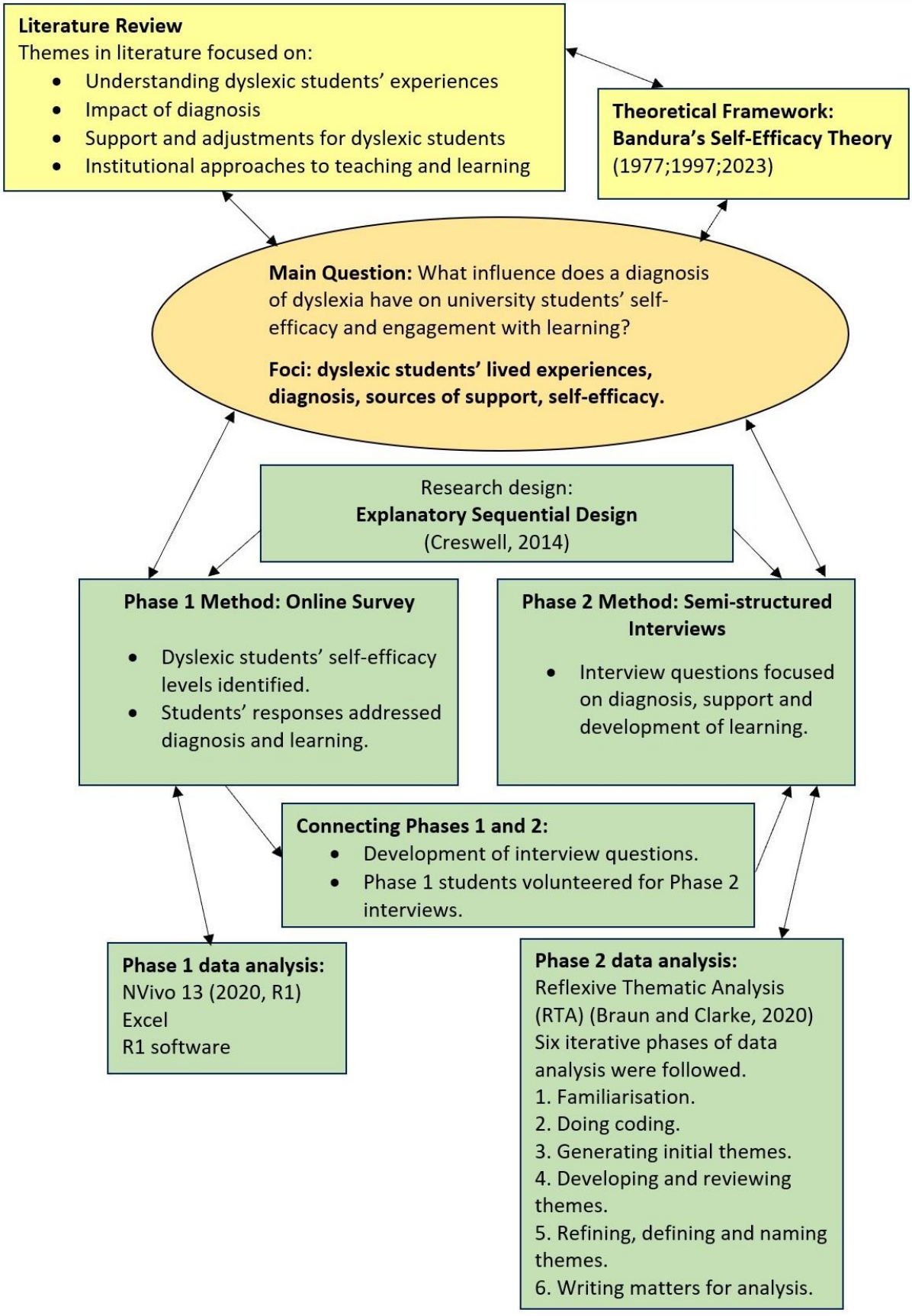

Figure 3.2: Overview of the research process

3.7 Mixed methods design: Explanatory Sequential Design

Reflecting on UK dyslexia studies, the primary method used to analyse dyslexic university students' lived experiences are interviews, followed by surveys, with a minority of studies (Kinder and Elander, 2012; Stagg et al., 2018) employing mixed methods to blend quantitative and qualitative approaches.

Using mixed methods might be considered philosophically pragmatic or using 'what works' (Bazeley, 2020) which makes the approach sound simplistic and inviting to novice researchers. However, mixed methods researchers explain the time, effort and thought necessary, but unfortunately there is no specific guidance as to 'which' methods work best. As always, key decisions remain with the researcher.

From my perspective, ensuring one or more methods fit the overall research design required deliberation, as I questioned: Why use mixed methods? Which method(s) can answer the research questions and explore dyslexic students' diverse experiences? Where do the methods sit and connect within the overall design? How will the quantitative and qualitative findings come together? What skills do I have/need to competently interpret and analyse mixed methods findings?

Patton (1999:1194) notes that "few researchers are comfortable with both types of data" but explains how using quantitative and qualitative data creates an opportunity to learn, as typically different data will not converge. Therefore, mixed methods in this study offered an opportunity to explore two distinctive sets of results. My understanding of mixed methods developed throughout this study, and my rationale for choosing mixed methods follows.

The choice of methods was underpinned by my philosophy (3.3) and further influenced by the focus of this study and my initial preference for a qualitative approach to obtain rich data. My study focused on dyslexic students' self-efficacy and their influence on engagement with HE learning. I aimed to develop a greater understanding of dyslexic students' lived experiences, including how a diagnosis of dyslexia impacted student learning and engagement with HE support. Hence, I decided to use mixed methods: an

online survey and semi-structured interviews, as this approach enabled triangulation (Tight, 2019:176). Furthermore, mixed methods provided opportunities to explore alternative research methods in different ways to achieve a fuller understanding of dyslexic students' lived experiences. Additionally, implementing an anonymous online survey opened my study to more dyslexic students and enabled students to volunteer for semi-structured interviews in phase two.

The two contrasting methods, online survey and semi-structured interviews linked to research questions (see figure 3.2). Thus, both datasets responded to RQ1, the online survey addressed RQ2, and semi-structured interviews addressed RQ3. By combining quantitative and qualitative methods, students' lived experiences were investigated broadly or at a 'macro' level by the survey, before interviews gained a deeper understanding at a 'micro' level (Quinn, 2022).

A limitation of using two methods was time spent training on research software including NVivo and R, but this greatly aided my understanding and ability to interrogate data and conduct a thorough analysis of this study.

To further organise the research design, I referred to Creswell's (2014) guidance on the design procedure of mixed methods studies. Creswell (2014) provides six mixed method designs frequently used in educational research. I adopted the 'explanatory sequential design' (Creswell, 2014) for this study as it aligned with my qualitatively driven stance and mirrored data collection steps by including two separate phases (see figure 3.3 below). Therefore, quantitative data were collected and analysed in phase one, and qualitative data were collected and analysed in phase two. Critically, the purpose of qualitative data in the second phase was to drive investigation and analyses deeper to refine and explain the data presented in phase one.

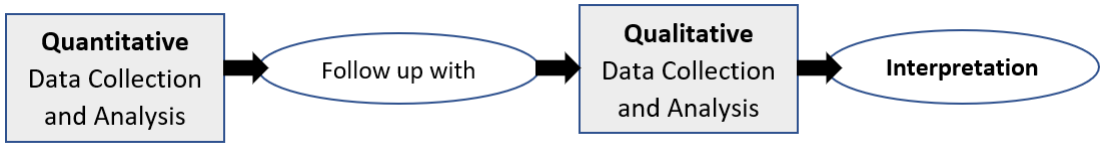

Figure 3.3: Illustration of the Explanatory Sequential Design (Creswell, 2014:571)

Applying Creswell's (2014) explanatory sequential design to my research resulted in survey data providing background to generate a broad understanding of dyslexic students' self-efficacy, learning and lived experiences. Survey data in phase one helped to inform and develop interview questions in phase two. Creswell (2014:573) describes this integration between methods as "in-depth qualitative exploration in the second phase", which resonates with my qualitatively orientated approach. The following sections describe each method in more detail: Phase one method, online survey (3.8.1) and data collection timeline (figure 3.4). Phase two method: semi-structured interviews (3.8.3).

3.7.1 Approach to analysis of survey data

Quantitative data generated from self-efficacy scale questions were grouped by Bandura's (1997) four domains of efficacy, (i.e. self-regulated learning, academic achievement, self-efficacy to seek help, and self-efficacy to meet expectations), and a combination of R software, NVivo (2020) and Excel analysed quantitative data (figure 3.2).

The mean was used to summarise students' self-reported scores for the four domains of efficacy. As Hand (2008) notes, using the mean as a measure helps to convey part of the picture; therefore, interview data helped to create a fuller picture in this study. Connections between domains of efficacy were analysed by demographic characteristics, including gender and age group. Further analysis across student cases were conducted by using NVivo (2020), but due to limitations in the software I also generated pivot tables to search for patterns in data. Table 3.1 shows survey data analysed by the mean, gender and time of diagnosis; however, data was analysed in multiple ways including by:

- Gender
- Age group
- Time of diagnosis
- Year of study at university
- Level of study at university
- Place of diagnosis

Students' responses to open survey questions were qualitatively analysed in NVivo, but a combination of short and longer replies made Braun and Clarke's (2022) reflexive thematic analysis (RTA) challenging as the context was missing. However, I explored data and used tools within NVivo to aid analysis, (including charts, word clouds, text searches and word trees), and gained an understanding of students' thoughts and feelings about diagnosis and being dyslexic.

The initial analysis of responses to survey question 11: 'How did you feel when first diagnosed with dyslexia?' generated three topic summaries (or broad descriptors), students who felt (1) positive, (2) negative, or (3) unfazed, when first diagnosed with dyslexia. Interview data enabled further analysis and a deeper understanding as a result the three topic summaries were refined to reflect the more nuanced accounts provided in the interviews. For instance, survey responses that generated topic summary (1) 'positive' included the following replies: 'Happy' and 'Feel it's quite good' (SP2 and SP59). However, interview data clarified that students' positiveness was relief, as interviewees explained (4.4.3, C1). At this stage, I renamed the topics and developed codes that represented three categories of students post-diagnosis, students who felt (1) 'relieved', (2) 'unsettled' or (3) 'justified by the label'. The three categories formed the subtheme 'Reactions to diagnosis' (4.4.3) and their implications are further discussed in the Findings chapter 4.

Self-efficacy survey questions	Mean	Gender		Grouped by time of diagnosis				
I can …	(n=59)	Males (n=20)	Females (n=39)	0-2yrs (n=23)	3-4yrs (n=9)	5-6yrs (n=8)	7-10yrs (n=8)	10yrs+ (n=7)
Ask questions in lectures.	3.53	4.10	3.23	3.22	3.44	3.63	4.50	3.57
Ask teaching staff for help when I'm stuck.	3.63	3.85	3.51	3.48	3.78	3.50	4.38	3.29
Approach lecturers to ask about feedback.	3.73	4.05	3.56	3.78	3.78	3.38	4.38	3.57
Approach another student for help when I'm stuck.	3.29	3.85	3.00	3.26	3.44	3.25	3.25	3.29
Express my opinions when classmates disagree.	3.42	4.15	3.05	3.17	3.78	3.38	4.25	2.86
Form relationships with other students.	3.68	4.00	3.51	3.65	3.67	3.75	4.13	3.43
Use computers to help me study.	3.93	4.55	3.62	4.04	3.22	3.75	4.00	4.14
Learn how to read for university.	3.54	3.90	3.36	3.48	3.33	3.50	4.25	3.86
Learn how to write for university.	3.46	3.80	3.28	3.35	3.44	2.88	4.25	4.00
Follow lectures and understand what is taught.	3.71	4.25	3.44	3.61	3.89	3.63	4.25	3.57
Finish assignments by the deadlines.	3.49	3.95	3.26	3.43	3.67	3.25	4.25	4.00
Study when there are other interesting things to do.	3.32	3.40	3.28	3.61	3.56	2.63	3.75	3.43
Always concentrate when I'm in class.	2.92	3.45	2.64	3.22	3.11	2.13	3.25	2.29
Use library resources to find information.	3.22	3.30	3.18	3.48	3.78	3.00	3.50	2.43
Plan and organise my learning and activities.	3.25	3.45	3.15	3.26	4.00	2.50	3.75	3.29
Motivate myself to do my studies.	3.34	3.40	3.31	3.43	3.78	2.75	3.88	3.57
Live up to family expectations of me, as a student.	3.61	4.05	3.38	3.52	3.89	3.00	4.00	3.86
Live up to what my lecturers expect of me.	3.41	3.80	3.21	3.30	3.89	3.00	3.88	3.43
Live up to my own expectations, as a student.	3.37	3.75	3.18	3.48	3.67	3.13	3.50	3.00

Table 3.1: Survey data analysed multiple ways

3.8 Pilot Online Survey

Ten dyslexic students were contacted by NU's disability management and invited to test drive the pilot survey. Information sheets were sent to students on my behalf, and five students (three females, two males) completed the survey and shared their contact details with me.

In light of students' feedback, three changes were made to the online survey. Firstly, numbers on the self-efficacy scale were enlarged and labelled from 1 to 5, and the midpoint wording on the scale was changed from 'somewhat certain I can' to 'I don't know if I can' as suggested. Lastly, I adapted the survey so students could click and convert tick-box tables to questions, as one student suggested this format would be useful for peers on mobile devices.

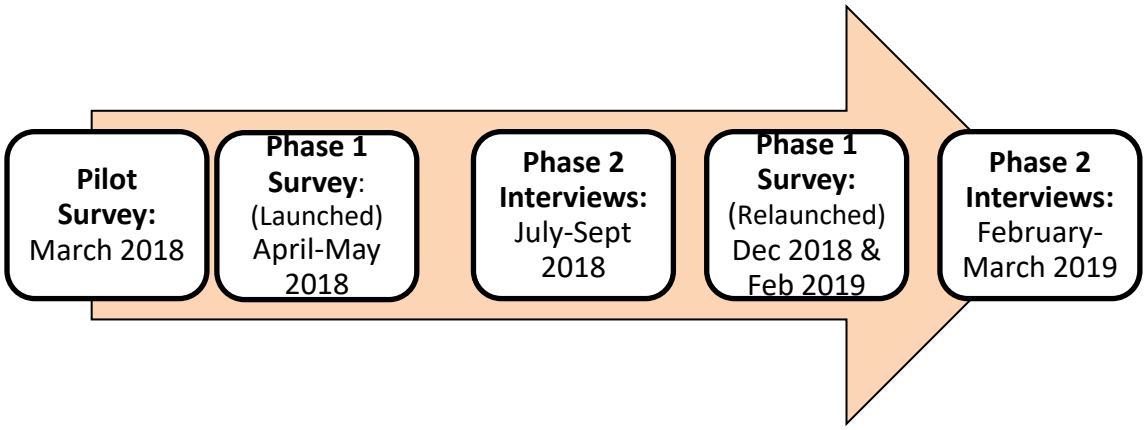

Figure 3.4: Data collection timeline for the online survey and interviews

3.8.1 Phase one method: Online Survey

In phase one, the online survey was sent to all NU dyslexic students using Bristol Online Surveys (BOS) platform, (now known as Online Surveys), to address RQ2: How does the timing of a diagnosis of dyslexia impact on students perceived academic self-efficacy and influence self-regulated learning?

The rationale for using BOS was students were familiar with this system, as NU's module evaluation forms and institutional surveys were distributed from it. I previously developed and launched surveys from BOS, so I was familiar with

its functionality, built-in accessibility features, and compliance with data security standards.

The online survey had a simple format and design so it was easier to read and navigate, single pages were displayed, sections were highlighted and clearly signed to assist reading and concentration (Bell and Waters, 2014). Students had the option to 'save and return' the survey if they wished. Two students who piloted the survey said it was easy to complete on mobile devices and not too time-consuming.

To encourage dyslexic students to participate and share their experiences, the online survey was anonymous. Toepoel (2016) refers to the high level of privacy offered by online surveys compared to other methods, as individuals can choose where and when they complete it. Given the sensitive nature of this research, the online survey allowed students to voice their views with minimal intervention from myself, the researcher. McNeill and Chapman (2005) highlight lack of human interaction in surveys can positively impact research on sensitive topics, as respondents are free to interact and, arguably, exhibit less social desirability bias in their answers. Additionally, having a range of open, closed, optional, multiple-choice and self-efficacy scale questions within the survey provided students with a degree of flexibility and choice.

The online survey was emailed to 401 dyslexic students, (as explained in 3.9), and the sections, contents, types of questions and number of questions are summarised in appendix A.

3.8.2 Self-Efficacy questions

The self-efficacy scale questions (section 3 of the survey, see Appendix A) link to RQ2 and draw on Bandura's (1997) self-efficacy theory to explore dyslexic students' self-efficacy in relation to four domains or areas of functioning: (1) Self-regulated learning, (2) Academic achievement, (3) Self-efficacy to seek help and interact, and (4) Self-efficacy to meet expectations.

Table 3.2 lists the self-efficacy scale questions and indicates which studies used the same or similar questions. Due to Bandura's (2006b:326) 'student

self-efficacy scale' being focused on children, some questions were adapted and developed for students in this study. For example: the word 'teachers' changed to 'teaching staff' to ensure the statement was suitable for students.

Self-efficacy scale questions: I can …	**Studies with the same question**	**Studies with similar questions**
1. Ask questions in lectures SE Area: SE to seek help	Byrne et al., 2014	
2. Ask teaching staff for help when I'm stuck SE Area: SE to seek help	Bandura, 2006b	Bandura, 2001b; Byrne et al., 2014
3. Approach lecturers to ask questions about feedback SE Area: SE to seek help		Byrne et al., 2014
4. Approach another student for help SE Area: SE to seek help	Bandura, 2006b	Bandura 2001b; Byrne et al., 2014
5. Express my opinions when classmates disagree with me SE Area: Social SE	Bandura et al. 1996; 2001a; 2006b	Byrne et al., 2014
6. Form relationships with other students SE Area: Social self-efficacy	Bandura, 2001; 2006b	
7. Use computers to help me study SE Area: Academic achievement	Bandura, 2001b; 2006b	
8. Learn how to read for university SE Area: Academic achievement	Bandura, 2006b	Bandura, 2001b
9. Learn how to write for university SE Area: Academic achievement	Bandura, 2006b	Bandura, 2001b
10. Follow lectures and understand what is taught on my course SE Area: Academic achievement		Byrne et al., 2014
11. Finish assignments by the deadlines SE Area: Self-regulated learning	Bandura, 2006b	Byrne et al., 2014
12. Get myself to study when there are other interesting things to do SE Area: Self-regulated learning	Caprara et al. 2008	Bandura, 2001a; Byrne et al. 2014
13. Always concentrate when I'm in class SE Area: Self-regulated learning	Bandura, 2006b	
14. Use library resources to find information SE Area SE: Self-regulated learning	Bandura 2006b	
15. Plan and organise my academic learning and activities SE Area: Self-regulated learning		Bandura 2001b; Byrne et al. 2014 ; Caprara et al. 2008

Self-efficacy scale questions: I can …	Studies with the same question	Studies with similar questions
16. Motivate myself to do my studies Area of SE: Self-regulated learning	Bandura et al. 1996; Bandura, 2006b	Caprara et al. 2008
17. Live up to my family's expectations SE Area: Social self-efficacy, expectations		Bandura et al. 1996; 2001a; 2006b
Q18. Live up to what my lecturers expect of me SE Area: Social self-efficacy, expectations		Bandura et al. 1996; Bandura 2006b
Q19. Live up to my own expectations as a student SE Area: Social self-efficacy, expectations	Bandura et al. 1996; Bandura 2006b	

Table 3.2: Self-efficacy scale questions and previous studies

3.8.3 Phase two method: Semi-structured Interviews

In phase two, individual semi-structured interviews were conducted with seventeen student volunteers to explore how a diagnosis of dyslexia influenced students' self-efficacy, engagement with HE support, and learning. Semi-structured interviews were selected to encourage participants to talk at length and express their views (Morris, 2015), so they could potentially share "rich data that cannot be accessed any other way" (Olson, 2016:49).

I decided not to use focus groups as I wanted to ensure participants' privacy and they felt as comfortable as possible. The unseen 'network of power relationships' that exists between peers can make individuals hesitant to contribute during focus groups, or at worst silenced (Marcu, 2019:1752). Cameron and Billington's (2015;2017) research represents a handful of UK studies that have implemented focus groups with dyslexic university students. But despite skilful analyses and careful editing, the nature of focus groups can result in uneven reporting of voices and less nuanced interpretation, factors that influenced my decision to use interviews.

There is an assumption that interviews are like conversations and, therefore, the method is straightforward to employ and easy to do. However, as

Brinkmann and Kvale (2018:10) advise this comparison suggests an “illusory simplicity” for researchers which is not the case. Marzano (2012:453) refers to ethical dilemmas and “zones of ambiguity” in qualitative research that go beyond the boundaries of informed consent and ethical procedures. As I discovered, complexities surrounding interview interactions were unavoidable. For example, two students signed consent forms, gave verbal consent when I checked, but advised early in proceedings, they did not wish to be interviewed. Although losing student participants was disappointing, I was pleased students were able to express their feelings and I thanked them for their openness, time, and completion of the online survey.

From my perspective, using ‘processual consent’ (de Marrais and Lapan, 2004) prior to and during interviews to reconfirm participants wanted to continue was essential. For instance, when I recapped on the study’s goals and the interview process, it gave participants an opportunity to consider their position, ask questions, and either withdraw or proceed. Similarly, within interviews, if a student appeared emotional, I asked if they would like to continue, move to the next question, pause for a break, or stop. This enabled participants to choose and control the situation. Admittedly, I had to remind myself I was there as a researcher, not as a member of staff. I found it difficult at times not to take control, as my automatic reaction to assist is engrained in my personality and related to my role in student services at the time. With hindsight, drawing a line between my two roles, researcher and university staff member, allowed me to step back, and enabled participants to express their views and how they wished to proceed.

Greene (2012:136) talks about ‘credible evidence’ as a construct shaped by researchers’ values, actions, inclusiveness and respect for participants. Within my research, I wanted to capture students’ experiences but not at their expense of feeling uncomfortable or unwilling. Brinkmann and Kvale (2018) underline the power-knowledge relationship and ethical responsibilities of researchers towards participants. This serves as an important reminder for all researchers.

My position as researcher involved actively listening, weaving in questions to match the flow of interviews and engaging with participants. Multi-tasking

undoubtedly made it problematic to ascertain which participants were unwilling and anxious, opposed to purely anxious which was understandable given the situation. Holstein and Gubrium's (2003:11) 'spectrum of reluctance' considers factors that can negatively influence participants' engagement, including guarded feelings triggered by perceptions of societal norms, hesitancy to speak due to emotional state, or lack of connection with the researcher. By observing participants' non-verbal cues, I tried to be perceptive whilst conveying a warm welcome to settle participants before starting interviews, but I sensed some participants felt more at ease than others.

All interviews were conducted in a private office to avoid interruptions and recorded on a Dictaphone to aid verbatim transcription. On average, each interview lasted one hour, except for two which were limited to thirty minutes due to students' commitments. Where interview time was restricted, I prioritised key interview questions and, subject to time, asked additional probing questions.

An overview of the interview schedule is summarised in table 3.3 below and shows the six themes, along with key questions and prompts.

Summary of the Interview Schedule		
Pre-Interview Briefing: This was crucial and good practice to reassure participants and build relationships. Information given included: an overview of the study, reminders that participants were in control (i.e., they could ask questions at any time, choose not to answer questions and move on, pause, stop, or withdraw if they wished), how their data is treated (i.e. anonymity and confidentiality were discussed).		
Interview Themes	**Example Key Question**	**Example Prompt**
Information about you. (Questions aimed to ease participants in and build rapport, prior to more challenging questions).	1a) Can you tell me where you studied before you came to NU?	1a) How long ago was that?
Learning strategies used before diagnosis	2a) What helped you to adapt or develop your approach to learning before you were diagnosed?	2a) Were there any routines or activities you found that helped your learning?
Your experiences of dyslexia – Impact of diagnosis	3a) Thinking about the timing of diagnosis, what impact, if any, did it have on your ability to learn at [school/college/university]?	3a) In what ways, if any, did the diagnosis have an impact on your approach to learning on your own?
Post diagnosis – Personal support	4a) After you received your diagnosis, who was there to support you on a personal level?	4a) Who did you decide to speak with?
Post diagnosis – Financial/Study support	5a) How did the support, resulting from diagnosis, influence your approach to learning?	5a) In what ways, if any, did the support make you rethink or change your approach to learning?
Suggestions for teaching and learning and student support	6) How could the teaching and learning environment in NU be improved for dyslexic students?	6a) Are there any learning approaches that have been used by your lecturers that you feel are helpful and could be used more widely?
Post-Interview Debriefing: This included: asking participants if they had any questions about the study or wished to add anything and thanking students for their time.		

Table 3.3: Summary of the Interview Schedule

3.9 Sampling

In April 2018, the phase one survey was sent from a central email to all (n=327) students who had disclosed dyslexia and were registered with NU's disability service. The online survey was re-launched in December 2018, and later in February 2019 to new dyslexic students (n=74). Overall, 59 of 401 students completed the survey, and 17 of those students volunteered and were interviewed. Tables 3.4 and 3.5 below summarise the data.

Timing presented challenges throughout this research due to unfamiliar procedures, including ethical processes and liaising with gatekeepers (3.13.1), and unexpected personal situations. Matthieson and Binder (2009:40) remind researchers to 'build in slack' as "research is creative work that cannot always be forced into a routine timetable," a comment that perfectly frames the iterative nature of research studies.

Survey launch dates	**Number of student respondents**
April 2018	52
December 2018	1
February 2019	6
Total students	**59** (of 401 responded)

Table 3.4: Survey launch dates and student response.

Survey launch dates	**Number of students who volunteered for interviews**	**Number of students who proceeded and were interviewed**
April 2018	24	13
December 2018	0	0
February 2019	4	4
Total students	28	**17**

Table 3.5: Survey launch dates and student volunteers for interviews.

The decision to utilise 'volunteer sampling' (Gray, 2004) by inviting all dyslexic students to participate, rather than drawing a diverse purposive sample to prove generalisability, was motivated by the study's exploratory aims which sought to uncover dyslexic students' experiences that remain under-reported in literature. Furthermore, phase one survey participants could volunteer to be interviewed in phase two, and by targeting all dyslexic students it extended access to phase two interviews.

The decision to exclude NU students who had not disclosed dyslexia was not made lightly and this criterion could be interpreted as being unrepresentative of the dyslexic population. However, drawing on Sumner et al.'s (2021:105) study which relied on students to self-report SpLDs, the authors noted: "It could also be argued that confirmation of an SpLD was warranted for inclusion in this study …" The implication of not obtaining confirmation of diagnosis, therefore, casts doubt to some extent, and Sumner et al. (2021) highlight the possibility that some participants may be undiagnosed or have multiple conditions. Due to dyslexic students being central to my study, I felt it was essential to connect with this specific group who had disclosed and registered with NU to understand their experiences.

3.9.1 Sample Sizes

The sample sizes for the online survey and interview participants were as follows.

Online survey participants sample size = fifty-nine students, representing 15% of dyslexic students (n=401) invited to participate.

Interview participants sample size = seventeen students, representing 4% of dyslexic students (n=401) invited to participate. (It is worthwhile noting that 29% of students who completed the online survey, i.e., seventeen out of fifty-nine students, volunteered and were interviewed).

3.10 Participants

Within this study, two sets of participants will be discussed, firstly, students (n=59) who completed the survey will be referred to as survey respondents (or 'respondents' if the context is clear). Secondly, students who were interviewed will be referred to as interviewees. Within various sections of this chapter, I may also state 'student(s)' if it is clear which participants are being discussed.

3.10.1 Online survey participants

Overall, 15% of dyslexic students (n=59 out of 401) completed the online survey during 2017/18 and 2018/19, and tables 3.6 and 3.7 summarise students' demographic, course and dyslexia related information.

	N = 59	Age Range					Year of Study					Level of Study	
Gender	**N =**	**18-21**	**21-24**	**25-29**	**≥30**	**NS**	**1**	**2**	**3**	**4**	**NS**	**UG**	**PG**
Male	20	1	6	1	11	1	5	5	5	2	3	14	6
Female	39	7	10	8	14	0	18	11	5	4	1	30	9

Table 3.6: Survey data: Students' age and course-related information

Key to table 3.5: NS=Not stated. **≥**30=30yrs or above.

Students who participated in the survey closely mirrored NU's student body in relation to gender, students aged 30 or above, and level of study. Information shown in table 3.5 is combined with NU data below to illustrate this point.

Gender
Students in the survey: 66% females, 34% males.
*NU student population: 60% females, 40% males.

Age ≥30
Students in the survey: 42% aged 30 or above.
NU student population: 37% (HESA, 2022).

Level of study: Undergraduates (UGs) and Postgraduates (PGs)
Students in the survey: 75% UGs, 25% PGs
*NU disabled student population: 82% UGs, 18% PGs
(*Data source: NU Equality and Diversity Information Report, 2019)

Table 3.7 shows most students 95% (n=56) were diagnosed to confirm dyslexia, but three students were awaiting assessment. (Where relevant, for instance, analysing data connected to time of diagnosis, those three students were taken out of the dataset). Table 3.7 also confirms 27% (n=23 out of 59) were diagnosed in the last two years.

	N = 59	**Diagnostic test* to confirm dyslexia?**		**Any other conditions indicated?**		**How long ago were students officially diagnosed with dyslexia?** (Years below)					
Gender	**N =**	**Yes**	**No**	**Yes**	**No**	**0-2**	**3-4**	**5-6**	**7-10**	**≥10**	**NS**
Male	20	19	1	15	5	6	1	3	5	3	1
Female	39	37	2	29	10	17	8	5	3	4	0

Table 3.7: Survey data: Dyslexia related information provided by students
Key to table 3.7: *****Students who participated had disclosed dyslexia and were registered with NU's disability service.

Notably, 75% of students (n=44 out of 59) stated they had 'Other conditions' in addition to dyslexia, including visual stress and dyspraxia. This was substantially higher than NU's data which indicated 7% of students in 2017/18 declared two or more impairments and/or disabling conditions, and 8% of students in 2018/19 (see 1.4). It is difficult to say why the difference in data has occurred. Within interviews, students reflected on the process and experience of diagnosis.

3.10.2 Interviewees

Table 3.8 shows the age range, year of study and level of study of interviewees.

	N = 17	**Age Range**				**Year of Study**				**Level of Study**	
Gender	**N =**	**18-21**	**21-24**	**25-29**	**≥30**	**1**	**2**	**3**	**4**	**UG**	**PG**
Male	4				4	1	1	2		2	2
Female	13	3	2	4	4	3	4	4	2	11	2

Table 3.8: Interviewees' data: Students' age and course-related information

Table 3.9 shows the pseudonyms for the interviewees and the coding system used to indicate their level of study (undergraduate or postgraduate) and year of study at NU. For example, at the top of table 3.9, Anna-UG-2 is listed. The letters and number after Anna's name, -UG-2, indicates Anna was an undergraduate student in her second year of study. Zack-PG-3, at the bottom of the table, indicates that Zack was a postgraduate student in his third year of study. Table 3.9 show around half of interviewees were diagnosed in the last

two years, and the majority were diagnosed at NU. This is further discussed in Findings chapter 4.

N=17		Place(s) tested for dyslexia			Place diagnosed			
Pseudonym	**Age range**	Primary	Secondary	FE	Private	FE	University	**Time since diagnosis**
Anna-UG-2	25-29		✓		✓			0-2yrs
David-UG-1	30+	✓			✓			0-2yrs
Emma-UG-1	18-20				✓			0-2yrs
Florence-UG-4	21-24						✓	0-2yrs
Grace-UG-2	18-20			✓			✓	0-2yrs
Jade-UG-2	25-29						✓	0-2yrs
Linda-UG-1	18-20		✓	✓			✓	0-2yrs
Zara-UG-1	30+			✓			✓	0-2yrs
Amy-UG-3	21-24						✓	3-4yrs
Beth-UG-4	18-20			✓			✓	3-4yrs
Clare-PG-3	30+						✓	3-4yrs
Maria-UG-3	25-29						✓	3-4yrs
Vicky-UG-3	30+			✓			✓	3-4yrs
Dawn-PG-2	30+						✓	5-6yrs
Stephen-PG-2	30+						✓	7-10yrs
John-UG-3	30+				✓			7-10yrs
Zack-PG-3	30+					✓		7-10yrs

Table 3.9: Interviewees' pseudonyms (indicating level/year of study). Dyslexia related information provided by students.

3.11 Approach to analysis of interview data

The approach to analysis of interviews adopted by this study was Braun and Clarke's (2022) reflexive thematic analysis (RTA). Initially, sub-section 3.11.1 will clarify thematic analysis (TA). Next, section 3.12 will offer background information and describe how Braun and Clarke's 'schools' or versions of TA have evolved, and why Braun and Clarke's (2022) RTA was selected for this research, along with an overview of the six phases of data analysis.

3.11.1 Defining Thematic Analysis

Thematic analysis (TA) is the process of "developing, analysing and interpreting patterns across a qualitative dataset" (Braun and Clarke, 2022:4). The origins of TA are debated and linked to sociologists Glaser and Strauss (1973), scientific philosopher Holton (1988), psychoanalysts from the 1940's and 1950's, amongst others (Braun and Clarke, 2022).

TA forms part of numerous analytical approaches, including grounded theory (GT) (Mills and Birks, 2014), and interpretive phenomenological analysis (IPA) (Smith et al., 2009). However, the precise way TA is applied depends on the methodological approach taken. For instance, the process of theory building in GT is preformulated with distinct philosophical perspectives offering a range of methodological lenses (Charmaz, 2006) to direct data collection, analysis and interpretation. Conversely, reflexive thematic analysis (RTA) (Braun and Clarke, 2022) selected for this study is not pre-packaged but rather "akin to a single jigsaw piece in a puzzle" (Terry and Hayfield, 2021:8). Therefore, careful consideration of how RTA fits my overall research design was essential.

3.12 Braun and Clarke's approach and three schools of Thematic Analysis

Braun and Clarke's much-cited 2006 paper, *Using thematic analysis in psychology,* addressed several misconceptions of TA including TA being perceived as a singular method, purely descriptive, and lacking in theoretical framework and analytical procedures. Braun and Clarke's (2006:77) paper provided general guidelines to explain how TA could be approached in a "deliberate and rigorous way", but over the years, Braun and Clarke adapted their approach to form the method they refer to as 'reflexive thematic analysis' (RTA).

Since the 2006 paper, Braun and Clarke's thinking has shifted and evolved (Braun and Clarke, 2019; Braun and Clarke, 2021; Braun and Clarke, 2022) resulting in the development of 'schools' of TA, or three versions of TA: (1) coding reliability TA, (2) codebook TA and (3) reflexive TA, which reflect the various approaches to TA and ways of interpreting themes in data.

Figure 3.5 illustrates how each school of TA is characterised by a specific approach, including analytical procedures and philosophical beliefs to determine the school's position on the qualitative continuum (Braun and Clarke, 2022).

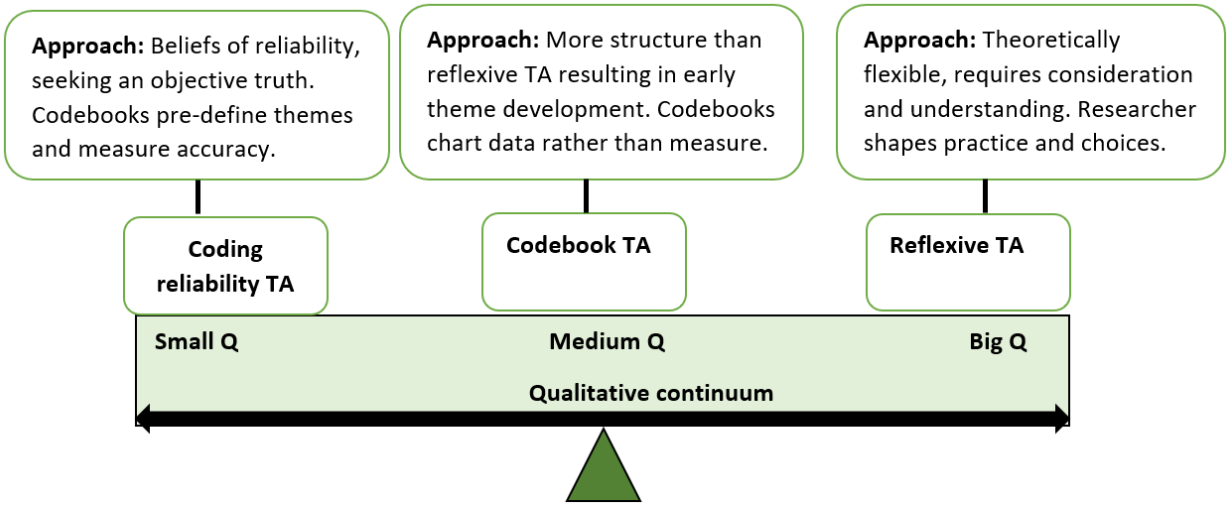

Figure 3.5: Braun and Clarke's (2022) three schools of TA positioned on the qualitative continuum. (Adapted from Braun and Clarke's information, 2022:234-242).

3.12.1 School 1: Coding reliability TA

Coding reliability TA was not considered for this study due to inter-reliability checks and codebook procedures which lend themselves to team research and are underpinned by positivist, quantitative practices (Braun and Clarke, 2022).

3.12.2 School 2: Codebook TA

Codebook TA sits between reflexive TA and coding reliability TA on the qualitative continuum and is noted as 'medium Q' (figure 3.5) because it retains structure but is not concerned with reliability checks (Braun and Clarke, 2022). From my perspective, its systemised structure presents a barrier to freely exploring data to gain deeper meaning which is the intention of this study.

3.12.3 School 3: Reflexive TA

Reflexive TA (RTA) is noted on the qualitative continuum as 'Big Q' (figure 3.5) and was chosen for this study because it is based on qualitative values which connects to my research design (figure 3.2) and philosophy (section 3.2). RTA positions the 'reflexive researcher' at the heart of the study and emphasises and values reflexivity, subjectivity, critical reflection and interpretation as being fundamental to data engagement, knowledge production and the overall

process (Braun and Clarke, 2022). Furthermore, as the sole investigator, the level of reflexivity demanded by this method although challenging was achievable, as my decision-making was not constrained by others. Evidence of my thinking is interwoven throughout this thesis to convey how RTA was used.

Figure 3.6 shows I took a blended approach to RTA. The connecting boxes noted in the diagram as: 'Deductive' and 'Inductive' outline how data were analysed both deductively and inductively. First, a deductive approach to data analysis was taken as Bandura's self-efficacy theory (SET) (1997) was used as a lens. This was followed by an inductive approach driven by the data.

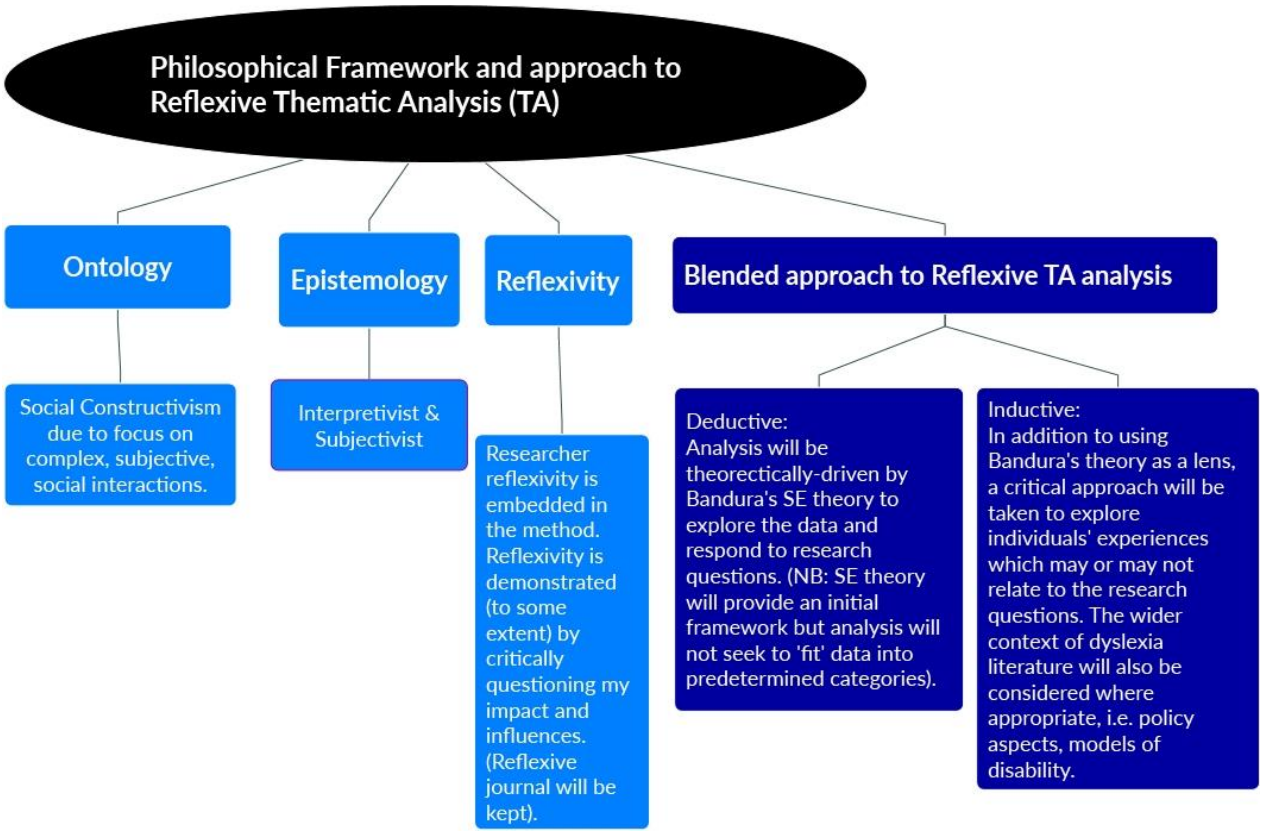

Figure 3.6: Philosophical framework and approach to Reflexive Thematic Analysis taken in this study.

3.12.4 The Six Phases of Reflexive Thematic Analysis

Table 3.10 below sets out the six phases of RTA for this study and a summary of actions for each phase. Braun and Clarke's (2022) six iterative phases were systematically followed and, as Braun and Clarke caution, the steps were far from linear. Braun and Clarke (2022) describe RTA as being iterative, messy,

and adaptable. I can now testify whole-heartedly to those sentiments. Appendices B-F offer insight to the thinking and engagement that occurred during this process (see table 3.10 below).

The Six Phases of Reflexive TA	Actions for each Phase:
Phase 1: Familiarisation with the dataset (Appendix B)	Transcribing verbatim, tabling demographic information, thinking about coding, annotating transcripts, memos (linking to text), field notes to recall interactions (e.g. how it was said, what was inferred, etc). Mind map of initial thoughts on interviews created.
Phase 2: Coding (Appendix C)	Open coding started (also known as broad-brush coding). Created a folder for 'Memorable quotes'. Tabled codes.
Phase 3: Generating initial themes (Appendix D)	Grouping themes, leave isolated ones to analyse and revisit. Question: What's reoccurring? What's happening in isolation? Used cluster diagram and concept maps to illustrate data.
Phase 4: Developing and reviewing themes (Appendix E)	Coding on, i.e., breakdown data into further codes. Considered: reviewing, renaming, clustering or cancelling (but save iterations). Switched on coding stripes, checked for overlapping codes, and potential overlaps in concepts. Revisited themes and codes.
Phase 5: Refining, defining and naming themes (Appendix F)	Linked to literature and/or policy. Question: What's happening in the data? Revisited codes.
Phase 6: Writing up	At this stage, writing provided the catalyst for analysis (Bazeley, 2020) and needed to be in a logically order to convey findings in data.

Table 3.10: The six phases of reflexive thematic analysis

I used NVivo software (2020) to conduct analysis due to previous experience. However, despite the logic I faced a huge learning curve that tested my technical skills on many occasions. NVivo does not 'do' the analysis or thinking for researchers, it is a tool to aid the research process and an efficient way to store and tame copious amounts of data which I had. The biggest advantage was being able to use NVivo to structure my thinking and create an audit trail to demonstrate transparency, credibility, trustworthiness and plausibility of the findings which followed Braun and Clarke's (2022) six iterative phases of RTA.

3.13 Ethical procedures

This study followed Lancaster University's (LU) established research protocols and received ethical approval for Phase 1 of the research, the online survey, in January 2018 from the Faculty of Arts and Social Sciences and Management School Research Ethics Committee (FASS-LUMS REC). As the research study was based at North University (NU), NU's ethical procedures were complied with and research ethics documentation was submitted. NU granted ethical approval for Phase 1 in January 2018 and confirmation was forwarded to LU's Ethics Officer for FASS-LUMS REC. At that point, I began the research by developing the online survey as detailed in the pilot study (3.8).

In June 2018, ethical approval was requested from LU for Phase 2, the interviews, which were detailed in the original ethics research application. As requested, a FASS-LUMS REC amendments form was submitted and this resulted in ethical approval being granted. Following this, a research ethics form was completed in accordance with NU's procedures and NU gave ethical approval at the end of June 2018. The interviews started in July 2018 as shown in the data collection timeline (figure 3.4) and described in phase two method: semi-structured interviews (3.8.3).

3.13.1 Gatekeepers

During the study, NU's disability management acted as gatekeepers and identified dyslexic students to pilot the online survey (section 3.8), and dyslexic students (n=401) to email with the phase one online survey. This ensured transparency, ethical procedures were followed, and the survey was sent from a central email to dyslexic students who were based at NU (where ethical clearance was granted) and not based at partner institutions, aged 18 or older, and had consented to contact from NU disability services and NU for research purposes.

Whilst mentioning the benefits of gatekeepers, there were times when I found the relationship difficult, for example, having to wait and rely on others to distribute the survey. Nevertheless, I remain grateful to NU staff for their time, effort and assistance.

3.14 Ethical considerations

Key issues concerning participants' privacy, risk of harm, informed consent and withdrawal were guided by LU's research ethics code of practice and the Department of Educational Research, and NU's ethical procedures. The following sections provide an overview of how a few challenges were addressed, but further comment regarding ethical considerations is embedded throughout the thesis, particularly within interview section 3.8.3.

3.14.1 Privacy

Having worked with NU's students for a considerable time, I was aware that a great deal of sensitivity and consideration would be required to conduct this study. Therefore, the research design enabled dyslexic students to take control and make decisions at key points to mitigate what Strunk and Locke (2019:308) refer to as the "significant power of the researcher." For example, students chose whether to engage with the research, complete the survey and remain anonymous in phase one, or subsequently volunteer for interviews in phase two. However, I acknowledge those choices do not diminish my influence as the sole researcher and my perspective is shared in section 3.4.

3.14.2 Risk of harm

The British Educational Research Association's (BERA) (2019) Ethical Guidelines for Educational Research note how vulnerable participants should be considered and supported during the research process. In the context of this research, dyslexic student participants were not vulnerable as defined by legislation (UK Research and Innovation [UKRI], 2022), as informed consent was elicited and participants were able to exercise reasoned judgement. But it was possible interviewees might have felt vulnerable, for example, if they were recently diagnosed or asked to reflect on negative dyslexia-related experiences. To minimise any possible distress, all interviewees were briefed before interviews, consulted during interviews if they appeared affected, de-briefed after interviews, and given an information sheet that detailed useful student support services. Further discussion is detailed in 3.8.3.

3.15 Conclusion

This chapter presented the methodology for this study and the methods used. Mixed methods of an online survey and semi-structured interviews were chosen to encourage dyslexic students to engage and convey their lived experiences. As noted in sections 3.1 and 3.7, Bandura's SET (1997) is traditionally explored by quantitative methods. In contrast, my exploratory qualitatively oriented approach seeks to uncover a more nuanced understanding of dyslexic students. However, as the data collection timeline (figure 3.4) indicates, it was a lengthy recruitment process where 11 out of 28 student interview volunteers withdrew (table 3.5). This signalled in part how difficult it was for students to discuss dyslexia, and how dyslexia is viewed by society. But it underlined the importance of hearing the voices of those students who participated, and their experiences are shared in findings chapter 4.

In addition to the literature review presented in chapter 2, this chapter leads into the presentation of findings in chapter 4, where survey data and student interview accounts are explored.

Chapter 4: Findings

4.1 Introduction

This chapter presents findings from two data sets: (1) Online survey data from phase one. (2) Semi-structured interview data from phase two.

In phase one, 59 dyslexic students participated in the online survey and responses addressed RQ2: **How does the timing of a diagnosis of dyslexia impact on students' perceived academic self-efficacy and influence their self-regulated learning strategies?** Survey questions were mainly quantitative; therefore, this data set provides an overview of the survey participant profile (4.2). Students' self-efficacy scores follow and are presented by four domains of functioning: self-regulated learning; academic achievement; seeking help and interacting; and meeting expectations (4.2.2 to 4.2.6). Students' main learning strategies in lectures and studying alone are reported in section 4.6.2. Responses to open survey questions were analysed qualitatively and are presented in section 4.4.3. Analysis of survey data indicated a relationship between the timing of diagnosis and students' emotional state. However, students' beliefs about their ability to learn and study at university appeared unaffected by negative feelings post-diagnosis. Interview data in phase two delved further and reported findings (4.4.3).

In phase two, semi-structured interviews with 17 dyslexic students (4.3.1) explored their lived experiences, self-efficacy and sources of support that drove learning to address RQ3: **How does diagnosis and HE support influence students to develop or adapt their self-regulated learning strategies?** The thematic framework (figure 4.2) developed from interview data demonstrates how themes intersect, and how students' beliefs underpinned engagement with learning and support. For example, students' reactions to diagnosis and interaction with HE support differed due to multiple factors, including diagnosis, previous educational experience, social support, and HE staff.

4.2 Survey participant profile

The survey participant profile includes age range, year of study, and level of study (see 3.10.1); time and place of diagnosis (see 4.2.1) offers context to support analysis.

As noted in Methods (3.10.1), the survey was emailed to 401 dyslexic students and 59 (15%) participated. Students were anonymous and could omit questions if they wished.

4.2.1 Timing and Place of diagnosis

Table 4.1 shows 23 of 55 students (41%) were diagnosed with dyslexia in the last two years. This was surprising given that dyslexia is not a new condition and it affects approximately one in ten people. Data raised questions about what prompted diagnosis and the impact of late diagnoses on students' learning and wellbeing. Arguably, students faced increased transitional challenges on an academic and personal level.

26 students (46%) were diagnosed at university and 15 (27%) at college or sixth form. This suggests that HE and FE institutions, where the nature of studying changes, require students to adapt learning approaches and could contribute to more students seeking or having dyslexia assessments. However, owing to DSA support at university being contingent on proof of dyslexia assessment, this might have encouraged some students to be formally diagnosed. Equally, diagnostic assessment presents barriers, as one respondent commented: 'is costly'.

Year of Study (When surveyed)	**Time since diagnosis**					**N=55* Students with a diagnosis (by year of study)**
	0-2 years ago	**3-4 years ago**	**5-6 years ago**	**7-10 years ago**	**More than 10yrs**	
Year 1	9	3	2	3	3	20
Year 2	7	3	1	2	2	15
Year 3	6	1	2	1		10
Year 4		1	2		1	4
Year 5	1	1				2
Other			1	2	1	4
Total	23	9	8	8	7	55

Table 4.1: Year of study linked to time of diagnosis.

*55 of 59 students completed diagnosis questions. (1 student = Unsure when diagnosed; 3= Not proceeded with test in Year 1).

Analysis of students diagnosed in the last four years revealed 20 of 31 (65%) were diagnosed at university.

The following sections (4.2.2 to 4.2.6) focus on students' responses to self-efficacy scale questions in the survey. Please note, responses to two open-ended survey questions, (feelings about dyslexia when first diagnosed and later/now), were analysed qualitatively and findings are in qualitative analysis section 4.4.3.

Presentation of self-efficacy scores by four domains follow. Responses from self-efficacy scale questions were organised into tables and grouped into domains of functioning used by Bandura (1997), namely:

- self-efficacy for self-regulated learning (table 4.2),
- academic achievement (table 4.3),
- seeking help and interacting (table 4.4),
- and meeting expectations (table 4.5).

59 students completed the survey. Questions in tables 4.2 to 4.5 are listed in order of students' self-reported self-efficacy from high to low. For example, in table 4.2, question Q1SR: 'I can finish assignments by the deadlines' received the highest mean score of 3.49, as students indicated the greatest self-belief for this question. The number of responses for each self-efficacy score are shown in the tables, along with the percentage of students (the bracketed number in the tables) who reported the score.

4.2.2 Self-efficacy for self-regulated learning (Domain one)

Self-regulated learning (SRL) questions: ‘I can …	Mean	Number of responses (%) for SE scores				
		1= I cannot	2= I can possibly	3= I don’t know	4= I am certain	5= I am highly certain
Q1SR - Finish assignments by the deadlines.	3.49	9 (15.3)	7 (11.9)	9 (15.3)	14 (23.7)	20 (33.9)
Q2SR - Motivate myself to do my studies.	3.34	6 (10.2)	14 (23.7)	6 (10.2)	20 (33.9)	13 (22.0)
Q3SR - Study when there are other interesting things to do.	3.32	6 (10.2)	14 (23.7)	8 (13.6)	17 (28.8)	14 (23.7)
Q4SR - Plan and organise my academic learning and activities.	3.25	7 (11.9)	14 (23.7)	6 (10.2)	21 (35.6)	11 (18.6)
Q5SR - Use library resources to find information.	3.22	7 (11.9)	10 (16.9)	16 (27.1)	15 (25.4)	11 (18.6)
Q6SR - Always concentrate when I’m in class.	2.92	7 (11.9)	15 (25.4)	19 (32.2)	12 (20.3)	6 (10.2)

Table 4.2: Self-efficacy for self-regulated learning
(NB Bracketed number = percentage)

Table 4.2 shows over 50% of students were ‘certain’ or ‘highly certain’ of their ability to plan and organise learning, meet assignment deadlines, remain motivated, and focused on academic studies (Q1SR-Q4SR). Conversely, 37% (n=22) indicated ‘I cannot’ or ‘I can possibly’ always concentrate in class (Q6SR). Findings suggest students had self-regulatory skills and were motivated to learn but hampered by concentration issues. Self-efficacy scores provided part of the picture, but interviews delved further in phase two to provide explanations.

4.2.3 Self-efficacy for academic achievement (Domain two)

Table 4.3 shows 61% (n=36) of students were ‘certain’ or ‘highly certain’ they could learn how to read for university (Q3AA); and 54% (n=32) stated similarly

for learning to write (Q4AA). Closer analysis of responses to Q3AA and Q4AA confirmed 51% (n=30) reported scores of 4 or 5 for both questions and indicated they were 'certain' or 'highly certain' they could learn how to read and write for university. This finding seemed to suggest that being 'certain' or 'highly certain' and having high self-efficacy in one's ability to read or write positively influenced learning in the related skill.

Only 25% (n=15) stated: 'I don't know if I can follow lectures and understand what is being taught' and 'learn how to write for university' (Q2AA, Q4AA). Furthermore, 22% (n=13) were unsure if they could 'learn to read for university' (Q3AA). These findings contrasted with positive self-efficacy scores for 'planning' and 'finishing assignments by the deadline' (table 4.2).

Self-efficacy for academic achievement questions: 'I can …	**Mean**	**Number of responses (%) for SE scores**				
		1= I cannot	2= I can possibly	3= I don't know	4= I am certain	5= I am highly certain
Q1AA – Use computers to help me study.	3.93	5 (8.5)	5 (8.5)	5 (8.5)	18 (30.5)	26 (44.1)
Q2AA – Follow lectures and understand what is being taught.	3.71	2 (3.4)	6 (10.2)	15 (25.4)	20 (33.9)	16 (27.1)
Q3AA – Learn how to read for university.	3.54	3 (5.1)	7 (11.9)	13 (22.0)	27 (45.8)	9 (15.3)
Q4AA – Learn how to write for university.	3.46	5 (8.5)	7 (11.9)	15 (25.4)	20 (33.9)	12 (20.3)

Table 4.3: Self-efficacy for academic achievement
(NB Bracketed number = percentage)

4.2.4 Self-efficacy to seek help and interact (Domain three)

Table 4.4 illustrates 60% of students were 'certain' or 'highly certain' they could form relationships with peers and approach lecturers to ask for help or question feedback (Q1SH, Q2SH, Q3SH). Only 27% (n=16) stated: 'I cannot' or 'I can possibly' ask lecturers or another student for help (Q3SH, Q6SH).

Reluctancy to speak out was also evident in responses to Q4SH and Q5SH where 32% (n=19) indicated 'I cannot' or 'I can possibly, ask questions in lectures and express opinions when peers disagree.

Self-efficacy to seek help and interact questions: 'I can …	**Mean**	**Number of responses (%) for SE scores**				
		1= I cannot	2= I can possibly	3= I don't know	4= I am certain	5= I am highly certain
Q1SH – Approach lecturers to ask questions about feedback.	3.73	4 (6.8)	11 (18.6)	4 (6.8)	18 (30.5)	22 (37.3)
Q2SH – Form relationships with other students.	3.68	4 (6.8)	10 (16.9)	8 (13.6)	16 (27.1)	21 (35.6)
Q3SH – Ask teaching staff for help when I'm stuck.	3.63	3 (5.1)	13 (22.0)	6 (10.2)	18 (30.5)	19 (32.2)
Q4SH – Ask questions in lectures.	3.53	6 (10.2)	13 (22.0)	5 (8.5)	14 (23.7)	21 (35.6)
Q5SH - Express my opinions when classmates disagree with me.	3.42	8 (13.6)	11 (18.6)	7 (11.9)	14 (23.7)	19 (32.2)
Q6SH – Approach another student to help me when I'm stuck.	3.29	11 (18.6)	5 (8.5)	12 (20.3)	18 (30.5)	13 (22.0)

Table 4.4: Self-efficacy to seek help and interact
(NB Bracketed number = percentage)

Interestingly, 28% (n=11 of 40) who were 'certain' or 'highly certain' they could approach lecturers to ask about feedback were less certain of their ability to form relationships with peers and scored themselves 1-3 for Q2SH. Factors that enabled students to interact and seek help from others were not apparent from the data. It was therefore unclear how or where students obtained academic or social support.

4.2.5 Self-efficacy to meet expectations (Domain four)

Table 4.5 shows just over 50%, were 'certain or 'highly certain' they could live up to the expectations of family, lecturers and themselves as students (Q1ME, Q2ME, Q3ME).

In contrast, 29% (n=17) stated 'I cannot' or 'I can possibly' live up to lecturers' and my own expectations as a student (Q2ME, Q3ME). Of those 17 students, 9 also stated 'I cannot' or 'I can possibly' live up to family expectations which was likely to create more pressure to learn and succeed at university (Q1ME).

Self-efficacy scores for expectations were analysed but no clear patterns in data were evident, responses came from a range of students. Without further information about students' histories, (including educational backgrounds, support networks, or current learning challenges), it was difficult to understand what factors drove students' to score expectations positively or otherwise.

Self-efficacy to meet expectations questions: 'I can live up to…	**Mean**	**Number of responses (%) for SE scores**				
		1= I cannot	2= I can possibly	3= I don't know	4= I am certain	5= I am highly certain
Q1ME. My family's expectations of me, as a student.	3.61	7 (11.9)	7 (11.9)	9 (15.3)	15 (25.4)	21 (35.6)
Q2ME. Lecturers' expectations.	3.41	6 (10.2)	11 (18.6)	7 (11.9)	23 (39.0)	12 (20.3)
Q3ME. My own expectations, as a student.	3.37	10 (16.9)	7 (11.9)	11 (18.8)	13 (22.0)	18 (30.5)

Table 4.5: Self-efficacy to meet expectations
(NB Bracketed number = percentage)

4.2.6 Students' mean self-efficacy scores grouped by time of diagnosis

Students' self-efficacy scores were grouped by time of diagnosis (i.e. 0-2 years since diagnosis, 3-4 years since diagnosis, and so on), and the mean score generated for each group was used to respond to RQ2: How does the timing of

a diagnosis of dyslexia impact on students' perceived academic self-efficacy and influence their self-regulated learning strategies?

Charts were created to reflect the four domains of functioning covered by self-efficacy scale questions, i.e., (1) self-regulated learning, (2) academic achievement, (3) seeking help and interacting, and (4) meeting expectations, and figure 4.1 illustrates findings for self-regulated learning. (For a full list of self-efficacy questions and mean scores, see appendix G).

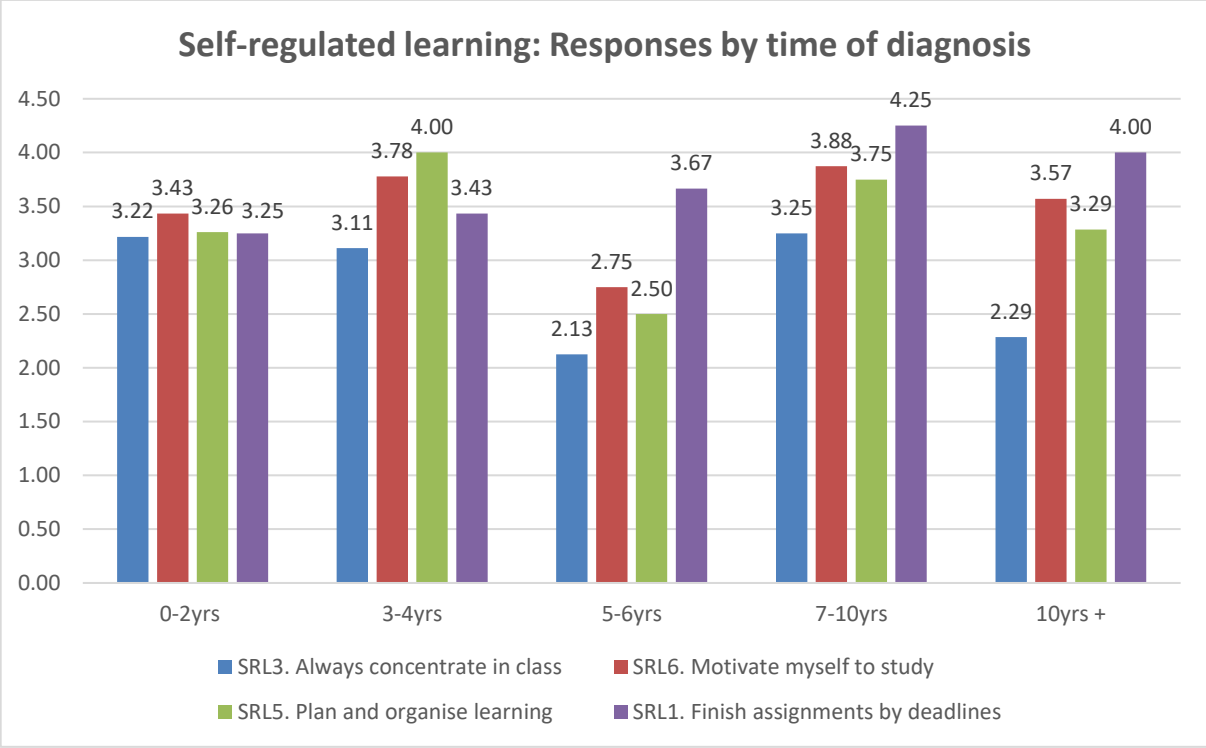

Figure 4.1: Self-efficacy scores for self-regulated learning grouped by time of diagnosis

Appendix G shows students' mean self-efficacy scores grouped by time of diagnosis. Students diagnosed 7-10 years ago had the highest mean self-efficacy scores for most survey questions, but interestingly not for 'approaching another student for help'. To summarise, mean scores offered insight but raised more questions for interviews that explored the bigger picture.

4.3 Qualitative analysis

4.3.1 Introduction

Following reflexive thematic analysis (RTA) of interview data, three overarching themes were identified: Diagnosis matters (4.4), Perceptions of support (4.5), Finding ways to learn (4.6), and connecting themes associated to each overarching theme were generated as shown in figure 4.2.

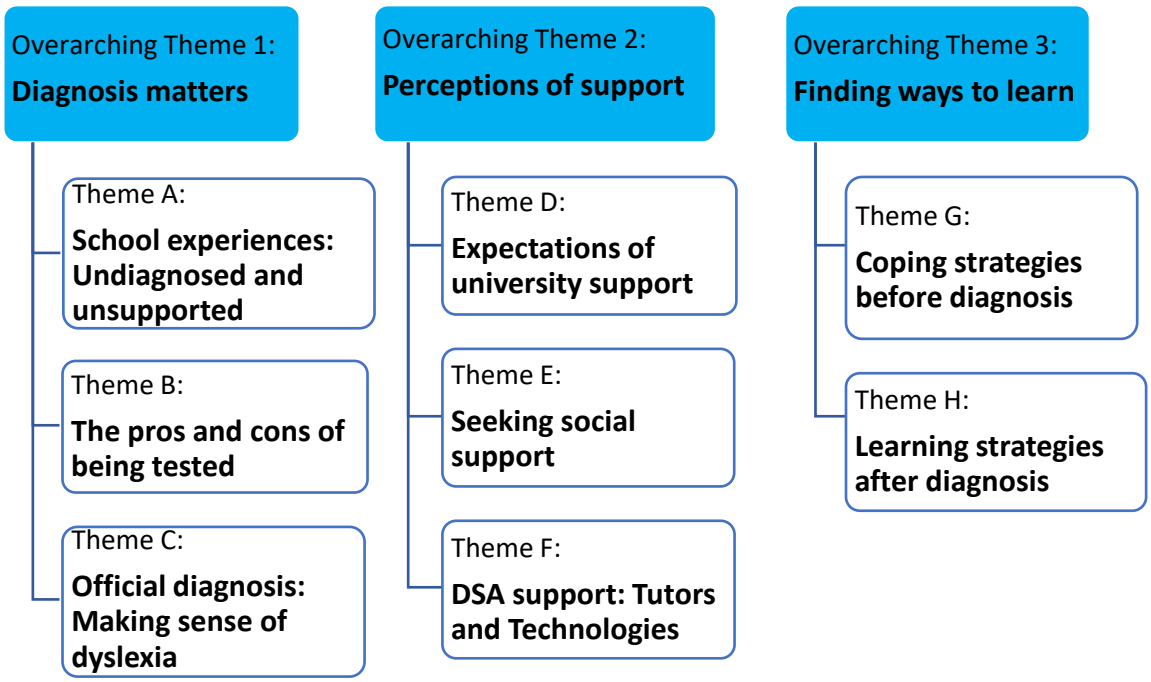

Figure 4.2: Thematic map of three overarching themes and connected themes. (N.B. each theme is broken down into subthemes).

4.3.2 Themes: Presentation of themes/subthemes in tables and Terminology

The three overarching themes act as structures to unify and organise concepts identified within themes and subthemes (figure 4.2). Each overarching theme starts with a definition, table of themes and subthemes (which are ordered to unravel students' accounts from school days before diagnosis, to university post-diagnosis), descriptive narrative analysis follows that uses data extracts from across the dataset to convey students' experiences and sense making. Table 4.6 provides a key to terms I use when presenting themes from interview data, (i.e. within sections 4.4 to 4.6). The terms are used to indicate a theme's

strength and consistency across students' accounts. For example, the term 'few' indicates1 to 3 students spoke about a particular theme.

Terms used to present themes	Number of students
Vast majority (or almost all)	15 to 17
Large majority	12 to 14
Majority (or most)	8 to 11
Minority	4 to 7
Small minority (or few)	1 to 3

Table 4.6: A key to terms used to present interview themes

4.4 Overarching Theme One: Diagnosis Matters

The overarching theme of Diagnosis Matters underlines the importance of dyslexia diagnostic assessment for personal and educational reasons, and why interviewees referred to the formal testing process as being 'properly diagnosed'. Overarching theme one, Diagnosis Matters, consists of 3 themes (A-C), each theme has 2 subthemes as shown in table 4.7.

Overarching Theme 1: Diagnosis matters			N=17
Themes: A, B, C	**Subthemes**	**Number of quotes**	**Number of students**
A) Undiagnosed and unsupported at school (4.4.1)	A1) Struggling at school	21	16
	A2) Not being heard	9	5
	Total quotes and students	30	16
B) The pros and cons of being tested (4.4.2)	B1) Lack of label, concern and strategies	27	11
	B2) Feeling secondary to funding	7	4
	Total quotes and students	34	15
C) Official diagnosis: Making sense of dyslexia (4.4.3)	C1) Reactions to diagnosis	29	17
	C2) Reflection and reasoning	40	17
	Total quotes and students	69	17

Table 4.7: Overarching theme one: Diagnosis matters

4.4.1 Theme A: Undiagnosed and unsupported at school

A1: Struggling at school

Identifying signs of dyslexia can be challenging as everyone is unique but organisations, including the British Dyslexia Association (BDA), continue to raise awareness and offer guidance on what to look for and how to obtain diagnosis and support. Yet, despite widespread advice and dyslexia being a

common learning difficulty, a small minority of interviewees were diagnosed at school. Whereas the vast majority were diagnosed late, as adult learners, while studying at FE or university. Arguably, for many this meant living longer with uncertainty or as Grace-UG-2 described 'the not knowing'.

When interviewed, students were asked how they managed learning before diagnosis and almost all used the word 'struggling' to depict past experiences at school:

> I was sort of struggling all the way through school. I just thought I wasn't as clever as everyone else, so I kept trying harder. (Beth-UG-4)
>
> I used to struggle quite a bit. I used to just think I was stupid because I didn't know how to cope with it. (Linda-UG-1)

Beth and Linda's comments illustrate how they framed themselves negatively as 'not clever' and 'stupid' due to not understanding their difficulties were due to dyslexia. Beth explained that 'trying harder' was bolstered by being 'made to read all the time' as a child. In contrast, Linda recounted how support at home helped her to 'scrape through' primary school but reflected that not understanding how to cope as an undiagnosed learner was problematic.

Being misunderstood by schoolteachers further compounded negative self-appraisals while learning. This situation led to what Stephen-PG-2 called the 'self-fulfilling prophecy', whereby teachers reported Stephen 'lacked effort'. Therefore, Stephen stopped trying to learn and thought: 'What's the point?'

Similarly, David-UG-1, Jade-UG-2, Zack-PG-3, and Zara-UG-1 also disengaged from learning due to lack of support and encouragement from teachers, but notably Jade and Zack were disruptive as explained:

> There'd be some [secondary] teachers who would think I was an angel, then others who'd think I was the devil! [laughs] (Jade-UG-2)
>
> I was a pain in the backside and disruptive … but I would have been because I couldn't read the book! (Zack-PG-3)

The above extracts show clues to dyslexia were rooted in Jade and Zack's behaviour but teachers failed to recognise the signs. In Jade's case, primary

school staff misinterpreted dyslexia as ‘bad behaviour’; subsequently, secondary teachers failed to consider why Jade-UG-2 was an engaged learner for practical subjects, such as arts and technologies, but not for others.

Likewise, Zack-PG-3's reading difficulties were overlooked as his antisocial avoidance tactics seemed to divert teachers' attention. Notably, the majority of students in this study experienced reading difficulties at school, but all remained undiagnosed until adulthood which was concerning.

A2: Not being heard

A minority discussed how teaching staff appeared to lack dyslexia awareness and were unresponsive to suggestions of dyslexia testing from learners or families. Emma's experience follows and reveals her story.

Emma's experience of learning at school revealed a history of repeatedly asking to be tested for dyslexia to gain a diagnosis and being declined. This meant Emma’s learning difficulties remained undetected throughout primary and secondary school. After receiving disappointing exam results in sixth form, Emma-UG-1 asked again to be tested for dyslexia, but her difficulties were dismissed.

> … because I’d done well [in GCSE exams] despite it [dyslexia], people [teachers] were like: ‘Well, obviously you can’t have it [dyslexia], you’re just not putting the effort in now.’ In my head, I was like: I know A levels are harder but it shouldn’t go from A’s to E’s! (Emma-UG-1)

Emma expressed frustration and described how GCSE success resulted from relentless revision of ‘every single paper forever’ with parental support at home. Emma’s GCSE results indicated what could be achieved with tenacity, encouragement and support. Yet teachers’ comments, ‘not putting the effort in now’, implied Emma lacked motivation and signalled teachers were unaware of the efforts expended behind the scenes.

Although Emma-UG-1 suggested teachers overlooked dyslexia due to GCSE exam success, schoolwork produced by Emma in the same school from year nine to sixth form would have presented signs of dyslexia. Emma recalled difficulties (including spelling, punctuation, reading and retaining information)

impacting learning since junior school. Yet, indicators of dyslexia and requests to be tested were dismissed as Emma struggled with A-levels until her parents decided to pay for a private dyslexia diagnostic assessment.

4.4.2 Theme B: Pros and cons of being tested

B1: Lack of label, concern and strategies

A minority of students tested for learning difficulties at FE expressed disappointment with the process as it did not provide the answers or support expected. Instead, test outcomes reinforced uncertainty and prevented students from understanding if learning issues were dyslexia.

> I spent sixth form knowing there was something wrong … [Staff said]: 'Oh, you've definitely got a learning difficulty, I can't tell what it is … dyscalculia … That would be my rough guess, but I can't do anything else'. I [thought]: You run the dyslexic unit, can you not … But yeah, that's all I knew. (Beth-UG-4)

Beth's account conveyed a lack of staff professionalism and disregard for learner wellbeing. It was also concerning that Beth-UG-4 appeared to gain nothing from the test apart from confirmation of 'a learning difficulty'.

In contrast, Zara-UG-1 received extra time, but crucially, Zara's visual difficulties remained unexplored and therefore, recommendations and learning strategies were not discussed.

> I wasn't told what to do next …it was just to get my twenty-five per cent extra time … They didn't give me anything, they didn't give me overlays even though they knew that I had a visual problem. [Zara-UG-1]

Following the test, Zara asked her workplace for support but recalled they 'didn't do anything' as the numerical test report was perceived as unimportant by her employer. Zara described feeling 'cut off' and 'let down' but accepted reactions from work and college staff to move forward.

Zack-PG-3 also received extra time, but explained the outcome was problematic as it did not label difficulties, the 'something' that hindered reading and writing for years. Zack emphasised the persistence required to obtain a

formal assessment from a specialist dyslexia assessor.

> ‘But then I had to **really, really** push for the assessment to see if I had dyslexia, because that was obviously a separate one’. [Zack-PG-3]

Zack's remarks indicated formal assessments were not automatically offered at FE. Thus, fewer students were likely to share Zack’s experience of being formally diagnosed which Zack said ‘helped’.

The lack of label associated with college testing meant Grace-UG-2 and Vicky-UG-3 were not concerned. Vicky noted there was little time to consider the test as it happened before exams and enabled extra time. Whereas Grace’s test occurred halfway through the final year, but Grace-UG-2 expected learning to continue with additional support.

> … it kind of wasn’t confident that it was definitely what it was [dyslexia], they [college staff] just said that **I needed the help** … they didn’t label it. It was kind of … you just need the extra support, and we’ll give these extra times. (Grace-UG-2)

Although Grace’s support arrangements seemed straightforward, lack of support and staff expertise meant Grace stopped attending one-to-one sessions and relied on extra time during exams. Grace reflected on college support and advised it ‘wasn’t great’ as the support person was a ‘normal helper’ who signposted to materials, opposed to showing ‘how’ to develop ways of learning. Fortunately, Grace-UG-2 could ask tutors for help and formed networks with friends; therefore, learning from others was one source of self-efficacy Grace drew on to build support and progress.

B2: Feeling secondary to funding

A small minority commented funding was a barrier to being tested for dyslexia. Frustration was evident within interviews as students described how their educational needs felt unimportant.

> I felt downgraded … The school wouldn’t pay for it, the council wouldn’t pay for it, no-one would pay for it .. in 2016, my husband paid because he said it would help for uni. [Anna-UG-2]

While Anna's husband paid for the diagnostic dyslexia assessment at college, Emma's parents paid while she was studying A-levels. Both depicted learning at school as 'difficult'.

Paying privately to obtain diagnostic dyslexia assessments remains costly, and in this study, Emma-UG-1, Anna-UG-2 and David-UG-1 pursued this route. Like Anna, David's assessment happened before university. David mentioned 'not really' having the money but proceeding anyway.

Emma-UG-1 recalled how family members made a considered decision to pay 'three hundred and fifty pounds' for dyslexia assessment. But despite the positive step towards diagnosis, Emma recounted worrying thoughts before assessment which appeared to add pressure to the situation:

> … I remember beforehand [thinking]: Right, if there isn't something then what are we going to do? And [I thought]: I don't know what we're going to do. [Emma-UG-1]

4.4.3 Theme C: Official diagnosis: Making sense of dyslexia

Feelings about dyslexia when diagnosed and now: Survey responses

This subsection presents students' responses to two open-ended survey questions about diagnosis (Q11-Q12). Responses were thematically analysed in NVivo and themes reflecting students' views were generated. (For full contents of survey see Appendix A).

Findings related to open survey Q11: How did you feel when first diagnosed? 48 of 59 students responded. Thematic analysis generated three categories (i.e. codes), students who felt: (1) *unsettled*; (2) *relieved*; (3) *justified by the label* (see table 4.8). The last category conveys how students felt the dyslexic label was needed to access appropriate support and signal to others they learned differently.

The numbers in bold in table 4.8 help to illustrate the relationship between 'reactions to diagnosis' and 'time of diagnosis. For example, those closest to diagnosis, (i.e., diagnosed 0-2 years ago), felt '*unsettled*' (n=17 of 21) and were undergraduates. Whereas those diagnosed 7 years ago or longer, with more

time to process diagnosis, felt '*relieved*' (n=9 of 15) and were mainly postgraduates.

Time of Diagnosis	Relieved	Unsettled	Justified by the label
0- 2 years (n=23)	3	**17**	1
3-4 years (n=9)	4	0	1
5-6 years (n=8)	4	1	2
7 years or more (n=15)	**9**	3	3
Level of Study (if stated)			
Number of Undergraduates(n=39)	11	**17**	4
Number of Postgraduates (n=15)	**9**	3	3
Age group (if stated)			
18-20 (n=8)	1	6	1
21-24 (n=16)	2	5	1
25-29 (n=9)	6	2	0
30+ (n=25)	11	8	5

Table 4.8: Survey responses: Students reactions to diagnosis

Table 4.9 shows interviewees' time of diagnosis and their reactions to diagnosis. Where survey respondents (table 4.8) were split into three categories, students who felt: *relieved* (n=20); *unsettled* (n=21); and *justified by the label* (n=7). Interviewees were also split, and reactions to diagnosis were proportionally similar, i.e. *relieved* (n=7); *unsettled* (n=7); *justified by the label* (n=3).

Theme C: Official diagnosis: Making sense of dyslexia	**Interviewees responses: Reactions to diagnosis (Grouped by time of diagnosis)**					
C1 Reactions to diagnosis	0-2 years	3-4 years	5-6 years	7-10 years	N=17 students	
3 Categories below:	n=8	n=5	n=1	n=3	Total	%
Feeling relieved	2	3		2	7	41%
Feeling unsettled	4	2	1		7	41%
Justified by the label	2			1	3	18%

Table 4.9: Interview subtheme C1 – Reactions to diagnosis

Findings related to open survey Q12: How do you feel now about being dyslexic? 23 of 59 responded. Thematic analysis generated two contrasting codes; 13 students felt they had *'reached an understanding'*; while 10 felt 'misunderstood'.

C1: Reactions to diagnosis

Feeling relieved

Relieved was how most students described reactions to diagnoses as they took a pragmatic, positive approach. Stephen-PG-2 explained how being diagnosed dyslexic at university 'made sense' and emphasised 'knowing' what hindered past learning helped to address matters, make him feel 'more confident with the future' and able to 'step up' from foundation to undergraduate studies.

Vicky-UG-3 also talked positively about being diagnosed dyslexic as it provided an unexpected but welcome answer. Vicky stated that having the 'invisible barrier' of dyslexia removed meant: 'I thought I could do more'. Similarly, John-UG-3 highlighted how being diagnosed dyslexic was a 'big boost to confidence' which appeared to alleviate, to some extent, difficult memories of school, as John became animated when thoughts and feelings about the diagnosis were recalled:

> It's like a big [theatre] curtain, just opening … going [stating]: 'I'm not stupid'. Because I'd issues from when I was a child at school … But my confidence just went through the roof [John-UG-3]

Jade-UG-2 and Linda's-UG-1 positivity about diagnosis and being dyslexic appeared to be rooted in social support. Although Linda was tested at school, partially tested at college, and recently diagnosed with two conditions at university, the tests and diagnosis did not appear to faze Linda:

> I'm just happy to know what it was … I think it gave me a bit more confidence because I knew what it was and it was a case of [thinking]: Right, I can find ways to deal with it … But it explained a lot about why I am the way I am. [Linda-UG-1]

Feeling unsettled

A minority stated they felt unsettled and questioned their ability to learn at university, as they wrestled with the dyslexic label. Florence-UG-4, Grace-UG-2 and Zara-UG-1 were diagnosed at NU in the past two years, and all expressed a drop in confidence after diagnosis due to concerns about support, assessment feedback and the dyslexic label. Florence explained how negative

‘over-thinking' of the dyslexic label created further anxiety about approaching lecturers and disclosing to future employers.

Grace-UG-2 and Zara-UG-1 were previously tested at college, but both found outcomes from diagnostic assessments challenging. Zara, an adult learner returning to education, referred to assessor’s feedback which mixed fact with opinion.

> [Assessor said] ‘Your writing per minute is slower …you’ve picked one of the hardest courses to do and you’re dyslexic’. (Zara-UG-1)

Although the purpose of dyslexia assessment is to establish individuals’ strengths and areas of development, Zara’s attention seemed focused on the assessor’s negative comments which prompted doubts about university studies. Zara, like most students in this study, did not refer to personal strengths even though this information would have formed part of the assessment process.

Grace-UG-2, like Florence-UG-4 and Zara-UG-1, recalled the emotional impact of diagnosis and emphasised how formal assessment differed hugely from informal testing at college, which ‘speculated’ dyslexia.

> … when they properly diagnosed me … I thought it was the end of the world to be honest … I felt like my confidence had just fell through the floor, like I wasn’t actually able to do anything. It kind of clarified **all my struggles** in the past and [I thought]: Oh, I have actually got something wrong. [Grace-UG-2]

Grace-UG-2 stated that confirmation of dyslexia led to worries about writing and succeeding at university as Grace thought: ‘I wouldn’t be able to do what I wanted to do because I had this label’.

Justified by the label

Anna-UG2, David-UG-1 and Zack-PG-3 explained that being 'properly' diagnosed as dyslexic justified how they learned. However, all expressed frustration at having to be officially diagnosed to demonstrate learning difficulties. Zack and David characterised their initial reactions to late diagnosis as 'angry'. Zack clarified feelings were due to dyslexia being unidentified and unsupported at school which meant Zack-PG-3 ‘blagged through life with it

[dyslexia]'. Whereas David's anger related to paying for assessment, as school reports were old, 'vague' and did not state dyslexia.

> I had to basically go and get a piece of paper … It did make me feel a bit [sighs] … it did make me [think]: Does that prove something? Now that I've got a piece of paper. You're not judged on your own merits now, now you've got a title. [David-UG-1]

David also commented being diagnosed meant: 'I can't be discriminated against if I've got it there on paper. Anyone can say: I'm dyslexic, I can't read or write'. Although David did not mention any incidents of discrimination at work or socially, being diagnosed and having proof seemed to offer some peace of mind and validate David's dyslexia.

Anna-UG2, like David, paid to be diagnosed but as this study shows, the vast majority were unable to pay and this fuels discussion about the education system being unjust.

C2: Reflection and reasoning

After initial reactions to diagnosis, students discussed how they reflected and almost all spoke about finding answers to two questions: What does being dyslexic mean for me? What happens next?

Almost all researched dyslexia to better understand what the condition meant for them. While Beth-UG-4 researched and concluded: 'I don't struggle quite as much as this information is saying …', Dawn-PG-2, who initially welcomed the diagnosis, appeared to feel uneasy.

> [I thought]: I wanted to be normal. And I don't believe in 'normal', I don't believe there's such a thing [laughs], but I still felt it … [Dawn-PG-2]

Conversely, Clare-PG-3 who talked about feeling unsettled when first diagnosed noted: '… until it happens to you, you're ignorant of the facts'. Clare explained how speaking with friends who had dyslexic relatives helped.

Reflecting on diagnosis**,** Maria-UG-3 acknowledged 'some concerns' about university but stated completing 'hard' distance-learning courses helped to build confidence to pursue HE studies. Other students, including Amy-UG-3 and

Stephen-PG-2, reiterated how they had ‘managed’ to get so far and were therefore motivated by diagnosis and the prospect of support. However, Stephen described the inner turmoil that preceded the positivity and explained how positive thoughts about academic capabilities were challenged by negative ones.

> … [I thought]: It just means I continue doing what I’ve done, learn more, learn different ways. But then, there was still a part of me that [thought]: What if this is as far as it goes for you? You’ve managed to get through [Foundation course] but obviously, as it gets more difficult … But … I knew I’d get the support… [Stephen-PG-2]

Being open to support, new ways of learning, and being able to ask for help appeared to enable Stephen to regulate thinking and maintain a positive outlook. Stephen also reflected: ‘As I’ve got older, I’m not afraid to speak to people’.

While most students contemplated support options post-diagnosis**,** a minority described ‘feeling uneasy’ and uncertain about this step. Amy-UG-3 thought: ‘If help is available that would be great …’. While Grace-UG-2 called the assessment report, ‘the finalisation’ because it confirmed Grace was dyslexic and not ‘struggling’ which was ‘normal’ at school and FE. Grace stated feeling: ‘upset’, ‘ashamed’ and ‘needing to talk’, factors that were likely to affect Grace’s ability to process information and navigate the support system.
Emma-UG-1 also expressed uncertainty after diagnosis and used the following metaphoric description (where diagnosis was compared to a ‘life jacket’ and the assessment report was a ‘float) to convey the emotional turmoil of being diagnosed.

> It was like .. You’ve got a life jacket but you’re still in the deep end and you don’t know how to swim. So, you’re now floating but you’re **still not getting anywhere.** Because before you didn’t have a float, but now I had this piece of paper that was my float, but I’m still just floating. [Emma-UG-1]

Emma was clearly disappointed with the assessment report which presented two recommendations: extra time and use a computer for exams. The latter was unhelpful as Emma preferred to write not type; it seemed that Emma’s

learning preferences had not been explored. Emma summed up assessment as: 'you're dyslexic, okay, goodbye', and the process appeared to make Emma feel unsure about the way forward. Emma-UG-1 concluded: 'But I really don't know how to help this, how to improve, how to make this work …'.

4.5 Overarching Theme Two: Perceptions of support

Overarching theme two, Perceptions of support, consist of 3 themes (D-F), each theme has 2 sub-themes, see table 4.10.

Overarching Theme 2: Perceptions of support			**N=17**
Themes: D, E, F	**Subthemes**	**Number of quotes**	**Number of students**
D) Expectations of university support 4.6.1	D1) Hoping for help	10	8
	D2) 'Going into the unknown'	8	8
	Total quotes and students	18	16
E) Seeking social support 4.6.2	E1) Being able to talk about dyslexia	16	11
	E2) The trouble with family	14	7
	Total quotes and students	30	17
F) DSA support: Tutors and technologies 4.6.3	F1) DSA technology: Barriers and benefits	40	17
	F2) DSA tutors: Perceptions and expectations	25	11
	Total quotes and students	65	17

Table 4.10: Overarching theme two: Perceptions of support

4.5.1 Theme D: Expectations of university support

D1: Hoping for help

Most 'expected' support at university, but a minority experienced learning adjustments at previous institutions. Yet despite experiencing adjustments at school or FE, those students seemed uncertain about what support they would receive at university. Vicky-UG-3 who previously received extra time at college stated:

> 'I was thinking … somebody to be there to help … a tutor who would be aware of my condition, that's it'. [Vicky-UG-3]

Whereas Linda-UG-1 who experienced limited support at college, commented:

> ‘I thought it [university support] … if I needed to see someone, you sort of ask and they can give you maybe an hour’. [Linda-UG-1]

David-UG-1, Jade-UG-2 and Maria-UG-3 had not experienced learning support, but they expected ‘someone’ to help them learn at university. Maria who spent several years studying ‘hard’ online to gain qualifications for university was ‘hoping’ for ‘one-to-one’ support. Whereas Jade’s expectations of a ‘support person’ were based on information from a dyslexic student friend. David’s expectations were initially based on remarks from university staff at a course open day.

> ‘I mentioned the dyslexia. Maybe it was the way I perceived it. [But NU staff said]: ‘Oh yeah, we can give you the support’ … Then, I spoke to [the assessor] again … [David-UG1]

David explained the assessor acknowledged NU staff were ‘approachable’, but emphasised David would need to engage with DSA support to succeed at university. To summarise, all students expressed concern about HE support following diagnosis.

D2: Going into the unknown

Most students reiterated how they ‘didn’t know’ or ‘didn’t think’ there would be support at university. Zara-UG-1 discussed how lack of support and understanding at college shaped her perceptions of educational support. Similarly, Emma-UG-1 and Grace-UG-2 stated A-level support was ‘not useful’ and ‘virtually non-existent’. Therefore, past experiences appeared to cast doubt, permeate and negatively impact thoughts of HE support.

> I didn’t really know what to expect to be honest, because obviously I hadn’t really had much in the past. [Grace-UG-2]

Uncertainty about university support provoked concern for the vast majority of students, including Stephen-PG-2 who recalled.

> They said at the interview: ‘If you put the work in you’ll get through’. … I just thought … this is me now. I’ve got to prove myself right … because I remember at the beginning a part of me was still half and half. [Stephen-PG-2]

4.5.2 Theme E: Seeking social support

E1: Being able to talk about dyslexia

Most students discussed sharing their diagnosis of dyslexia with someone 'close'. However, a minority chose to approach people outside their social circle or process the diagnosis alone and speak out when assistance was needed. John-UG-3 and Zack-PG-3 were diagnosed in adulthood whilst working in professional roles. Both took an independent approach to dealing with their diagnosis.

> 'I didn't really have anybody to help … it was finding ways which helped me …I would say [to work or others, what I needed] … it was down to me … a lot of [work] organisations they don't really understand' [John-UG-3]

Although John's account was tinged with negativity, he spoke positively and emphasised lessons learned, including the importance of taking 'responsibility' and 'saying' to others: 'I have dyslexia … this is what I need to help me'.

Zara-UG-1 was diagnosed as dyslexic at university and chose to speak with first-year peers. Although the student group was relatively new, Zara commented how the interaction was 'really helpful' and described peers as 'caring' which appeared to indicate a bond with supportive peers.

E2: The trouble with family

A minority of students expressed concerns about family reactions to their diagnoses of dyslexia. Florence-UG-4 and Clare-PG-3 explained how parents' cultural and generational beliefs created barriers when sharing diagnoses. Hence, Florence did not inform parents about the diagnosis because 'dyslexics' do not exist in African culture. However, Florence described how parents accidentally found out about her diagnosis a few months later.

> My parents now know, **but …** it wasn't by choice [laughs]. I left it [the diagnostic assessment report] in the living room [laughs], and my dad picked it up … and started reading it. And that's when I had to explain, yeah. [Florence-UG-4]

In contrast, Clare talked to parents about being diagnosed as dyslexic.

> They [parents] said: 'Well, what's that?' Because in my culture, I was British born but … But it's trying to explain it [dyslexia] **to them** … my parents finally came to terms, twelve months afterwards … I really had to sit down, tell them … it's just the way it is. (Clare-PG-3)

Clare stated parents' views were from 'a different era' where 'everyone was 'normal' and labels did not exist. Clare noted parental understanding of dyslexia evolved as they researched online.

4.5.3 Theme F: DSA support: Tutors and technologies

F1: DSA technology: Benefits and barriers

Almost all students used a range of DSA-related technologies and views about the barriers and benefits for learning were mixed. Dawn-PG-2 stated she was 'open' to trying out new software as a postgraduate but avoided technologies as an undergraduate. Dawn appeared to be influenced by previous HE experiences which raised her awareness of what it took to be a student.

Conversely, Beth-UG-4 could not see the benefits of software and, therefore, lacked the motivation to engage. While Stephen-PG-2 admitted 'head space' was an issue and noted: 'I didn't like a lot of the software' … 'probably with it just being a new diagnosis'.

Finding time to learn new software was an issue that pressured some students who were already juggling commitments, including studies, work and families. David-UG-1 outlined his intense schedule and efforts behind the scenes as a first-year undergraduate: 'I was doing a full-time course, I was doing the [DSA-related software] training and trying to complete assessments, all at the same time. Plus, I also have [a daughter] …'

Dictaphones were provided for most students through DSA, but a minority felt self-conscious and were reluctant to use them in class. Dawn-PG-2 chose to record the 'toughest' module on her Dictaphone, but stated with hindsight recording other modules would have been beneficial and enabled additional opportunities to listen and understand. John-UG-3 and Zack-PG-3 mentioned they had to seek permission from 'Other students' before recording in lectures;

a process that would prevent some students from recording and impact their learning.

F2: DSA tutors - Perceptions and expectations

Perceptions and expectations of DSA tutors appeared to be driven by how students viewed support. For most, it was a ‘glass half full’ situation, a new opportunity to develop or adapt new ways of learning (Stephen-PG-2). Whereas a few interviewees viewed DSA tutor support as a ‘glass half empty’, an imposition whereby they had to engage with a stranger. John-UG-3 admitted being ‘stubborn’ and wanted to ‘remain independent’, therefore, he chose not to engage with DSA tutor support.

Students with two support workers talked about ‘double’ the time and effort to build rapport (Clare-PG-3 and Dawn-PG-2). While David-UG-1 spoke about the dyslexia assessor reflecting on his past education, abilities and being ‘very straight’ with him and stating: ‘You need this [DSA tutor support] ... you will not be able to do this without support’.

A minority of students perceived DSA tutors as being separate to their learning and unconnected to the university. Students seemed unaware that the role of specialist dyslexia study skills tutors (SSTs) is to help students develop key academic skills and learning strategies to understand and identify how they learn. Students’ perceptions were reinforced by the support arrangement process, as they had to contact support providers directly to arrange their own tutor support. Additionally, limited private space on-campus allocated to external tutors was noted by Dawn-PG-2 and Zack-PG-3.

4.6 Overarching Theme Three: Finding ways to learn

Overarching theme three, Finding ways to learn, consists of 2 themes (G-H), theme G has 2 subthemes and theme H has 5, see table 4.11.

Overarching theme three: Finding ways to learn			N=17
Themes G, H	**Subthemes**	**Number of quotes**	**Number of students**
G) Coping strategies before diagnosis 4.6.1	Read, revise, repeat G1	38	15
	Choosing a practical path G2	25	14
	Coping tactics G3	12	7
	Total quotes and students	75	15
H) Learning strategies after diagnosis 4.6.2	Using technology H1	35	15
	Writing strategies H2	35	14
	Reading strategies H3	34	12
	Organisational strategies H4	22	12
	Closed strategies H5	11	4
	Total quotes and students	137	17

Table 4.11: Overarching theme three: Finding ways to learn

4.6.1 Theme G: Coping strategies before diagnosis

G1: Read, revise, repeat

Almost all students adopted a three-step learning strategy of 'Read, revise, repeat' at school and described how they reapplied this strategy, with varying degrees of success, to further studies and work-related tasks. Yet nearly all referred to reading challenges and short-term memory issues that affected the reading process and created recall difficulties. Therefore, students' reliance on a three-step strategy that depended on reading and memory appeared to hinder learning, as Vicky-UG-3 explained.

> I've never done reading because … I forget what I've read before I even reach the bottom of the page … So, then [I] lose interest, get frustrated and leave it. (Vicky-UG-3)

Although Vicky was aware of weaknesses in her reading approach, she did not mention seeking or devising any self-help strategies before diagnosis. It seemed she accepted the challenge, frustration, and therefore avoided it.

Like Vicky-UG-3, Stephen-PG-2 viewed reading challenges and accompanying headaches as natural and unavoidable, but Stephen explained how reading was managed by concentrating on text to ignore the white spaces on the page.

> If I look at words on paper … gaps in between [words] kind of stand out. I've always been able to read, it was just … some words … pronouncing them … the stubborn part of me just forces [me] to read, put up with it, accept it and think: Well, can't do anything about it. (Stephen-PG-2)

Stephen reflected on early thoughts of dyslexia but dismissed them because 'someone would have said at school'. Years later, Stephen remained resigned to reading challenges and did not seek ways to change or adapt learning. It seemed the oversight from schooldays had changed Stephen's feelings of uncertainty to tolerance, but not understanding difficulties were dyslexia meant Stephen was unable to understand and improve reading skills.

A small minority who stated they read text at speed also faced challenges, as they noted comprehension was sacrificed at the expense of speed. As a result, the three-step 'read, revise, repeat' strategy was unpredictable as John-UG-3 and Jade-UG-2 discovered when they sat exams, ten years after leaving school. While John's revision efforts secured a job and future career, Jade's plan to achieve grade Cs to apply to university did not materialise.

G2: Choosing a practical path

After struggling to learn at school with little or no support, many students left with limited qualifications, only a few stated they 'did well'. Subsequently, the majority decided to study vocational qualifications at FE, and a minority found employment.

Those who studied vocational 'hands-on' qualifications at FE developed work-related skills for careers in the creative industries, health sector, amongst others. Jade-UG-2 and Linda-UG-1 explained their choice of course was driven by personal interest and reinforced by practical assessment that avoided exams.

> It was all practical which is my bag because I'm quite visually minded … it's easier for me to learn by doing. (Jade-UG-2)

> … for GCSEs, I was revising nearly seven hours a night, even after school … I prefer to be creative, which is why I choose what I choose and I just enjoy it. (Linda-UG-1)

Having the opportunity to choose a practical course with practical assessment seemed to enable Jade-UG-2 and Linda-UG-1 to take control and reframe learning as an enjoyable experience.

Vicky-UG-3 and Zara-UG-1 studied NVQs and expressed the benefits of practical work-based learning which appeared to instil a sense of accomplishment they missed at school.

> I came out with some pretty good scores … I could proofread. I had more time … Had I done an exam … I wouldn't have been able to do it. So, I found a course which fitted my requirements. (Zara-UG-1)

Vicky and Zara were modest about achievements, but both described how they 'worked' hard and used training opportunities to progress. It therefore seemed NVQ success provided the momentum for them to further their education and careers.

G3: Coping tactics

Before diagnosis, students employed two coping tactics to manage learning: using social networks to help or finding ways to manage independently. Although most students spoke about supportive friends, Grace-UG-2 was the only student who discussed collaborating with friends to learn. Grace described 'trading help' at college by assisting 'quite academic' friends who struggled with art-related subjects, and in return Grace received help with a non-practical subject. Grace explained the skills swap worked 'well' as teachers offered less support at college but expected more from learners.

A few students talked about behaving in a deliberately assertive or detached manner to mask learning difficulties at work. John-UG-3 described 'manipulating' or 'conning' his way through tasks. While Zack-PG-3 reflected on previous job roles where mistakes in training sessions and written work were masked by putting on a confident 'front'. Zack described how the 'extrovert' he portrayed differed from his true self, as Zack-PG-3 admitted being shy and sensitive but having 'to blag to get through life'.

Likewise, David-UG-1 deflected writing errors as tiredness and stated that humour, a tactic deployed at school, was a means of 'hiding insecurities' at work.

> Sometimes I got away with [saying]: 'Oh, I'm tired. I've just scribbled something down … But then …it got to serious writing. [Work said]: 'Why have you got your Bs and Ds mixed up? Why are you putting Es at the beginning of words …?' But I trivialised it and made a joke about it. (David-UG-1)

David characterised the workplace as 'very close knit' and camaraderie from colleagues appeared to be a motivating factor when his writing skills were challenged by management.

Zara-UG-1 and Dawn-PG-2 worked behind the scenes to prepare for workplace meetings by reading and absorbing information at home. Dawn commented that work colleagues 'understood quickly' and she did not want to appear uninformed or disengaged. Maria-UG-3 admitted being 'very forgetful' and created a work routine that reinforced learning, this included 'to-do lists' and subtlety asking different colleagues to check completed tasks.

4.6.2 Theme H: Learning strategies after diagnosis

Theme H	Subthemes	Number of quotes	Number of students (N=17)
Learning strategies after diagnosis 4.6.2	Using technology H1	35	15
	Writing strategies H2	35	14
	Reading strategies H3	34	12
	Organisational strategies H4	22	12
	Closed strategies H5	11	4
	Total quotes and students	137	15

Table 4.12: Theme H: Learning Strategies after diagnosis

Main learning strategy in lectures and studying alone: Survey responses

This subsection presents 56 student responses to two open-ended survey questions about learning strategies (Q34; Q37). (For full contents of survey see Appendix A). Responses were not thematically analysed as survey answers were brief. For clarity, I use the term 'respondents' to indicate students who completed the survey.

Table 4.13 shows respondents' main learning strategies in lectures. 30% (n=17) selected 'writing notes', while 20% (n=11) selected 'recording' as their main learning strategy. Reasons for 'writing notes' ranged from: 'That's how I was taught' to 'Often my lectures are not on [the VLE]' (SP31-UG; SP35-PG). Those who recorded lectures stated they: 'relistened' or 'made additional notes' (SP11-UG; SP20-UG).

Q34.What is your main learning strategy in lectures?	**Number of students (n=56)**	**Percentage of students**
Writing notes	17	30%
Recording lectures	11	20%
Referring to material on the VLE, e.g. slides.	10	15%
Taking part in discussions	7	12%
Typing notes	6	10%
I use another strategy in lectures	5	8%
Asking the lecturer questions	4	7%

Table 4.13: Survey responses: Main learning strategy in lectures

Table 4.14 below shows 12% (n=7) stated they used 'online resources', such as VLE material and educational videoclips, and one student explained.

> TED talks help me understand a concept or area before reading a book or journal. It's like I get a foundation understanding which I can build on. (SP54-PG)

Another 10% stated they 'created diagrams or mind maps' so they could 'focus on main points' and 'avoid repetitive note writing to help to remember important information' (SP42-UG; SP44-UG).

Q37.What is your main learning strategy when studying alone and why?	**Number of students (n=23)**	**Percentage of total students**
Use online resources	7	12%
Create diagrams or mind map	6	10%
Break down the question to understand	4	7%
Listen to recorded lectures	4	7%
Change the environment	3	5%
Use assistive technology	2	3.5%

Table 4.14: Survey responses: Main strategy when learning alone

Overall, it was difficult to ascertain why respondents chose specific learning strategies when studying alone, but one undergraduate diagnosed in the last two years left the following comment.

> I haven't found a super productive strategy for studying because I haven't really been told how it's best for me to work. I got told I was dyslexic and then that's where my support ended, since then I've had to discover myself. (SP55-UG).

The above comment raised questions about the remaining 36 students who did not reply to Q37, and if those students felt the same way. Additionally, survey data did not address 'how' students developed or adapted learning strategies, or how effective students thought their strategies were. Nevertheless, interview data fills this gap as the following subthemes, H1 to H4, describe interviewees' learning strategies after diagnosis.

H1: Using Technology

Interviewee Amy-UG-3 found text-to-speech software 'helpful' as it stored commonly misspelt words, avoided errors, and defined words with images. While speech-to-text software helped Vicky-UG-3 to concentrate on writing and made typing easier for Linda-UG-1.

Most students used software or equipment to record lectures and assist notetaking. Strategies to generate notes varied as students wrote or typed in lectures and listened to recordings. The recording process enabled Linda-UG-1 to 'fill in the gaps' when concentration was elsewhere in lectures, and John-UG-3 to clarify his notes as he admitted: 'I can't even read my own writing sometimes'.

Anna-UG-2 developed a more systematic notetaking process, as she requested copies of lecture slides in advance, uploaded them to recording software, and linked them to in-class notes. Additionally, Anna asked lecturers to signal when they were moving to the next slide in class, as this helped her to control the recording software and place notes against relevant slides online. Lecturers obliged and used subtle body language to signal or on-screen tools. Although Anna requested this arrangement, it was unclear if lecturers advised all

students in Anna's classes about this system of signalling, as the strategy would have been helpful to others who were also notetaking.

A few students spoke about lecturers providing recordings and how they were 'helpful' to reflect on learning. Zack-PG-3 described one lecturer uploading weekly recordings to the VLE, but instead of recording live teaching sessions, the recordings consisted of presentation slides with the lecturer's commentary. Zack explained how this made learning more focused as voice-over recordings eliminated irrelevant interruptions in lectures.

> .. the basis of the lecture was identical … you'd go to the week and get that topic you were talking about … I found it really useful as a way of recapping what we've done. (Zack-PG-3)

Linda-UG-1 referred to lecturers 'occasionally' recording demonstrations and this helped Linda to understand, control the pace of learning, and independently repeat the process.

> … because obviously I'm watching, I'm not making the notes that I should be. Because I'm trying to keep up with what they're doing. So then, I can go back and I know what they're doing, so I can listen back … (Linda-UG-1)

In addition to DSA-related equipment and technologies, Maria-UG-3 and Vicky-UG-3 independently explored additional audio resources to help learning. Maria enrolled on another course to obtain two recordings of the human body, as audio recordings were not offered by the degree programme. Maria noted: 'I don't really learn by reading'. Therefore, listening and learning fitted Maria's approach of 'making it [learning] interactive' to recall information. Similarly, Vicky-UG-3 used an audiobook app to initially explore topics and form an understanding, before moving onto university resources:

> I have [the audiobook app] on my phone and it's my best mate … it helps me … [because] I don't know where to put the emphasis in when reading a book … So I can get the gist off [the app] and then it sparks my drive. (Vicky-UG-3)

Vicky explained how audiobooks were enjoyable and easier to absorb than reading, which presented barriers as Vicky advised: ‘I never really understood grammar or punctuation …’

H2: Writing strategies

Most students explained that DSA specialist study skills tutors (SSTs) helped them to manage the writing process by discussing writing and offering strategies to improve literacy skills.

Learning different techniques with SSTs and how to spot writing mistakes was beneficial for Stephen-PG-2, who recalled being taught ‘how to’ find grammar mistakes and structural flaws in his writing rather than correcting errors.

> Before, I’d look at it [writing] … it would look fine. [The SST] would say: ‘Can you see that there?’ But it’s only when I slowed down, read it, read it aloud, read it a few times. And then [I would think]: Ah, yeah, I need to restructure that ... So yeah, the support … I’d say it was the biggest factor. (Stephen-PG-2)

Stephen mulled over his interaction with the SST and remarked that without being informed by academic staff about DSA support, the SST who was ‘key to progression’ would not have been provided.

Amy-UG-3 said grammar and punctuation ‘were’ her main areas of weakness, but the SST improved understanding by referring Amy to text she had written, along with other examples, to demonstrate how English conventions work. Being able to see where grammar and punctuation errors occurred in Amy’s personal writing seemed to help her to connect with examples and develop.

While most students commented lecturers were ‘helpful’ and offered ‘useful’ feedback on writing, a small minority including Clare-PG-3 and John-UG-3 described how lecturers helped the writing process.

> [My] course suited me down to the ground … it’s heavily scaffolded … so it’s broken down … [Lecturers] literally tell you what they want in the assignment, you’ve just got to go out and beef it up. (Clare-PG-3)

Clare felt that the level of lecturers’ scaffolding might ‘depend’ on the course and speculated other students may not receive similar help, a point confirmed

in Grace-UG-2 and Emma-UG-1's accounts. Conversely, Clare-PG-3 did not always want or accept writing support from lecturers, and she 'sometimes' perceived assistance was too forthcoming.

The delicate balance of feeling supported, but not too supported, while studying at university was also discussed by David-UG-1. Like Clare, David said he could ask lecturers for one-to-one writing support, but advised lecturers' reassurance and lack of guidance was sometimes problematic.

> I was a bit … apprehensive … sometimes I didn't like the terminology, they'd use words like: 'We'll support you'. [I thought]: No, no, no, I'm here to do a course. They [lecturers] need to tell me … I can go away and do it. I appreciate help but … this is an academic qualification. (David-UG-1)

David seemed to perceive staff comments as dismissive and unhelpful, and this appeared to touch a nerve and remind David of difficult schooldays. However, David went on to explain that disability policy created 'stigma' as lecturers did not but should be able to: 'push students with dyslexia without fear of them saying, 'Well, I'm dyslexic you can't'. In David's opinion, this stand-off situation made dyslexic students viewed as students who are 'being supported' instead of 'mainstream' students.

John-UG-3 was entitled to DSA support but did not pursue this. Instead, John preferred to attend one-to-one and group tutorials from lecturers to improve his writing skills.

> … lecturers were really helpful, more than any technology I believe … going for tutorials was a massive improvement to my writing skills … it suddenly clicked … It's no good saying X, Y, Z, I need to reference it …I didn't get that when writing at level 4 or 5 … now I know how to source academic journals, papers, etcetera … (John-UG-3)

John discussed how 'learning evolved' as research and writing skills developed.

H3: Reading strategies

Many students described reading to prepare for lectures and research assignments. They used broad strategies to digest information, including re-

reading, reading aloud, and using technologies when feeling tired to aid visual difficulties and minimise screen time.

Several students referred to the challenges of screen reading and printed material wherever possible to read and annotate hard copies. Jade-UG-2 described having ‘no chance’ of reading lecture slides with green or yellow colour schemes. Jade, therefore, printed slides in advance to facilitate class participation. When slides were not accessible, Jade downloaded slides in lectures on her laptop to read onscreen. Jade commented this method ‘wasn’t as bad’ as seeing slides on a lecture screen. However, it appeared to be a compromise that impacted Jade’s preferred way of working.

Maria-UG-3 explained how changing colours on the VLE and trying a separate colour filter did not help reading. The situation caused a barrier to learning and additional expenses of printing. Maria acknowledged that universities want to ‘modernise’ and ‘save paper’ but stressed the difficulties of screen reading and wondered if the system could be ‘more accommodating’.

A few students discussed how easy it was to misinterpret assignment briefs. However, they noted this could be avoided by asking lecturers for help. Dawn-PG-2 recalled a ‘few upsets’ and ‘frustrations’ due to not asking and going off track by ‘writing loads’. Assignment feedback also created anxiety for Dawn, but discussions with her specialist study skills tutor (SST) helped.

> There were times I just didn’t believe in myself, but they believed in me .. [SST said]: ‘Learning is like a motorway; most people use three lanes. But with dyslexia it’s just one’ … I said: Maybe I’m on the hard shoulder some days [laughs]. (Dawn-PG-2)

Vicky-UG-3 spoke of 'fear' of reading due to never reading a whole book before university. However, Vicky recalled early advice from her SST that offered reassurance.

> [SST said]: ‘You don’t need to read a book from start to finish for it to help you …’ And it was just simply a case of them showing me how to use an index of a book. That helped me massively .. took away the fear of books … Now, I like going into the library … (Vicky-UG-3)

Vicky explained reading and looking up words raised ‘awareness of words and vocabulary’ and Vicky concluded: ‘I think my dyslexia has improved because I’m made that my goal … in my reading and education’.

John-UG-3 preferred text in documents to be formatted in blocks to aid reading. Therefore, lecturers at NU amended handouts and material accordingly. But John’s employer constantly ignored John’s requests, and this resulted in John having to do the following.

> So, [laughs] I had to copy and paste [information] in a word document. Put it into segments, so I could read it, understand it, expand it a bit, and I had to do this every time [at work]. So, it’s things like that … But I learnt how to do it myself. (John-UG-3)

Although John laughed, he also expressed frustration as his employer demonstrated a lack of regard for John (and disability legislation) and made no effort to accommodate the adjustment which hindered John’s duties.

H4: Organisational Strategies

Organisational strategies that students shared in this study were collated as a list of ‘top tips’ to enable other dyslexic students. Please see Appendix H.

H5: Closed strategies

Closed strategies describe how a small minority of students did not want to be pushed out of their comfort zone when faced with tasks that potentially challenged their abilities. For example, Zack-UG-3 played to his strengths when faced with group work at university and informed peers.

> Look I’m not going to do the writing, I’m quite happy to stand up and say what we’ve done … But if I write it, you won’t be able to understand it. (Zack-PG-3)

Therefore, Zack took control of situations that made him uncomfortable, and Zack reflected on his actions: “So … it’s being able to **learn** to be okay with that and say” (Zack-PG-3).

4.7 Conclusion

Findings revealed multiple factors that shaped students' self-efficacy beliefs about their learning, including previous education experience; perceptions of learning abilities; timing and reaction to diagnosis; sources of support used to mobilise learning and develop strategies. Traditionally, the concept of self-efficacy is studied mainly by quantitative methods. However, the exploratory nature of my study applied mixed methods and enabled a deeper and more nuanced insight into dyslexic students' lived experiences.

Rich data in this study created challenges for findings, firstly in terms of establishing patterns in diverse data that were evident across student cases and themes. Secondly, having to select key findings from a range of interesting data. The latter challenge was extremely difficult, but after pausing and reflecting on data for a lengthy period, I settled on three findings (listed below) from the three overarching themes. I briefly explain the rationale for choosing those points before moving to Chapter 5 for discussion.

Finding 1) Previous education experience and lack of support to learn (at school/FE) had implications for HE learning - This finding echoes existing literature and some might say I bring nothing new to the table. However, I would argue otherwise as existing literature overlooks the longer-term impact of lack of support on adult learners, a critical gap addressed by this study as students shared and unpacked psychological baggage that learning unsupported had generated over the years. Crucially, this finding indicated a link between

(i) lack of support
(ii) development of self-efficacy, and
(iii) ability to learn.

Furthermore, it underlined the importance of efficacy development at an early age, where supportive educational environments can spark dyslexic individuals' drive to learn (and indeed, all learners) to build abilities to progress in life. This type of efficacy is what I call ***foundational efficacy*** and is further explained in discussion (5.3).

Finding 2) The experience and process of diagnosis was affected by students' prior foundational efficacy and self-beliefs – This builds on finding 1 and includes dominant subthemes of *Reactions to diagnosis* and *Reflection and Reasoning*, as students' emotional stability (a source of efficacy called emotional state) was key prior to engagement with learning.

Finding 3) As a result of diagnosis, students' capacity to engage with learning strategies offered by HE was affected, but a range of technologies enabled nearly all (15) students to develop learning strategies, and support from SSTs helped 14 students develop writing strategies.

Chapter 5: Discussion

5.1 Introduction

The purpose of this study was to explore dyslexic students' self-efficacy and how their beliefs influenced engagement with HE learning. The study also aimed to provide a better understanding of the complex relationship between students' self-efficacy, dyslexia and HE learning. In chapter 4, detailed findings revealed multiple factors that hindered or bolstered students' self-efficacy to learn including: (1) previous education experience and lack of support; (2) the experience and process of diagnosis; (3) sources of HE support. Those three factors feature in existing literature but are closely analysed in this study to establish students' trajectories and better understand how students' self-efficacy and learning strategies evolve. This chapter, therefore, focuses on three key findings which form the basis of discussion that uses SET to guide analysis, and considers issues raised in the literature review.

Before discussing the three core findings to emerge from this study I revisit Bandura's work (5.2) by summarising what Bandura says about self-efficacy (5.2.1), explaining and defining foundational efficacy (5.2.2) which I believe is a necessary pre-requisite to building self-efficacy (5.2.3).

Key finding 1) **Previous education experience and lack of support** impacted on the formation of what I identify as students' *foundational* efficacy and had implications for HE learning. (Connects to discussion section 5.3 *Foundational efficacy* and subsections: 5.3.1 *Lack of support at school*; 5.3.2 *Development of self-efficacy*).

Key finding 2) **The experience and process of diagnosis** was affected by students' prior foundational efficacy and self-beliefs. (Connects to discussion section 5.5 *The problem with diagnosis and labelling* and subsection 5.5.2 *Reactions to diagnosis*. Also links to figure 5.3 which supports discussion and conveys students' reactions to a diagnosis of dyslexia and their thinking behind self-efficacy appraisals that drove behaviour, actions, engagement or disengagement with HE support and subsequent learning strategies).

Key finding 3) **Sources of HE support** - As a result of diagnosis, students' capacity to engage with learning strategies offered by HE was affected, but technologies enabled nearly all (15) students to develop learning strategies and support from SSTs helped 14 students develop writing strategies. (Connects to discussion section 5.6 *Higher Education support*, subsections 5.6.1 *Developing learning with a range of technologies* and 5.6.2 *Developing writing skills with support*).

5.2 Sections on Foundational Efficacy: an addition to Bandura's self-efficacy

5.2.1 What Bandura says about self-efficacy and learning

Bandura's (1997) social cognitive theory (SCT) provides a way to understand how individuals develop self-efficacy to learn. The self-efficacy component of SCT is depicted as enabling a person to shift from '*learning efficacy*' to '*self-regulatory efficacy*' to '*academic efficacy*'. But findings in this study showed this upward shift in self-efficacy was challenging as dyslexic students depended on educational institutions, social networks, and their own efficacy beliefs to equip themselves with literacy, numeracy, social skills, amongst other abilities, to grow and become self-directed adult learners later in life. However, the findings indicated support to learn was lacking from an early age for most interviewees, and this was often problematic. Bandura (2023) refers to individuals being 'agents of their own learning', a phrase that captures what ideally should happen, but in the context of this study the reality differed due to a chain of events (i.e. lack of support at school and FE, lack of self-efficacy, resulting in lack of ability to learn) that influenced interviewees' self-efficacy prior to university. Bandura describes the origins of *personal efficacy* (in other words, the abilities a person develops and combines to form self-belief) as rooted in early childhood development. Therefore, formative years should typically include influential factors of family, school and social networks to nurture learning, encourage social interaction, and provide experiences to establish knowledge and skills to build capabilities and develop a related sense of agency. Bandura's SCT assumes a chain of self-development where (a) early learning occurs in supportive environments; (b) individuals develop self-efficacy

and a connected sense of agency; (c) self-efficacy and agency combine to manage cognitive, motivational, affective and decision-making processes to form abilities; (d) development of one's efficacy and abilities enables self-regulation to evaluate and manage learning by drawing on self and others to progress and succeed in life's endeavours. But as noted in findings, supportive factors are often lacking.

Implications for lack of personal efficacy have repercussions on how students think, perceive their personal capabilities, and in essence, what they believe they can or cannot do with the abilities they have.

5.2.2 What I say about foundational efficacy

In contrast to Bandura's assumptions stated in section 5.2.1, findings indicated almost all interviewees experienced lack of support to learn at school which limited their development of efficacy and impacted ability to learn. Those experiences shaped a critical building block which I refer to as *foundational efficacy*.

Consequently, few interviewees achieved qualifications and experienced early academic success, which Bandura notes is crucial to develop self-efficacy. Therefore, what I see as the initial layer of efficacy that a person should develop from childhood learning experiences was clearly limited from interviewees' accounts. This initial layer of efficacy is what I refer to as *foundational efficacy* and I define it as follows.

> Foundational efficacy is efficacy to learn that develops when self-belief is fostered at an early age by supportive educational and social environments that provide opportunities for all learners to build and gain essential skills, including reading and writing, to progress in life.

My definition of *foundational efficacy* arose from my interpretation of Bandura's work and detailed data analysis where I examined patterns and conceptual relationships in data to determine how and why students' appraisals of self-efficacy and learning engagement differed. Therefore, my view of *foundational efficacy* builds on Bandura's SET by focusing on the origins of a person's

efficacy to learn. In the context of this study, I considered how interviewees' self-efficacy evolved and questioned what preceded Bandura's learning efficacy.

Figure 5.1 illustrates how I see *foundational efficacy* as the initial layer or building block of a person's efficacy that enables learning and precedes Bandura's (1997) learning efficacy, self-regulatory efficacy, and academic self-efficacy.

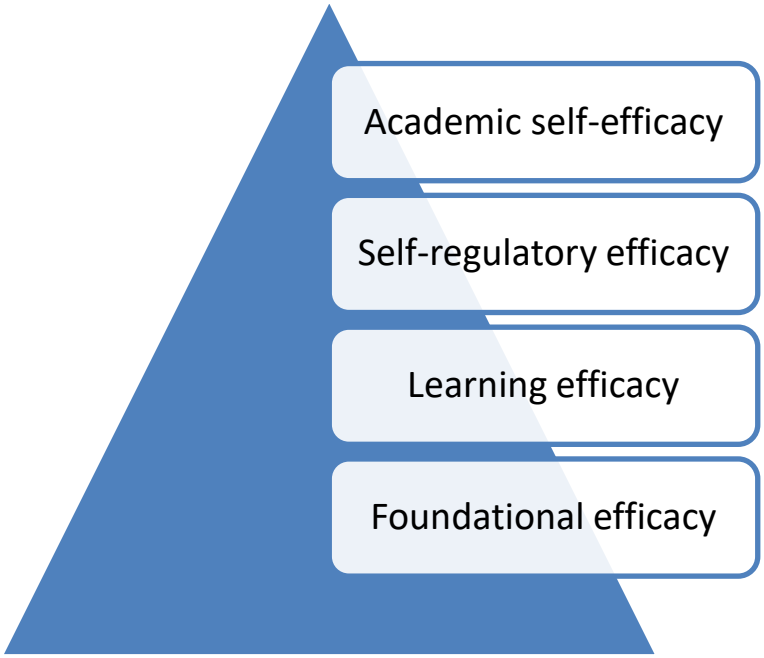

Figure 5.1 Three forms of efficacy that develop academic self-efficacy.

Exploring students' accounts over time and deliberating on their learning experiences led me to develop the notion of *foundational efficacy* which I see as the initial layer of developmental self-efficacy to learn that builds on Bandura's SET (1997). Without *foundational efficacy* at an early stage, this study has shown individuals' abilities to learn were limited.

Learning is governed by one's efficacy, early learning is governed by people, and this leads back to the education system. Lack of support in compulsory education had long-term consequences on interviewees' efficacy to learn and underpinned reactions to diagnosis and learning engagement.

Interviewees described aspects of agency including self-reactiveness, self-regulation and self-reflection. Psychological processes and components of SET were also threaded through interviewees' accounts. Crucially, interviewees' self-appraisals of efficacy were based on personal histories, self-reflection and thoughts about HE support and studies, emotional state post-diagnosis, amongst other factors (figure 5.3), which meant interviewees reached efficacy judgements that hindered learning.

The psychological processes that interviewees described connected to an unresponsive school system and *foundational efficacy* which I believe the findings from this research suggest: (1) *Foundational efficacy* links to lack of support to learn, and notably that lack of support has longer-term consequences on students' perceptions of their ability to learn which was evident in their reactions to diagnosis (4.4.3; 5.5.2). (2) *Foundational efficacy* is the initial building block that precedes learning efficacy whereby students have self-belief in key skills such as literacy. (3) *Foundational efficacy* underpins learning efficacy, self-regulatory efficacy, and academic self-efficacy.

In light of findings, I delved deeper and questioned how self-efficacy, the invisible yet powerful psychological construct Bandura called 'the efficacy force', influenced interviewees' to learn. This led me to re-examine SET in the context of this study.

I also wondered: Why do learning issues related to school endure over time? Why do school-related issues of learning in class re-emerge post-diagnosis at HE? My curiosity brought me back to the construct of self-efficacy where I questioned: (a) What is personal efficacy? (b) How do you build 'learning efficacy'? What precedes it? (c) What happens if self-efficacy is missing in early learning experiences, as in this study? What impact does lack of self-efficacy have on dyslexic students' learning at HE? What is the impact for HE?

Bandura (2023) notes that self-efficacy hinges on individuals acquiring skills and gaining a sense of agency, yet both elements were lacking or limited for interviewees. The fundamental issue of 'lack of support' is repeatedly featured in previous studies along with reported deficits of dyslexic learners (Griffin and

Pollak, 2009), but as Burden (2005) notes this takes us nowhere. In this study, I emphasise that lack of support is an issue created by an education system that puts individuals at risk of (a) not establishing a secure personal foundation to flourish from, and (b) limiting abilities and self-efficacy.

5.2.3 Building self-efficacy to include Foundational efficacy

Academic self-efficacy is the belief someone has in their capabilities to successfully reach required academic standards. But as interviewees in this study reflected, it takes more than belief to learn and succeed within an educational setting. Thoughts, feelings, behaviour and actions also have an influence on academic performance and achievement. Therefore, knowing how to take control, manage and develop learning skills is essential for every student. But realising 'how' one learns best takes time and effort. Consequently, academic efficacy is not realised overnight or generated at will, but I believe the findings from this research suggest that it is constructed over time and underpinned by three additional forms of efficacy (figure 5.1). The base or initial layer of efficacy is what I refer to as *foundational efficacy*, followed by learning efficacy, and self-regulatory efficacy. Figure 5.1 illustrates how the three forms of efficacy (foundational, learning and self-regulatory efficacy) act as building blocks to develop academic self-efficacy.

Foundational efficacy provides the initial building block and refers to the foundations of a person's efficacy where early learning experiences should instil self-belief in key skills, such as literacy and social skills. *Foundational efficacy* therefore precedes Bandura's 'learning efficacy' but as sections 5.3.1 and 5.3.2 explain, lack of support alongside additional factors were barriers to students' efficacy development.

Learning efficacy is what Bandura describes as one's belief to be able to learn and build a sense of agency from an early age. Childhood experiences should, therefore, include learning by observational learning and direct experience. Both processes can offer evidence of capabilities and prove what one can do to make things happen. Bandura's view on the agentic nature of self-efficacy changed from being controlled, acquired and within the individual to needing

others (Bandura, 1997), i.e. focusing on three modes of control. As a result, Bandura refers to learning efficacy relating to (1) Direct control: individuals using personal experience, (2) Proxy: allowing others to act on one's behalf to obtain outcomes required, and (3) Collective self-efficacy: acting as a group to achieve outcomes.

Self-regulatory efficacy combines the subskills produced by prior learning activities to help guide thought processes, motivation, and affective state.

Academic efficacy is multifaceted and influenced by: (1) self-regulatory efficacy to take control of learning activities, (2) social efficacy to seek out support, and (3) beliefs in abilities which can override or undermine confidence levels. Points (1) and (3) assume knowledge and skills are built during formative years, but dyslexic students in my study described a lack of support in the early years of learning. Consequently, this impacted students' (2) social efficacy and made academic efficacy difficult to develop. This reinforces support to learn to enable individuals to develop self-efficacy, or as Pintrich and De Groot (1990:38) describe the 'will and the skill' to grow self-belief.

My rationale for 'foundational efficacy' is that I see it as preceding 'learning efficacy', this forms a slightly different perspective than Bandura who assumes several things are in place. For instance, Bandura (1997:174) presumes most 'children learn and develop in a safe, nurturing environments that allow them to fail, but feel supported enough to try again'.

In the context of this study, interviewees explained that encouragement to learn during childhood in a nurturing educational environment was lacking. Hence, it created shaky foundations to build their self-efficacy on.

Self-efficacy is constructed from four sources: (1) Past accomplishments – Built by success, (2) Vicarious experience – Observing and learning from others and direct experiences, (3) Verbal persuasion – Hearing this in formative years encourages individuals' future potential, and (4) Emotional state – Relates to how dyslexic students interpret how they feel, and what they perceive thoughts or feelings to indicate (i.e. students' reactions to emotional state may prevent progress). It was notable that two sources of efficacy, *past accomplishments*

and *verbal persuasion* were absent from interviewees' accounts of early learning.

5.3 Foundational efficacy: The missing building block?

Nearly all interviewees described two related events. This section begins with event (1) *Lack of support at school*, where failure to respond and provide support for dyslexic difficulties placed limitations on the development of interviewees' self-efficacy. Next, event (2) *Development of self-efficacy* discusses how learning experiences, where interviewees experienced lack of support, played a critical role in limiting the development of their self-efficacy, and this had implications on their abilities to learn. While both events are inextricably linked, I will discuss each separately to provide context and explain how interviewees' experiences are pivotal in how learners do or do not develop foundational efficacy.

5.3.1 Lack of support at school

Nearly all interviewees referred to a lack of support at school and stated they 'struggled' to learn from an early age as dyslexic difficulties were 'dismissed'. Clearly, the process of early identification and intervention to help dyslexic pupils is ineffective as eighty per cent[1] of school-leavers, (which mirrors interviewees' experiences), remain 'unidentified'. The phrase 'unidentified' suggests dyslexic learners go under the radar, whereas almost all interviewees in this study asked for support but were disregarded. Unfortunately, interviewees' negative learning experiences are not unique and recent studies (Griffin and Pollack, 2009; Jacobs et al., 2020) reiterate the need for early support to enable dyslexic pupils to learn, develop abilities and crucially, form self-efficacy (Schunk and DiBenedetto, 2020).

Literature emphasising the importance of support for dyslexic learners has been a constant factor for the past twenty-five years. In 1999, Riddick et al.

[1] All-Party Parliamentary Group for Dyslexia and Other Specific Learning Difficulties (2019)

suggested monitoring the effectiveness of support to aid dyslexic learners' wellbeing. A decade later, Griffin and Pollak (2009:33) reported that 'minimal if any support' occurred in compulsory education. In 2019, interviewees in this study drew the same conclusion about support as Griffin and Pollak (2009). And in 2025, the school system remains incredibly slow to turn around and respond to dyslexic learners, (rather like an oil tanker), as regularly cited barriers including lack of funding and staff expertise, block support and overshadow learning needs and potential futures of dyslexic learners.

The 'unresponsive' school system, governed by political purse strings might be a cost-effective strategy in the short-term, but it has a long-term human cost that is often overlooked by literature, not realised by non-dyslexics, and side-stepped by educational policy that focuses on future SEND 'road maps' that seem to do little to address present inequalities (Department for Education, 2023). The voices of unsupported dyslexic children are seldom heard, but the adult learners at the heart of this study provide food for thought as their experiences of *early identification and intervention* contrast starkly with public perception of the process. Many interviewees stated they did not develop the knowledge, skills and abilities in childhood, and this hindered self-efficacy, and by default impacted their sense of agency, learning efficacy, self-regulatory efficacy, academic self-efficacy, and occupational efficacy. Students' experiences, traced by interview accounts in this study, underscored the time and effort required to regain a lost education.

To summarise, the lack of support at school or more to the point, failing at school, and the negative feelings attached to those experiences were difficult to overcome, and this was particularly evident during interviews. Findings showed implications for lack of support at school extended far beyond school years and had double the consequences. Firstly, the impact on interviewees' self-efficacy during school years had the power to negatively shape their perceptions of ability. Secondly, the impact later in life, when interviewees returned to education and faced the challenge of becoming self-regulated students at HE.

5.3.2 Development of self-efficacy

Findings support previous research that suggests dyslexic students' low self-efficacy beliefs in learning stem from 'negative appraisals at school' and 'failure to achieve across academic subjects' (Stagg et al., 2018:37). While Stagg et al.'s suggestion of school experiences being problematic related to nearly all interviewees, many in this study indicated self-efficacy was more complex. School experiences were indeed one key ingredient that influenced self-efficacy but interviewees referred to additional factors, (including supportive or unsupportive family, and personal ability or inability to learn), that positively or otherwise shaped development of their self-efficacy.

Supportive / Unsupportive family

The impact of dyslexia within families remains under-reported (Livingston et al., 2018; Wilmot et al., 2023), but my findings agreed with Harding et al. (2023) that many parents who requested support from schools to help children's learning were dismissed, in a same way as their children. This reinforced how parental insight that serves as a red flag for learning issues continues to be overlooked, despite recent studies concluding 'most' parents have reasonable knowledge about dyslexia (Famula-Jurczak and Perzanowska, 2023:141).

Interviewees described how parents took matters into their own hands by providing additional learning at home and adopting supportive or unknowingly unsupportive teaching techniques based on their academic abilities. Beth-UG-4 and Dawn-PG-2 described being on the receiving end of parental, non-teacher instruction and how parental misunderstanding of dyslexia resulted in regimented reading and learning after school, which created tension in family relationships.

Literature refers to children and younger adults coping less effectively with undiagnosed learning difficulties (Claassens and Lessing, 2015; Gibby-Leversuch et al., 2021). Beth and Dawn's accounts evidenced this, along with lower self-efficacy to learn as they considered themselves as not as 'clever' (Beth) or 'quick' (Dawn). Yet, despite difficult learning interaction with parents, both stated parental efforts contributed to their development in the long run.

Arguably, if support had been forthcoming from school, Beth and Dawn's development and academic potential might have been greater and realised earlier in life.

Research suggests parents who value education are more likely to spend time educating their children (Bandura, 1997), but findings indicated parental commitments, including work and caring for younger children, caused distractions and hindered support to learn and self-efficacy development for older children, as in the case of Maria-UG-3 and Zara-UG-1 (interviewees). Florence-UG-4 and John-UG-3 (interviewees) also noted cultural and generational differences within families added another layer of difficulty (Gerbauer, et al., 2021).

While a minority of interviewees did not mention parental support, and the omission may be of no consequence (as the interview schedule did not target this topic), it raised questions about dyslexic individuals who lack supportive home networks that offer sources of self-efficacy, such as, *verbal persuasion* to encourage learning when faced with difficulties, or *vicarious experiences* to demonstrate and share ways of learning. Both sources of self-efficacy can provide influential boosts to improve individuals' self-beliefs in learning abilities, but as Linda-UG-1 (interviewee) noted 'not all parents are supportive'. Therefore, support from others, for example, teachers or peers, becomes even more important. Nevertheless, engaging with others and having the necessary social efficacy to reach out and interact can be particularly difficult for dyslexic individuals who have learned to cope independently by masking dyslexic difficulties over time.

Ability/Inability to learn

Feeling 'able' or 'unable' to learn links to a person's cognitive processing and emotional state, and both depend on self-efficacy developed by early academic success or what Bandura (1997) refers to as *performance accomplishments***,** the most influential source of self-efficacy. Performance accomplishments are built by direct experience (i.e. setbacks, perseverance and individuals' abilities to develop complex skills) and academic attainments (i.e. attainments that prove success and one has what it takes to succeed), but many interviewees

lacked performance accomplishments. Little or no experience of early academic success at school meant many interviewees attained few or no qualifications and this impacted formation of their self-efficacy beliefs in learning.

Lack of performance accomplishments indicated many interviewees had not become proficient, self-directed learners. But to become proficient and self-directed, interviewees needed to be equipped with the necessary learning tools, i.e. knowledge, skills and abilities. Furthermore, they could not equip themselves with those learning tools and become self-directed (with the ability to adapt or bounce-back when faced with challenges) without support from others. This brings the focus of student learning and development back to *support* and illustrates how lack of support creates a vicious circle that can trigger low self-efficacy and be difficult to break (figure 5.2). Traces of this vicious circle were evident across both datasets, as (survey) respondents felt 'misunderstood' by others (including teachers in compulsory education) before diagnosis, and only two interviewees referred to teachers sharing learning strategies, which occurred outside of timetabled classes to help develop learning. This supports Woodcock's (2021:123) conclusion that teachers need 'relevant systemic support' to be capable, effective teachers that believe in inclusive education. Yet this study and existing research reinforce the long-term impact ineffective teachers have on students' beliefs. It appears that teachers need support to support the learners, while learners rely on teachers (Ross, 2021).

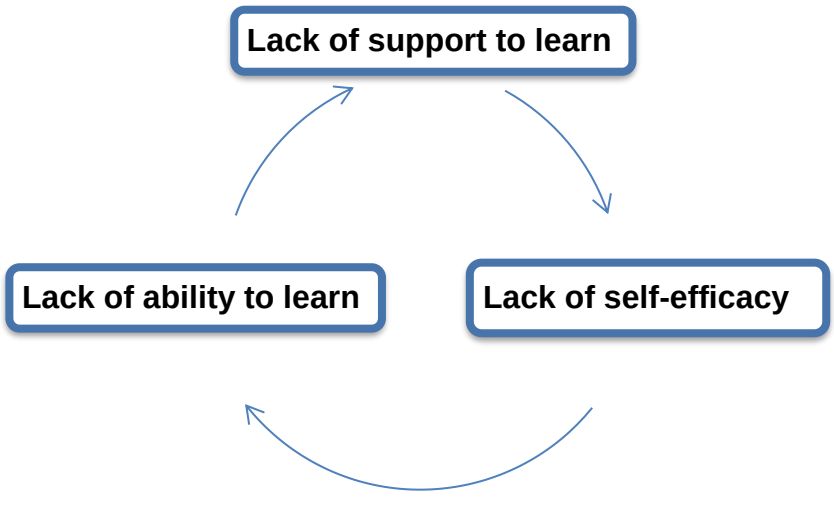

Figure 5.2 Vicious circle of lack of support, self-efficacy and ability to learn.

There are two additional factors which can impact the vicious circle that results in a lack of support (figure 5.2). The first is the pressure on social efficacy and the need of the learner to seek help and interact with others to access support with learning. The second additional factor is the pressure arising from the learner's emotional state which may negatively impact on their capacity to engage with available support.

The social and emotional effects of undiagnosed dyslexic difficulties are well-documented. However, the psychological impact of learning unsupported and feeling 'less academic' (as interviewees often stated) can persist in adult life is less so. The feeling of being 'less' intellectual than others is particularly problematic in UK society, where academic skills are valued and used by the 'more academic' individuals as a passport to progress in life (Cameron and Billington, 2017; Stagg et al., 2018).

Interviewees explained how they developed ways to build self-efficacy and learn in their everyday lives, and their trial-and-error approaches are captured in the subtheme, Coping strategies (4.6.1, G3), which offers a glimpse of the unseen strain that interviewees experienced while trying to blend in, and mirrors Wissell et al.'s (2021) findings. Many interviewees discussed how they returned to education and most studied practical courses to gain much-needed qualifications to enhance career prospects. But despite juggling commitments, working hard and achieving vocational qualifications, findings showed students played down their educational success, as Maria-UG-3 reflected.

> … I didn't stick with education but I've done a lot … all practical stuff that has counted towards UCAS but then got me here. (Maria-UG-3)

In common with Gibby-Leversuch et al.'s review (2021), this study indicated a link between students' self-perceptions as learners and how they attributed successes. Gibby-Leversuch et al (2021:5608) suggests dyslexic individuals are at 'greater risk' of not recognising positive performances, and findings in this study agree and add to research focused on attribution styles.

Completing a vocational course is one factor suggested by several studies (Hellendoorn and Ruijssenaars, 2000) that can potentially help dyslexic individuals to achieve. Supportive staff and learning environments are also vital (Bacon and Bennett, 2013) to enable individuals to develop metacognitive strategies, feel in control of learning, and positively impact self-efficacy. But as Stephen-PG-2 (interviewee) stated, vocational courses are not a solution for every dyslexic learner. A drawback of vocational courses is the lack of emphasis on writing skills (Sumner and Connelly, 2020), which is essential for many HE courses.

This study builds on Brunswick and Bargary's (2020) research as findings reinforced the link between interviewees' low self-efficacy and lack of support to learn. Brunswick and Bargary refer to 'appropriate support' for dyslexic students and this study underscored how appropriate support can increase students' self-efficacy.

5.4 Experience and process of diagnosis

5.4.1 The real cost of testing

Findings indicated 18% of participants were diagnosed at FE prior to university. However, it is reasonable to suggest that some of the 18% might have been tested, as interviewees noted they only understood the difference between 'tested' and 'diagnosed' after both events had occurred. This illustrates how confusing the system is and the misunderstanding that surrounds being tested at FE and diagnosed at HE. In essence, tests are not 'full' tests designed to identify SpLDs (including dyslexia), as only diagnostic dyslexia assessments conducted by specialist assessors can do this (BDA, 2024a). Instead, tests are used to gauge learning difficulties experienced by individuals so adjustments can be made. I emphasise this point as many non-dyslexics (including myself before this study) remain unaware that 'being tested' is very different to 'being diagnosed'. Critically, this study found being tested resulted in few (if any) benefits for dyslexic students, which reinforced and magnified the learning gap left by compulsory education and further exacerbated students' lack of prior foundational efficacy.

Findings found that students tested at FE were given little or no information about the testing process or the result. Post-test support was minimal if any, and ‘extra time’ for assessments was granted as the go-to ‘fix’. Interviewees reflected on extra time as a token gesture, something arranged ‘just before’ exams which helped a minority who had the necessary skills. For many, extra time only served to increase anxiety and ignored opportunities for learning development. Notably, if testing was conducted purely to sanction extra time, as interviewees explained, it was questionable. Moreover, it sends a message that endorses a one-size-fits-all solution when individuals’ learning requirements clearly differ. Interviewees pointed to ‘cost’ as the rationale, but how ‘cost effective’ is it genuinely in the long-term? For the person, society, the economy? I can still hear Zara’s (interviewee) words that highlighted wider implications as she expressed how testing disregarded moral and legal obligations.

> ‘They didn’t give me anything … even though they knew I had a visual problem’. [Zara-UG-1]

Finkelstein (1980), Oliver (1983) and Barnes (1991) were amongst early campaigners who influenced society’s understanding of disablement. Yet, current understanding in educational institutions seems to have diminished, as funding not people become the focus, a point also made by Ryan (2012). Hence, like the students in this study, many more dyslexic students will be subject to educational cost-saving measures and are likely to face being ‘dismissed’ at school, ‘fixed’ with extra time at FE, and passed along (like the proverbial [educational] hot potato) to HE where learning issues hopefully get resolved, while students try to rebuild self-efficacy beliefs in learning. The issue with this chain of events is the end link: HE, as the sector’s teaching, learning and wellbeing support for students varies between universities, and differs from FE and compulsory education. Variation in provision is problematic for dyslexic students who do not receive the academic and/or personal support they require or expect based on previous educational experiences (OfS, 2025).

While many dyslexic students are diagnosed at HE so they can access government-funded DSA support (see 5.5), the study-related support that

follows (for those who pursue it) is not a substitute for HE teaching and learning. To reach a level playing field where many students' needs can be met, HE needs to foster inclusive design and practice to create inclusive learning environments. The DSC (2024) provides evidence of universities working together to improve support and transition for disabled students. Hopefully those initiatives and similar efforts will help HE to move further towards inclusivity.

5.4.2 HE Expectations of support: More of the same?

Many interviewees were unprepared for HE and indicated varying levels of uncertainty. Support experiences at school and FE (which were predominantly negative for many) shaped interviewees perceptions of HE and divided expectations. While most 'hoped' a tutor would help with learning, others 'didn't know' what to expect. A similar pattern of mixed expectations was evident in survey data (where around half of respondents felt they could 'live up to their own expectations as a student'), but interviewees conveyed self-doubt was reinforced by multiple factors, including prior educational experience, diagnosis and social support.

Overall, interviewees' expectations of HE support could have been more realistic if NU had communicated course information in a more transparent way. The fact that communication was unclear added to students' uncertainty or raised expectations. For instance, Stephen-PG-2's course interview positioned expectations firmly on Stephen's shoulders, as the lecturer advised: 'If you put the work in, you'll get through'. Whereas David-UG-1 mentioned dyslexia to lecturers and was informed: 'We can give you the support'. While both statements might be true, there are expectations and responsibilities that universities and students need to meet. There are also benefits of universities being clear about course demands and stating commitments from the outset to clarify expectations and enable individuals to make informed decisions, including support to learn where required (Murphy, 2011; Tobias-Green, 2014). Transition to HE can be stressful and Neal (2021) refers to pre-entry summer schools as one way of familiarising students with HE services.

In David's case, staff's agreement to provide support without understanding his needs was likely well-intentioned but careless. David could have over-estimated support from NU staff and not pursued DSA-related support which would have been detrimental to his development. What 'support' means to one person can mean more or less to another. Likewise, how dyslexia affects learning is unique to each person and, therefore, cannot be fully understood from a brief conversation.

5.5 The problem with diagnosis and labelling

Nearly half of survey respondents (n=26 of 55) were diagnosed at university, and most interviewees (n=12 of 17) booked diagnostic assessments in their first year of study as they suspected they were dyslexic, recognised they faced barriers to learning, and wanted support to succeed. Hence, interviewees actively sought diagnosis in contrast to literature that depicts late diagnosis as a failure of students' coping strategies (Haft et al., 2016; van Viersen et al., 2016). Consequently, many interviewees were diagnosed late in adulthood, in their twenties or thirties, as they were aware there was no option but to be diagnosed if they wanted access to HE support.

Diagnosis was, therefore, a hoop that dyslexic students had to jump through to access HE support and be treated inclusively. Without evidence of dyslexia, HE support was not guaranteed, even if additional support was previously provided at school or FE. A minority of interviewees were surprised by HE support arrangements and this highlights why universities should clearly state what support they offer and how to access it. Furthermore, universities should consider how they can be more inclusive by considering dyslexic students who do not wish to be diagnosed and labelled to access DSA-related study support.

Linda-UG-1 (interviewee) was tested at school and FE for learning difficulties and diagnosed at HE with dyslexia and another unexpected condition. Fortunately, Linda had support post-diagnosis to deal with two diagnoses, but this is often overlooked and has implications for student wellbeing, especially for those who lack support networks.

While signposting dyslexic students to diagnostic assessments and external support is a straightforward solution for HE, albeit indicative of the medical model, the reality is somewhat different for those students faced with the ultimatum of either being: (a) diagnosed and eligible to access HE support, or (b) undiagnosed and potentially unsupported. Either way, the decision was difficult as interviewees explained how they deliberated the pros and cons of diagnosis and wondered if accessing support would outweigh the impact of the dyslexic label.

Literature commonly focuses on negative emotional experiences post-diagnosis (Bazen et al., 2022; Livingston et al., 2018; Young Kong, 2012) but little research explores students' reasoning beforehand to better understand why diagnosis is an obstacle to gaining HE support and consequently avoided. I therefore use Florence's account to illustrate how negative perceptions of the dyslexic label can hinder coping and learning abilities.

Florence's account - Florence was tested for dyslexia in the second year at HE but delayed diagnostic assessment until the final year, due to concerns about the dyslexic label and others' perceptions. While it would be easy to criticise NU for not following up Florence's test, the ratio of disability advisors (DAs) to students would not have helped matters. Borkin (2023:5) reports the 'operational challenges' of HE disability services who feel 'overwhelmed' as on average each DA has 500+ students. So it is understandable how students can remain undiagnosed. But even so, overstretched HE frontline services have psychological and emotional implications for dyslexic students (and HE staff, but my focus is the former), which raises serious questions about support as the Office for Students (OfS) (2023) revaluates universities' access and participation plans (APPs).

Florence recalled a 'vicious cycle' of studying hard and negative emotions about the dyslexic label that prevented diagnosis and seeking support, like Meg in Cornwell and Shaw's (2023) study. But unlike Meg, Florence did not have a private tutor or expect her family to comprehend dyslexia. To summarise, Florence's circumstances were complex as dyslexic difficulties intersected with African culture. Additionally, Florence was the first person in her family to attend

HE and bearing the weight of those expectations added further dimensions to the intersections of dyslexia and cultural background that usually go unheard and unseen. It is fair to say that Florence's experiences are less understood and expressed in dyslexia literature (Cameron and Greenland, 2021).

Given Florence's educational history where success did not come easily, *foundational efficacy* was limited, as was agency. Florence attributed academic achievement at FE to 'good teachers' who structured teaching and learning. Therefore, dyslexic difficulties and memory issues were aided by the cumulative approach of 'chunking' information to build knowledge and skills gradually. The switch from FE to HE, where teaching and learning was less structured, and arguably less inclusive as self-directed learning is expected, proved to be challenging for Florence. She perceived difficulties with HE studies to indicate personal flaws, rather than gaps in her learning abilities that needed to be enhanced. Negative self-appraisal of academic ability triggered Florence's concerns about what 'others' might think and the added pressure of family expectations compounded issues. A combination of faulty self-appraisal drew on fear and social comparison and prevented Florence from requesting support from others and pursuing diagnosis. Moreover, the psychological pressure which Florence endured before giving in to diagnosis was concerning. Florence's situation raises the question: If Florence had 'good teachers' at HE (like those who enabled her progress at FE) would there have been a need for diagnosis and the dyslexic label? This reignites discussion about: HE lecturers, dyslexia training, and inclusive practice benefitting all students.

5.5.1 Moving from diagnosis to self-appraisal to learning

Figure 5.3 provides a visual representation of students' reactions to diagnosis and multiple factors that influenced their appraisals of self-efficacy to learn at university. While figure 5.3 presents a linear overview of students' thinking, (which was challenging to formulate given students' unique experiences), their self-appraisals of learning abilities were far from straightforward. Interviewees revealed their efficacy to learn at university was heavily influenced by past educational experiences; the process and experience of diagnosis; self-regulatory thought processes (including existing knowledge and skills); family

and social networks; and crucially, sources of HE support. To summarise, the different threads running through interviewees' lives impacted thoughts and judgements about their academic capabilities and played a major role in learning engagement. The complexities behind interviewees' thoughts and actions are unravelled in the following subsections.

5.5.2 Reactions to diagnosis: Factors that influenced students' reactions

The experience and process of diagnosis was affected by students' prior foundational efficacy and beliefs about learning. RTA generated three reactions to a diagnosis of dyslexia, students who felt: *'relieved', 'unsettled', or 'justified by the label'* (i.e. those who felt being diagnosed and labelled was the only way to obtain appropriate support and signal to others they learned differently).

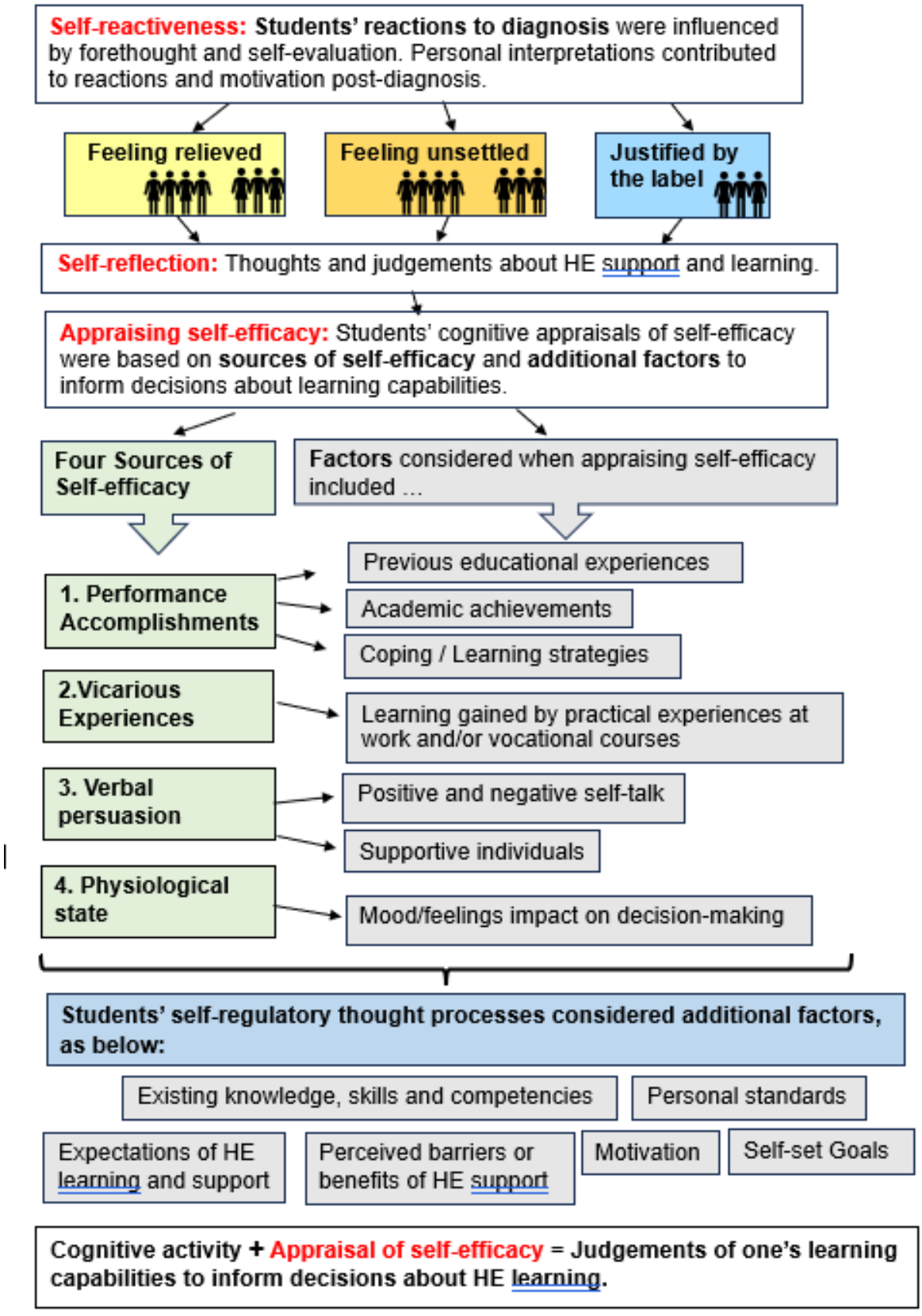

Figure 5.3: Students' reactions to diagnosis and appraisals of self-efficacy

‘Time’ was a factor that influenced participants’ reactions, as most undergraduates diagnosed 0-2yrs ago felt ‘*unsettled’*, while most postgraduates diagnosed 7yrs ago or longer felt ‘*relieved’*.

‘Level of study’ also appeared to be an additional factor that influenced reactions to diagnosis, as postgraduates with prior HE experiences reported consistently higher self-efficacy scores than undergraduates. This finding relates to Bandura's (2023) assertion that the most effective source of self-efficacy is performance accomplishments.

Few studies have used RTA and placed students on a continuum to illustrate reactions to diagnosis. However, Evans (2013) thematically analysed and observed that students' reactions to diagnosis mirrored their own personal constructs of dyslexia. For example, those who Evans categorised as ‘embracers’, (i.e. those who felt positive about their dyslexic identity) proactively engaged with support. While Evans’ observations applied to some interviewees in my study, I observed that personal constructs do not always lead to the associated actions one might expect. For instance, *feeling unsettled* after diagnosis can positively influence learning development (see 5.5.4).

Regardless of reaction to diagnosis: *relieved*, *unsettled*, or *justified by the label*, all interviewees described how they developed learning strategies. But the extent of learning that took place differed, as each interviewee’s development was influenced by their (a) self-belief about their ability to learn (which for some linked back to their origins of learning and foundational efficacy), and this in turn influenced (b) their ability to engage with the nature of HE support on offer. Notably, Dawn-PG-2 (interviewee) reflected that time to process the diagnosis helped, as she was more likely to engage with a range of HE support than when she was first diagnosed.

The following sections Learning to learn (5.5.3); Learning to adapt (5.5.4); Learning to unlearn (5.5.5) offer insight into the thinking behind interviewees’ reactions post-diagnosis.

Young Kong (2012) refers to participants passing through 'stages' of acceptance after diagnosis, but it was notable that Young Kong's participants

were recently diagnosed (three years was the longest period since diagnosis). In contrast, my study included students diagnosed at various points in time, and findings illustrate how time shaped students' reactions (table 4.8), but there was not a set list of 'stages' to go through. Zack-PG-3 (interviewee) explained how it took years of feeling angry, disappointed, coping in various jobs, dealing with a rollercoaster of feelings, before he could "let it [the late diagnosis of dyslexia] go" and move on with life.

My study builds on existing studies (Young Kong, 2012; Evans, 2013; Stagg et al., 2018) but goes further, as I traced interviewees' reactions to diagnosis through to learning strategies to establish how reactions influenced students' engagement with HE learning. The following subsections 5.5.3 to 5.5.5 briefly explain.

5.5.3 Learning to learn: 'relieved'

It was interesting that Beth-UG-4 who felt *relieved* post-diagnosis developed the fewest learning strategies out of all the interviewees. However, this was due to Beth feeling she had the necessary skills, hence development was limited. This illustrates the connection between self-efficacy beliefs and learning development.

5.5.4 Learning to adapt: 'unsettled'

Interviewees, including Zara-UG-1, described how they used the feeling of being '*unsettled'* post-diagnosis as a motivating factor to push ahead and try. In other words, this was regulatory emotional self-efficacy in action, as students developed learning strategies while trying to keep a tight rein on how they felt. Therefore, some students were able to interpret bodily feelings as 'good stress' where they adopted a nothing to lose attitude. However, this was not the case for all as Florence-UG-4's account indicated (5.5).

5.5.5 Learning to unlearn: 'justified by the label'

The long-term repercussions of learning unsupported on students' reactions to diagnosis and perceptions of ability were particularly evident for three

interviewees (Anna-UG-2, David-UG-1 and Zack-PG-3) who felt 'justified by the label'. All three experienced segregation at school due to learning issues, and all used different coping strategies, including 'zoning out' (David), 'misbehaving' (Zack) or 'just trying' (Anna), to survive the enforced environment where there was little evidence of inclusive practice to encourage learning and develop foundational efficacy. Anna, David and Zack gave powerful accounts of their educational experiences which enabled me to gain some understanding of what it was like to be undiagnosed and trying to learn in the twentieth and twenty-first century, where it appears little progress has been made. Interviewees' explanations of being individualised by society connected in some ways to Barnes' account of personal learning experiences (Barnes, 1991;2022).

All three interviewees blamed the education system for their failings and this meant engagement with HE support to develop learning was problematic. Trust from earlier educational experiences had shattered students' self-beliefs in learning, and coping strategies were entrenched providing a layer of self-protection which acted like a hard shell. The psychological impact created emotional baggage that created barriers to learning.

Although Anna, David and Zack presented themselves confidently, they admitted they could not easily step out of their comfort zone and this related to past difficulties, i.e. learning without support and the lack of foundational efficacy generated. The effort to 'unlearn' coping strategies was a huge barrier, a point Brew (2000) highlights, and lecturers almost needed a Goldilocks approach to support. In other words: not too much support, not too little support, it needed to be just right, to make students feel supported but independent at the same time.

5.5.6 Emotional state

Findings found students' *emotional state* post-diagnosis, (rather than *past accomplishments* that Bandura considers the main source of self-efficacy), was a key factor in focusing their academic performance. Students addressed the emotional impact of diagnosis by researching and reflecting on what dyslexia meant for them. Also, most engaged with social networks to feel supported and

in a position to be able to learn. My findings show that emotional state and social efficacy play a role in developing students' learning.

5.6 Higher Education support

5.6.1 Developing learning with a range of technologies

An unexpected finding related to almost all (n=15) interviewees was how they developed new learning strategies using a variety of technologies. This was surprising as 2 out of 59 survey respondents indicated they used 'assistive technology' as a 'main learning strategy', while interviewees expressed differing abilities to manage technologies.

Bandura (2002:44) notes how a 'human face' boosts the power of technology, but with around eight hours of training provided to students who apply and receive DSA-related technologies, there is limited time to gain awareness, use technologies comprehensively, and understand the benefits that learning new technologies might generate. This meant interviewees were required to invest time, above and beyond training hours, whilst exercising self-regulatory efficacy to explore technologies in a trial-and-error fashion. The additional pressure to learn new technologies alongside HE studies was difficult for some interviewees given their previous educational experiences (where building blocks to learning development were problematic), and recent diagnosis. Hence, two interviewees chose not to engage with DSA-related technologies due to lack of familiarity with technologies, and emotional state (due to being newly diagnosed).

Feeling unfamiliar with technologies or unable to engage due to emotional state links to self-perceptions of academic capabilities. In this context, interviewees' lack of efficacy fuelled beliefs of inability, which in turn decreased the agency needed to engage with technologies (Bandura, 1997; Jacobs et al., 2020). How students feel is therefore key to learning. Alessandri et al. (2023) refer to *regulatory emotional self-efficacy* (RESE) and how individuals control negative emotions. Alessandri et al. question if negative reactions signal support is required to aid 'psychological' and/or 'self-regulatory' development. In the

context of this study, I can only speculate but it is possible that with the offer of support, one or both interviewees may have changed their outlook on technologies. Dawn-PG-2 (interviewee) noted she was open to using new technologies as a postgraduate but not when diagnosed as an undergraduate. Dawn's example underlines how time, emotional stability and openness connects to increased self-efficacy which helps academic performance (Stajkovic et al., 2018). Interviewees' accounts therefore have implications for HE support, as newly diagnosed students are at risk of disengaging and potentially losing out on developmental opportunities. While it is easy to say to dyslexic students, try out new software before you get to HE, it is a chicken and egg situation. Students will not know what they need to know in advance. Furthermore, technologies that are not used regularly become difficult to navigate. HE does not offer a list of practical IT skills you need as a student, but it assumes new students will have some level of technical ability and this makes it problematic for those who lack technical skills and do not easily engage with technologies and/or DSA-related support.

As interviewees indicated, a lack of technology incorporated within the compulsory education system meant students were unprepared (Deacon et al., 2022). Nevertheless, interviewees discovered the following benefits from engaging with a range of technologies.

Spellcheckers were used by most students to aid writing accuracy, but Mossige et al. (2023) found spellcheckers can also disrupt dyslexic students' writing flow. Mossige et al. suggested future studies should examine whether dyslexic students devise strategies to get around this. In my study, Emma-UG-1 shared her use of a spellchecker by referring to it as her 'best friend' and explained that she switched spellchecker off to write undisturbed and avoid corrective lines appearing on screen. Emma only switched spellchecker on when writing was completed. She did not have access to DSA-related support due to issues with her application, but she proactively made use of built-in software. Although all dyslexic students may not possess Emma's ability to navigate software, perhaps built-in software may provide a solution and plug the gap, in part, for those unable to access DSA-related technologies.

Speech to text (STT) software helped with the fluency of interviewees' writing, but they referred to planning and structuring writing beforehand with the aid of SSTs. As with any software, STT software needs training and thought prior to use to enable dictation and punctuation to happen, simply handing over technology will not create a learner (Smith-Spark et al. 2023).

Audio resources: recordings and audiobooks were bought by two interviewees and this highlights how a range of resources can help all students to learn. While e-books on universities' virtual learning environments (VLEs) usually provide a facility to read aloud, students might not be aware of this function which might have provided an alternative option for some students.

Audiobooks take the pressure off reading, enable focus and are available from universities, however, they can be limited for some subject areas. Interviewees' comments have implications for module reading lists which could be more diverse and embed a wider range of resources to enable all students (Alsobi et al., 2015).

Watching lecture recordings was noted as a learning strategy by many survey respondents. However, interviewees stated not all lecturers provided recordings and they consistently commented how important this was for revisiting and understanding points communicated in lectures. Learning by watching lectures and absorbing information is one way students learn and is part of self-regulation. Yet accessing lecture recordings continues to be problematic. Nearly all students referred to taking notes in class which means they will have missed some information, as no student can take notes and fully absorb lectures.

5.6.2 Developing writing skills with support

While 14 interviewees referred to Specialist Study Skills Tutors (SSTs) helping them to develop writing skills, 8 referred to lecturers. Interviewees described engagement with SSTs as 'valuable' as they developed learning strategies in various ways, including discussion (where they felt free to articulate ideas with their SST); learning from contextual examples (i.e. learning linked to pieces of

writing produced by students); and by following steps to plan, research, structure and proofread writing. Personalised learning plans and time spent with SSTs appeared to alleviate pressure on dyslexic students' cognitive processing and avoid information overload. Interviewees mentioned concentration difficulties but explained how one-to-one support from SSTs meant they could interact with someone who understood dyslexia and could help them to learn effectively. Importantly, support from SSTs assisted interviewees to learn and realise 'how' they learned as capabilities and self-efficacy beliefs to learn increased for many students, along with motivation or a 'feeling of progress' as Clare-PG-3 (interviewee) noted. Interviewees reflected on the trust and rapport built with SSTs which was crucial, as SSTs were the only point of contact for some students, such as Stephen-PG-2, where learning issues could be aired in a safe environment without fear of judgement.

Yet SSTs did not appear to be valued by NU, as few rooms were allocated to support their role. In essence, SSTs were viewed as external support, outside NU's domain and this view filtered through to interviewees and was evident in what they saw and heard. For instance, one-to-one sessions with SSTs were sometimes held in rooms off the beaten track or in public areas, this made interviewees feel less important, and more to the point uncomfortable, which hindered learning. A few interviewees referred to lecturers stating that SSTs were 'only there' to check spelling and grammar which misinformed students about the role of SSTs and undermined the impact of SSTs expertise. The incorrect view of SSTs being 'spelling and grammar checkers' was met with disappointment by some interviewees who reported this did not happen in their one-to-one sessions. But perhaps more worryingly, was the implication for those students who forfeited developmental opportunities by not engaging with SSTs based on others' misconceptions. Sadly, it seems the 'glass wall' between the worlds of support and academia is still standing, long after Mortimore and Crozier (2006) identified it.

Interviewees who received writing support from lecturers admitted it was difficult to ask for help. Interviewees' negative perceptions of their learning capabilities, combined with a new diagnosis of dyslexia, formed overwhelming obstacles for

some students to seek support. Students who asked for help benefited from small writing groups and/or one-to-one sessions with lecturers where steps and scaffolding to learn were provided.

In Beth's case, telling lecturers about the dyslexic label provided leverage, as lecturers responded with one-to-one support sessions and 'went out of their way' to help. However, Beth-UG-4 observed that non-dyslexic peers did not receive the same treatment. While lecturers' efforts were commendable their actions raise questions about the fairness of the HE support. It appears the 'labelled' tip the scales as they are covered by the Equality Act (2010), whereas 'the unlabelled' who might be dyslexic remain hidden and unsupported.

Conversely, Grace asked her personal tutor for help after being diagnosed as dyslexic in the first year. The tutor advised they did not know what to do. Assistance and understanding for newly diagnosed students and those awaiting DSA-related support is crucial. Yet a lack of dyslexia awareness endures in HE, highlighting the need for continuing professional development for HE staff. Grace's words convey food for thought and express what should happen.

> 'It's like first aid, every tutor should know [about dyslexia] … someone at some point is going to have to know about how to deal with [a student] with dyslexia, aren't they? There are so many of us! [Grace-UG-2]

For Emma-UG-1 and Maria-UG-3, SSTs were not assigned when they started university due to DSA issues, therefore, both studied independently. Although this decision could be viewed as detrimental to their progression, Emma and Maria had persevered with studies to gain qualifications to enter university. Therefore, self-belief in academic capabilities were evident which seemed to propel efforts. This linked to learning strategies Emma developed courtesy of her father's teaching experience, and Maria's tenacity to obtain a range of online qualifications.

Some interviewees shared an interesting observation about lecturers. One interviewee discussed 'teachers that teach', and suggested lecturers who effectively assisted them seemed to be dyslexic. Therefore, dyslexic lecturers broke down assignment questions, explained how to structure work, and gave

clear instructions. Interviewees also expressed that those lecturers who presented a holistic overview of a topic, i.e. introduced theory, displayed mind maps or images to convey information, and linked module content to real-life scenarios in a narrative, anecdotal fashion enabled them to remain engaged. This approach to teaching connects with research that indicates dyslexic students prefer to learn in a non-linear, multisensory and visual way that provides a helicopter view of learning.

5.7 Conclusion

This chapter discussed three key findings which are summarised below with related conclusions.

Key finding 1) Previous education experience and lack of support impacted on the formation of students' foundational efficacy and had implications for HE learning.

An unresponsive school system failed to provide support for almost all interviewees. Many achieved few or no qualifications which had a longer-term impact on self-efficacy beliefs regarding further learning and employment decisions. Hence, lack of support at school impacted learning, limited development of foundational efficacy, and affected abilities to learn in later life.

At FE, the educational experience of school was repeated as many remained unsupported. While most were tested at FE and granted 'extra time' as a 'fix' this inaction failed to address learning development and build self-efficacy beliefs in learning.

To summarise, school and FE systems passed the responsibility of developing students' learning over to HE. This placed pressure on participants as many felt uncertain about HE support. Furthermore, the HE sector's teaching, learning and wellbeing support for students varies between universities, and differs from FE and compulsory education. Variation in provision was problematic, for instance, for those students 'expecting' support based on previous educational experiences.

Key finding 2) The experience and process of diagnosis was affected by students' prior foundational efficacy and self-beliefs.

The vicious cycle of lack of support, lack of self-efficacy, and lack of ability to learn, experienced by participants at school and FE made learning challenging. Many adopted coping strategies, and for some those strategies were difficult to switch off.

Almost half of survey respondents (n=26 of 56) were diagnosed at HE as they wanted support to learn. Diagnosis resulted in three reactions, students who felt '*relieved'*, '*unsettled'* or '*justified by the label'*. But the extent of learning strategies students developed post-diagnosis differed. Interviewees explained their development was influenced by a range of factors that bolstered or hindered their self-efficacy to learn. Factors included emotional state and capacity to engage with HE support; self-perception of learning abilities; social efficacy to seek help and interact; time of diagnosis; prior HE experience; level of study (UG or PG); influence of family; and efficacy of staff to support and teach.

Key factors that positively enabled interviewees to development skills and build self-efficacy beliefs in learning appeared to be: Engagement with HE support to learn; Social efficacy to seek help from lecturers/others; Time to process diagnosis; Prior HE experience; Stability of emotional state to enable learning.

Key finding 3) Sources of HE Support - As a result of diagnosis, students' capacity to engage with learning strategies offered by HE was affected, but a range of technologies enabled nearly all (15) students to develop learning strategies, and support from SSTs helped 14 students develop writing strategies.

Nearly all interviewees used a range of technologies to develop grammar, spelling, reading and writing skills, aid concentration and memory, amongst other benefits. Although self-directed learning was required to navigate technologies, interviewees asked SSTs and lecturers for help and this reinforced the importance of social efficacy. Barriers to engaging with technologies connected to emotional state (i.e. what/how students thought and

felt), interviewees referred to a lack of familiarity with a range of technologies and unstable emotional state due to being newly diagnosed.

Learning with SSTs in one-to-one sessions, and lecturers in small groups or one-to-one sessions, away from class gave interviewees steps to learning and an understanding of how they learned. Interviewees without SSTs required social efficacy to self-advocate, which was problematic for some, as illustrated in Florence's case (5.5).

Notably, SSTs and lecturers who demonstrated skills (including scaffolding, offering visual overviews and contextualising examples) to promote students' understanding and awareness of how they learn to build metacognition were recognised and appreciated by interviewees. To summarise, inclusive teaching approaches and HE support that makes a difference to dyslexic students' lives and learning will benefit other students too.

Chapter 6: Conclusion

6.1 Introduction

This conclusion starts by revisiting the research questions (6.2), stating my original contribution to knowledge (6.3), and providing suggestions for further research (6.4). Additionally, this chapter includes a short personal reflection on the research journey (6.5), an acknowledgement of the limitations of the study (6.6), and a conclusion to the overall study (6.7).

6.2 Research questions revisited

The discussion chapter 5 explored thematically a series of issues emerging from the research. In the next section (6.2.1), I revisit the three research questions and provide the answers.

6.2.1 RQ1: What influence does a diagnosis of dyslexia have on university students' self-efficacy and engagement with learning?

At the start of this study, I naively thought students would have established a reasonable level of self-efficacy as they had achieved places at university. However, this study found almost all interviewees lacked support at school for dyslexic difficulties which subsequently limited the formation of what I describe as their *foundational efficacy* and hindered learning capabilities. This formed a vicious circle of lack of support, lack of self-efficacy, and lack of ability to learn (as shown in figure 5.2). Moreover, those early educational and sometimes life experiences had a longer-term impact on students' self-efficacy. Student interviews also revealed how a further lack of support at FE compounded matters and inhibited students' self-efficacy.

This study showed how participants' reactions to diagnosis generated three broad categories, those who felt (1) '*relieved'* (2) '*unsettled'*, or (3) '*justified by the label'* (i.e. the dyslexic label provided an official explanation of how they learned and enabled them access to support). Yet, participants' reactions did not always reflect the associated engagement with learning one might expect. A range of educational and personal factors, (including previous educational experience, influence of family and support, and positive/negative self-talk

about the dyslexic label [see figure 5.3]), triggered participants' reflections and self-appraisals post-diagnosis, which in turn hindered or bolstered their self-efficacy and influenced engagement with learning.

For example, participants who felt *'justified by the label'* wanted the dyslexic label to gain understanding from others and access HE support to learn, as participants had experienced difficult educational experiences where inclusive environments were missing. The '*justified by the label'* group's lack of efficacy appeared to serve as self-protection. Entrenched coping strategies made it difficult for those students to adapt, step out of their comfort zone, and openly engage with learning. Conversely, many participants who felt '*unsettled*' used their negative emotional state as a driver to engage, adapt and learn. While those who felt '*relieved*' reflected on their abilities, which influenced engagement with learning.

6.2.2 RQ2. How does the timing of a diagnosis of dyslexia impact on students' perceived academic self-efficacy and influence their self-regulated learning strategies?

Being diagnosed was not a choice for many students, it was an obstacle they had to negotiate to access HE support. Often the timing of diagnosis was imposed, but students dealt with it in various ways by reacting, reflecting and re-appraising their abilities (see 4.4.3). Notably, students with positive self-perceptions of academic self-efficacy post-diagnosis were postgraduates with previous HE experiences, as they had built self-efficacy and had HE skills to draw on. Interestingly, a minority of undergraduates informed of post-diagnosis HE support expressed positive expectations of building their academic self-efficacy skills and related capabilities. In contrast, many students felt uncertain and doubted their learning capabilities, which had been affected by a lack of support and limited self-efficacy.

This study indicated a link between the time of diagnosis and students' emotional state, which influenced self-regulatory thought processes and beliefs about learning (figure 5.3 and section 5.5.2).

Those closest to diagnosis (0-2yrs) appeared to feel '*unsettled*', but this negativity seemed to be channelled into engagement with HE learning, as many acknowledged self-set goals they wished to achieve to improve career prospects.

It, therefore, appeared that the relationship between the time of diagnosis and emotional state influenced students' perceptions and thoughts about what they could or could not achieve at HE. Despite having developed coping strategies, many students found themselves questioning their ability following diagnosis.

6.2.3 RQ3. How does diagnosis and HE support influence students to develop or adapt their learning strategies?

Post-diagnosis, many students accessed DSA-related support and technology, and nearly all developed new or additional learning strategies as a result of using a range of technologies. Students' perceptions of technology before and after use contrasted, and this was surprising as technology changed from being a burden to a resource that enabled learning. However, a positive response was not universal. For two students, their emotional state after diagnosis created a barrier as they did not have the capacity to engage and learn new learning technologies. Reflecting on survey and interview data, timing of diagnosis and reactions to diagnosis affected students' perceptions of ability and constrained performance, but as figure 5.3 illustrates, multiple factors beyond diagnosis affected students' self-efficacy.

Specialist Study Skills Tutors (SSTs), accessed via DSA, were considered invaluable by many students. One-to-one sessions where steps to learning were shared by SSTs helped students to become aware of their own learning processes, enabling students to develop self-regulatory skills and build academic self-efficacy.

Interviewees explained the difficulties of approaching HE staff for help. Nevertheless, those without DSA support did so, sometimes with hesitancy that was detrimental to progress. This highlights the lack of social efficacy evident in most interviewees' accounts. Learning strategies that interviewees reported developing with staff, seemed to be developed outside of lecture times where

learning took place in small groups or one-to-one sessions. This raises questions about those students who do not ask for help and what more could be done within lectures to enable dyslexic students, and all students, to adapt and develop skills.

6.3 Original contribution of this study

The original contribution of this study is what I refer to as *foundational efficacy.* My view of *foundational efficacy* arose from my interpretation of Bandura's work and detailed analysis in this study. *Foundational efficacy*, therefore, builds on Bandura's SET (1997) and addresses a gap in the literature, as it considers the origins of a person's efficacy and offers an explanation of what it takes for self-efficacy to arise in a dyslexic individual. I see *foundational efficacy* as a pre-requisite to Bandura's (1997) learning efficacy.

In addition to Bandura's (1997) four sources of efficacy, Maddux (2016) posited *imaginal efficacy* while *regulatory emotional self-efficacy* has been investigated by Alessandri et al. (2023) and Won et al. (2023). Therefore, the construct of self-efficacy still requires further research as it is still not fully understood. My contribution highlights how learning requires *foundational efficacy* before it is possible to build Bandura's self-efficacy.

Whilst the study focused on students in HE, this study has generated recommendations for two broad audiences, firstly, recommendations for schools and further education colleges, and secondly, higher education institutions.

6.3.1 Recommendations for Schools / Further Education

a. Dyslexia CPD for all staff to raise awareness of teaching and support techniques that will benefit all learners (also relevant for HE 6.3.2) and build *foundational efficacy* from an early age.
b. Embed technology in the school/FE curriculum so pupils become familiar with built-in software, for example, spellcheckers and apps, from an early stage in their educational development.

c. Consider how pupils can use technology to retain their independence and build learning skills, opposed to relying on teaching assistants/support (where this is feasible).
d. Prior to testing pupils at school/FE, explain and discuss the purpose of the test and advise the pupil what it can or cannot establish, and what the benefits might be for the pupil. This might avoid some of the confusion that surrounds testing. Determine what support can be provided post-test, as nearly all who were awarded ‘extra time’ needed support in addition to extra time.

6.3.2 Recommendations for Higher Education

The following recommendations were inspired by concerns and ideas raised by students, as well as reflection on my own practice.

Actions for HE staff

a. Given the number of dyslexic students and the benefits to all students when inclusive practices are used, dyslexia CPD should be mandatory and updated annually for all staff to gain and maintain understanding of current issues about dyslexia. Lessons learned from dyslexia CPD, including appropriate teaching and support techniques, should be integrated into personal practice (teaching, presenting, supporting, etc) as this would also support institutional commitment to inclusive practice.
b. Senior management should seriously consider implementing dyslexia-friendly approaches to teaching and supporting students, as outlined by the BDA (2024c). This would require a shift in culture for most universities as external support, including SSTs, continues to be relied on. Therefore, a top-down approach from senior management would be necessary to achieve buy-in across the institution to push towards inclusivity.

Actions for HE staff who teach

a. Read students’ individual learning plans (ILPs), (which are sometimes called Notification of Needs or Normal Way of Working Forms) to establish what each student needs to learn. This is a legal obligation, but moreover because many students will not speak out it is critical to give students

equality of opportunity and avoids students from having to ask or say, ‘I’m dyslexic’.

b. Ask students if they have been supported previously and how they would like you to help. This may indicate requirements that are not documented on students’ records, if so, seek further advice from disability colleagues.
c. Upload slides to the VLE in advance of lectures and record lectures with captions. The benefits for many students are huge, as this enables concentration in class and avoids the distraction of copious note taking.
d. Understand the academic skills students need to develop. A skills audit checklist could determine this, but a plan to develop skills would be required. Consider ways academic skills can be built into group/individual tutorials. Demonstrate and integrate academic skills that are needed to complete assignments into lecture time.
e. Highlight the practical uses of technology to demonstrate how it can help students in their studies.
f. Understand what support means to the student before agreeing that it can be provided. Dyslexia impacts individuals in different ways. The diagnostic assessment report will recommend support.

Actions for central/professional support services

a. Disability services could support dyslexic students with the DSA application process to ensure those who face navigation issues are not alone.
b. Disability services could arrange follow-up meetings with students who have been tested for dyslexia to discuss the next steps involved with diagnostic assessment, offer support, and answer queries. Similarly, contact newly diagnosed students to assist with DSA and offer support.
c. Central services (e.g. academic skills advisors) could arrange generic study skills workshops to develop skills for all students. Workshops could include digital skills workshops that focus on a range of technologies, and workshops that support the development of planning, structuring, researching, writing, and reading skills.

Actions for dyslexia diagnostic assessors

a. Ensure students' strengths are emphasised within the diagnostic assessment. Although this is part of the process, and the situation is highly sensitive, some students in this study felt the assessment focused heavily on their limitations which created self-doubt.

Actions for myself

b. Create a list of teaching strategies (identified in this and other studies) that work for dyslexic students to improve teaching practice and support in HE. This might be particularly helpful for new HE staff who are unaware of the impact of dyslexia. It would also be an opportunity for me to disseminate findings.

6.4 Further research

Rich data generated by this exploratory study offers several ideas for further research, but I would like to focus on my original contribution, *foundational efficacy*, and use this as the driving force (or 'efficacy force' as Bandura would say) for further research. Possible ideas for consideration include:

a. Investigate the academic development needs of first-year dyslexic students' by incorporating *foundational efficacy* factors identified in this study (e.g. self-appraisal of learning abilities influence of family,) into a pre-entry survey to identify resources and ways to enable skills and support services new students might find beneficial. Follow-up with a pre-entry summer school event to distribute information.
b. Investigate how learning with SSTs impacts dyslexic students' efficacy levels and what HE (teaching and professional staff) can learn from the process.
c. A longitudinal study to track development of dyslexic students' self-efficacy to establish: On entry to HE (i) *foundational efficacy* levels on entry to HE. (ii) Type of HE support they are likely to engage with. (iii) Self-appraisal of skills audit. On exit from HE: Considering students' efficacy and self-regulatory development, assessing changes and factors that influenced development.

d. Reanalysis of the current data using a metaphorical lens to further examine students' learning strategies from a new angle.

6.5 Reflections on the journey

Throughout this study, I kept a journal and often reflected on the obstacles to my own learning and how to overcome them. Ten years ago I thought about embarking on a PhD and I look back through the pages of my journal which remind me of those ups and downs, how my understanding of dyslexia has grown, but also how the PhD experience has made me grow in ways I never expected. To quote Bandura's words: 'Direct experience is a tough teacher' (APS, 2013) and this rang true on many occasions. But to quote another wise teacher, my father: 'If you keep knocking on a door, it will open eventually'. My point is that I consider myself fortunate. From an early age I was surrounded by people who enabled me to build firm *foundational efficacy*, believe in myself and believe in what I could do. And even now, my self-efficacy grows due to the supportive influences of those around me.

Although my previous experience of teaching and supporting dyslexic students was invaluable for this study, participants opened up their worlds and shared personal experiences of what it was like to be dyslexic. I felt moved at times by their stories and sheer determination, I can still hear their voices and see their faces. So when the going got tough in this study and the PhD fog descended to halt my thinking, the students at the centre of this study provided motivation. Their voices had to be heard, hence, the end of this PhD journey had to be reached.

6.6 Limitations

With hindsight, I would change some aspects of my study and I, therefore, acknowledge the following limitations. The first limitation is the 17 interviewees who volunteered and were skewed in terms of age. Although most were female, mature (age 30 or above), UK students, (characteristics that mirrored NU's student body), their views did not reflect those of all students, for example: international students. However, I cannot emphasise how challenging it was (in terms of time, liaising with gatekeepers to launch/relaunch the survey, gaining

ethical clearance from two universities, amongst other matters) to accomplish 17 interviews. As illustrated in table 3.5, 11 students withdrew for various reasons which were sometimes clearly stated, other times not. Given the sensitive nature of this study, students' feelings remained of great importance to me, and I remain grateful to all who participated in the survey or interviews.

The second limitation connects to the method of data analysis, reflexive thematic analysis (RTA). Time taken to thoroughly conduct RTA cannot be fully understood or estimated from Braun and Clarke's (2022) book or related resources, despite Braun and Clarke describing RTA in a very accessible and engaging way. In my opinion, to do justice to Braun and Clarke's (2022:4) 'method-ish' approach of RTA takes time. Given more time, I would have created a conceptual map to illustrate interviewees' individualised journeys in more detail, but I was beaten by the clock. This limitation serves to alert other researchers, as I present the best version of the thesis within time constraints.

The third limitation links to the survey where I could have used more open questions to better understand how students developed learning. Instead I chose tick-boxes and a limited number of open questions. However, I decided to use the survey in phase one to introduce topics so that interviews in phase two could explore further.

The fourth limitation of my study is the absence of a comparison group of non-dyslexic students. While quantitative data formed the foundations of this study in phase one, this study focused on qualitative data as it aimed to gain insight into dyslexic students' lived experiences, including diagnosis and HE learning. Therefore, a comparative sample was not sought.

6.7 Conclusion

Reflecting on my PhD journey, this study has enabled me to better understand what dyslexia means to different individuals, how being diagnosed and labelled feels, and what it is like to learn as a dyslexic student. Throughout this study, students' explanations varied which meant they were extremely challenging to convey, but I accepted the challenge, as each dyslexic student like any individual is unique, built by personal histories and pulled by future visions.

As a result, the experiences and information shared by students in this study revealed a lesser told narrative of how students, diagnosed late in adult life, worked behind the scenes to transition post-diagnosis in order to: feel at ease with the label, reach an understanding of their dyslexia, seek out support from others, feel supported while learning, and discover ways to learn that worked for them.

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Appendices

Appendix A: Contents of the Online Survey

Section 1: General information about you

Q1. Which course are you studying?

Q2. Are you in Year 1/Year 2/Year 3/Year 4/Year 5/Other (tick box)

Q3. Are you an Access student/Foundation Year student/Foundation Degree student/Undergraduate (Degree) student/Postgraduate taught student/Postgraduate research student/Other (tick box)

Q4. Are you a UK student/EU student (Outside of UK)/International student (Outside of EU)/Other (tick box)

Q5. Please indicate your age group: 18-20yrs .. 21-24yrs .. 25-29yrs .. 30yrs and over .. Prefer not to say (tick box)

Q6. Which of the following describes how you think of yourself? *Please select an option:* Male/Female/In another way/Prefer not to say (tick box)

Section 2: Your experience of dyslexia

Q7. Have you been officially assessed and diagnosed as dyslexic? *Please select an option:*

- Yes.
- No, not yet. I am currently waiting to be tested for dyslexia by an assessor.
- No, I am aware of the dyslexia test but I have not proceeded.

If answer is 'yes' to Q7 - the following questions will be asked:

Q8. Where were you diagnosed as dyslexic? *Please select an option:*

- Infant/primary/elementary school
- Secondary/High school
- Sixth form
- College
- University
- Workplace
- Other institution

Q9. How long ago were you officially diagnosed with dyslexia? *Please select an option: (tick box)*

Within the last 2yrs … 3-4yrs ago ... 5-6yrs ago … 7-10yrs ago … More than 10yrs ago … I'm not sure.

Q10. Many students with a diagnosis of dyslexia have other conditions. Please could you tick any that apply to you. (*Optional answer)*

Dypraxia (also known as DCD) … Attention Deficit Hyperactivity Disorder (ADHD) … Dyscalculia … Attention Deficit Disorder (ADD) … Autism Spectrum Disorders … Dysgraphia … Other

Q11. How did you feel when you were first diagnosed with dyslexia? Please write a sentence in the box below if you wish to do so. *(Optional answer)*

Q12. How do you feel now about being dyslexic? Please write a couple of sentences in the box below if you wish to do so. *(Optional answer)*

- If answer is 'No, not yet' to Q7 - the following question will be asked:

Q13. What factors made you decide to be tested for dyslexia? Please write a couple of sentences below if you wish to do so. (*Optional answer*)

- If answer is 'No' to Q7 - the following question will be asked:

Q14. Do you have any comments about the process of getting a diagnosis? Please write a couple of sentences in the box below if you wish to do so. *(Optional answer)*

Section 3: Your experience of learning at University

This part of the survey will ask you about several situations. After each situation, please rate how certain you are that you can do each of the things described below by selecting the appropriate number.

You will need to rate your level of confidence by selecting a number from 1 to 5 using the scale below.

- 1 = I cannot do this (the task described)
- 2 = I can possibly do this
- 3 = I don't know if I can do this
- 4 = I am certain I can do this
- 5 = Highly certain I can do this

Q15. I can ask teaching staff for help when I am stuck.

Q16. I can ask questions in lectures.

Q17. I can approach my lecturers to ask questions about feedback.

Q18. I can approach another student to help me when I get stuck.

Q19. I can express my opinions when my classmates disagree with me.

Q20. I am capable of forming relationships with other students.

Q21. I can use computers to help me study.

Q22. I can learn how to read for university.

Q23. I can learn how to write for university.

Q24. I can follow the lectures and understand what is taught on my course.

Q25. I can finish assignments by the deadlines.

Q26. I can get myself to study when there are other interesting things to do.

Q27. I can always concentrate when I am in class.

Q28. I can use the library resources to find information.

Q29. I can plan and organise my academic activities and learning.

Q30. I can motivate myself to do my studies.

Q31. As a student, I can live up to my family's expectations.

Q32. As a student, I can live up to what my lecturers expect of me.

Q33. As a student, I can live up to my own expectations.

Section 4: Final questions about your learning strategies

Q34 What is your **main** learning strategy in university lectures? *Please tick one* – Writing notes, typing notes, recording, asking the lecturer questions, taking part in class discussions, referring to course information on Moodle, I use another strategy in lectures.

Q35 Which strategy/strategies do you use in lectures the most and why? (*Please comment below if you wish*) *(Optional answer)*

Q36 What is your main learning strategy when you are studying on your own? *Please tick one* - listening to recorded lectures, listening to audiobooks, using text-to-speech software, highlighting text, breaking questions down to gain understanding, searching for information online, watching videos, mind mapping/drawing ideas, note taking, I use a different strategy.

Q37 Which of the strategies do you use the most when studying alone and why? *Please comment below if you wish*) *(Optional answer)*

Thank you for completing this survey, your time and effort is greatly appreciated.

Please submit your answers by clicking on the '**Finish**' button below. You will then receive a final message on the next page.
(The final page on the survey, as below).

Final Message – and an Opportunity!

Thank you once again for taking the time to complete this survey! Your comments are appreciated and will be very helpful.
Would be interested in volunteering for Phase 2 of the study?

If you are, this is your chance to get involved, share your experiences and make a difference to how students are supported within higher education.

If you would like to volunteer for Phase 2 of the study and take part in a one-to-one interview with the researcher in Semester 2, please access this link: **'Volunteer for Phase 2'** which is located at the bottom of this page.

If you are not sure about volunteering, please access the '**Volunteer for Phase 2'** link for further participant information. If you access this site you will not be expected or asked to leave your personal details, it will be your decision.
If you are not interested in volunteering, please exit the survey by clicking here

Please note: If you decide to access the link, you will be transferred to a separate site. Please be assured that if you decide to volunteer and take part in a one-to-one interview, the information you have already given in the online survey **will remain anonymous**, i.e. the researcher will not be able to link it to you or identify it in any way.

Click here to access the information for: 'Volunteer for Phase 2'

Sometimes questionnaires can raise issues or draw your attention to things that you would like to find out more about. The following list of support services are available at North University.

Support Services:
Disability
Tel: or Email:

Mental Health
Tel: or Email:

Counselling
Tel: or Email:

Chaplaincy
Tel: or Email:

Appendix B: Phase 1 Familiarisation

Phase 1 Familiarisation mind map.

Emptying out my thoughts after a lengthy period transcribing interviews.

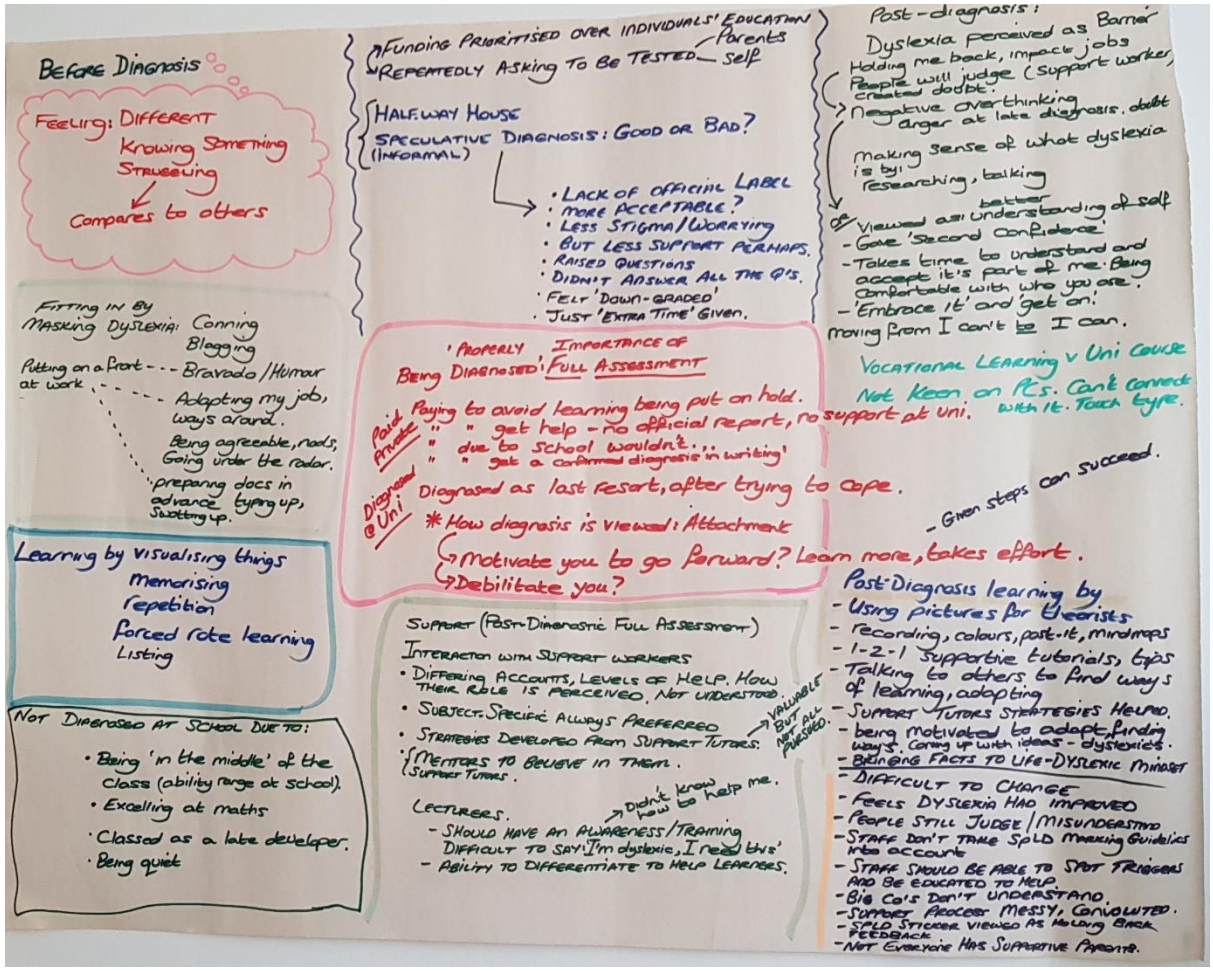

Figure 7.1: Phase 1 Familiarisation mind map.

Appendix C: Phase 2 Doing coding

Phase 2 screenshot illustrating 8 Themes and 39 subthemes were identified.

Phase 2 - 8 Themes and 39 Subthemes	Description of Theme	Files (No.Students)	Refs (No. of Quotes)
Mindset and perceptions of support	Views of university-related support, DSA-related support and social support.	**17**	**117**
DSA software - Having the time and inclination		16	37
DSA support tutor - Reasons to disengage		13	36
Seeking support from others		12	22
Expectations of HE support		11	14
DSA support system - Convoluted and complicated		5	8
Finding a way to learn (after diagnosis)	Diagnosed but not knowing which strategies help learning.	**17**	**103**
Learning from support		9	31
Learning from lecturers		13	25
Discovering what works - Self-appraisal		9	21
Being diagnosed and determined is not enough		7	19
Learning from others		6	6
Still searching		1	1
Diagnosis matters	Comments related to diagnosis: being tested, privately diagnosed and officially assessed.	**17**	**94**
Officially dyslexic - Making sense and moving forwards		17	43
Pros and cons of speculative diagnosis		11	26
Undetected despite the signs		9	16
Rationale for Private Diagnosis		3	9
Student Learning	Comments explaining how students managed learning before diagnosis.	**14**	**41**
Comparing how I learn		11	18
Creative coping strategies		6	13
Concentration is a barrier		8	10
Understanding dyslexia	Advice students give other dyslexic students.	**14**	**33**
Hindsight helps		12	22
Embrace it, accept it and try		4	4
Trading credibility for honesty		3	3
Learning is key		2	2
Proactive asker or Expectant recipient		2	2
Learning strategies (before diagnosis)	Ways of learning before diagnosis.	**12**	**32**
Memorisation techniques.		5	12
Experiential learning		4	7
Reading approaches		6	7
Visualising strategies		2	4
Breaking tasks into steps		2	2
Inclusive policies and practice	How students experience inclusive practice.	**10**	**26**
Accessing lecture slides		7	11
SpLD stickers		4	5
Recording lectures		2	4
Teaching ways to aid recall would help		3	4
Extra time rejected		1	1
Pace of lectures		1	1
Interesting quotes	Memorable quotes.	12	26
Reframing the label	How students define and see the dyslexic label.	**13**	**22**
Unwanted, unsettling		6	9
An explanation and starting point		7	8
Choosing to be positive		2	3
Justification and protection		2	2

Table 0.1: 8 Themes and 39 subthemes were identified.

Appendix D: Phase 3 – Generating initial themes

Phase 3 Mind map

Mind map used to gain an overview of open coding in phase two to aid focus, identify patterns in data, and progress coding structure.

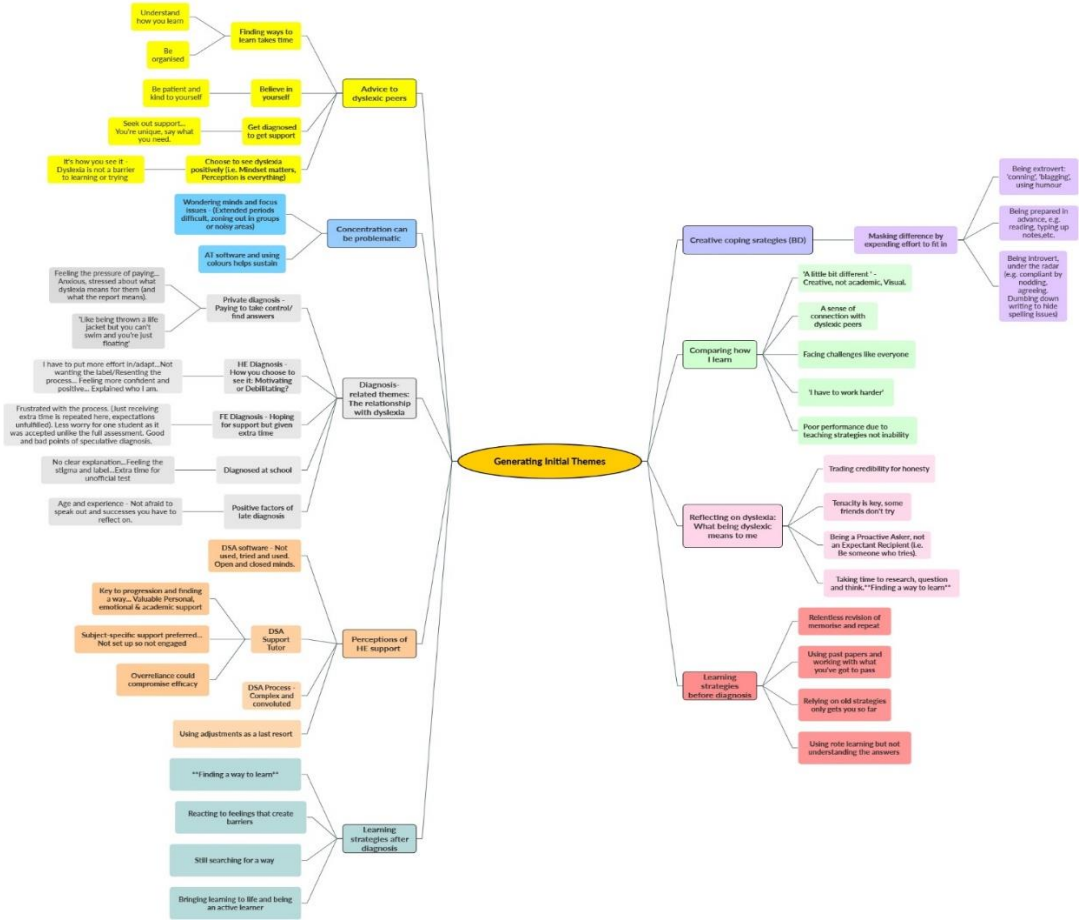

Figure 7.2: Phase 3 Mind map

Appendix E: Developing and reviewing themes

Phase 4 screenshot – 3 Themes were selected and subthemes were reworked again.

Phase 4 activities included reviewing themes, shifting and refocusing to take research questions into account. Screenshot below.

Phase 4 - 3 Themes and reviewing Subthemes	Description of Theme	Files (No.Students)	Refs (No. of Quotes)
Mindset and perceptions of supportTHEME 2**	Views of university-related support, DSA-related support and social support.	**17**	**117**
DSA software - Having the time and inclination	**Condense down to 3 subthemes - HE support; DSA-related support; Social support**	16	37
DSA support tutor - Reasons to disengage		13	36
Seeking support from others		12	22
Expectations of HE support		11	14
DSA support system - Convoluted and complicated		5	8
Finding ways to learnTHEME 3**	Diagnosed but not knowing which strategies help learning.	**17**	**103**
Learning from support	**But what strategies did students develop? Reading? Writing? Etc. RE-WORK**	9	31
Learning from lecturers	**To split this overarching theme into Learning strategies before and after diagnosis**	13	25
Discovering what works - Self-appraisal		9	21
Being diagnosed and determined is not enough		7	19
Learning from others		6	6
Still searching		1	1
Diagnosis matters **THEME 1	Comments related to diagnosis: being tested, privately diagnosed and officially assessed.	**17**	**94**
Officially dyslexic - Making sense and moving forward	**To rename this subtheme**	17	43
Pros and cons of speculative diagnosis	**Renamed and linked to testing**	11	26
Undetected despite the signs	**Rename - Undetected where? (School subtheme)**	9	16
Rationale for Private Diagnosis	**To merge or let go of this code.**	3	9
Student Learning	Comments explaining how students managed learning before diagnosis -	**14**	**41**
Comparing how I learn		11	18
Creative coping strategies	**To merge these codes into the Finding ways to learn (Theme 3)**	6	13
Concentration is a barrier		8	10
Understanding dyslexia	Advice students give other dyslexic students.	**14**	**33**
Hindsight helps		12	22
Embrace it, accept it and try		4	4
Trading credibility for honesty	**This links to strategies adopted by students.**	3	3
Learning is key		2	2
Proactive asker or Expectant recipient		2	2
Learning strategies (before diagnosis)	Ways of learning before diagnosis.	**12**	**32**
Memorisation techniques.		5	12
Experiential learning		4	7
Reading approaches	**To merge these codes into the Finding ways to learn (Theme 3)**	6	7
Visualising strategies		2	4
Breaking tasks into steps		2	2
Inclusive policies and practice	How students experience inclusive practice. **Connects with Theme 3**	**10**	**26**
Accessing lecture slides		7	11
SpLD stickers		4	5
Recording lectures	**Move to Learning after diagnosis - Codes connect with learning strategies.**	2	4
Teaching ways to aid recall would help		3	4
Extra time rejected		1	1
Pace of lectures		1	1
Reframing the label	How students define and see the dyslexic label - **Move to Diagnosis Matter (Theme 1)**	**13**	**22**
Unwanted, unsettling	**Feeling unsettled**	6	9
An explanation and starting point	**Move to Diagnosis Matters overarching theme - This subtheme links to reactions**	7	8
Choosing to be positive	**Feeling relieved**	2	3
Justification and protection	**Justified by diagnosis/dyslexic label**	2	2

Table 0.2: Phase 4 screenshot – 3 Themes were selected and subthemes were reworked again.

Appendix F: Phase 5 – Refining, defining and naming themes

Cluster analysis was used to examine coding similarities, i.e. what students said in relation to codes, and any overlaps. The diagram below shows connections between students' reactions and expectations at university. For instance, students who felt 'unsettled' post-diagnosis also talked about university support as 'going into the unknown'; while those talked about being 'positive' were 'hoping for support' at HE. The third group (Anna, David and Zack) that viewed the dyslexic label as 'justifying' how they learned also spoke about using 'closed strategies' (i.e. they did not fully engage with learning for various reasons). All three students were heavily influenced by unsupported learning experiences at school.

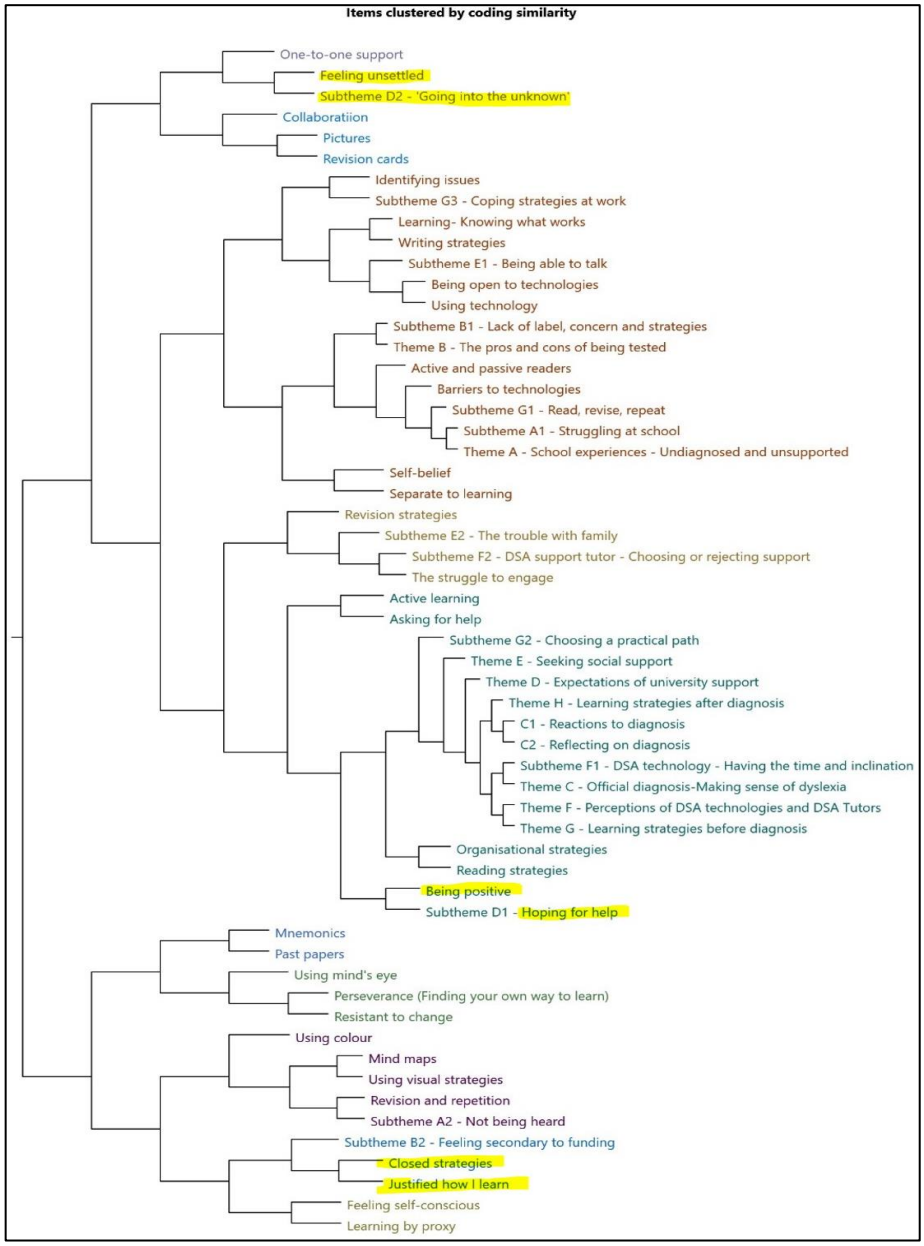

Figure 7.3: Cluster analysis diagram by coding similarity

Cluster analysis diagram by coding similarity (above) was followed up by coding comparisons diagrams (see example screenshots 1 and 2).

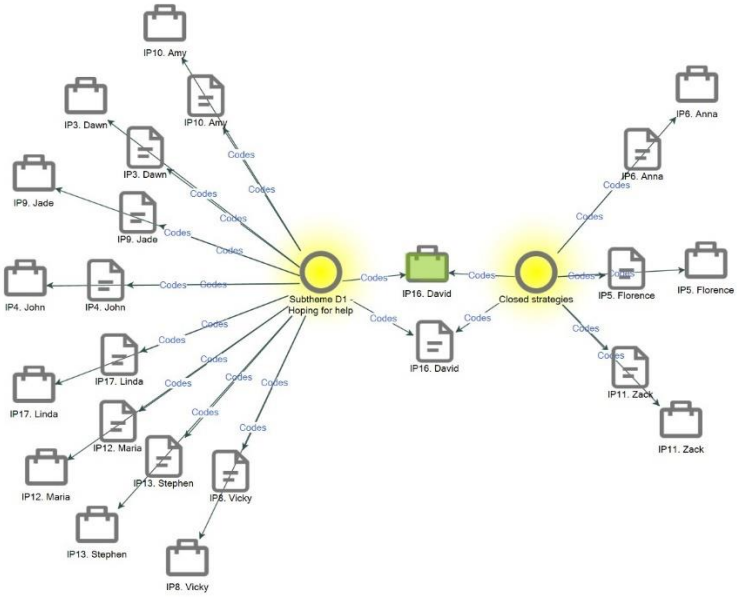

Figure 7.4: Screenshot 1: Coding comparison diagram

Above screenshot 1: **Coding comparison diagram** - Shows David (in the centre of the diagram) who was 'hoping for help' to learn but sometimes used 'closed strategies'. David's counter-intuitive actions meant he struggled to engage with learning for various reasons (detailed in the discussion chapter).

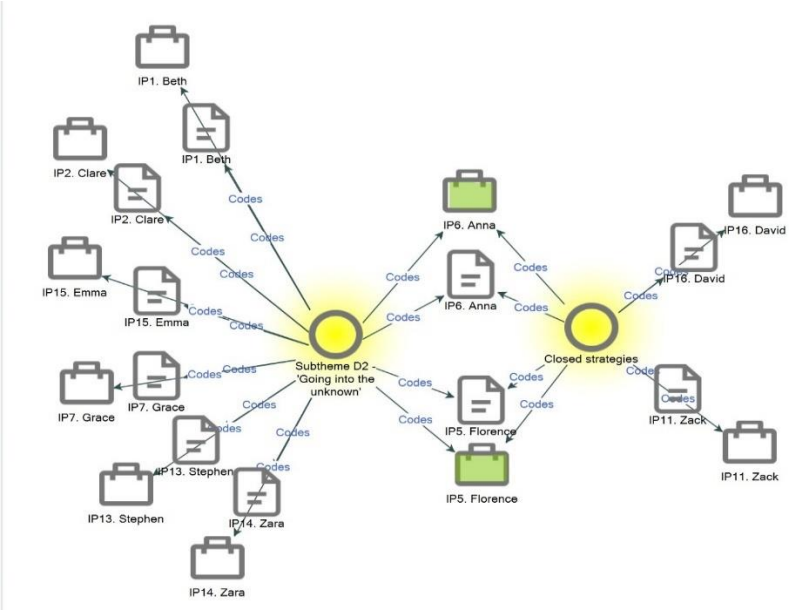

Figure 7.5: Screenshot 2: Coding comparison diagram

Above screenshot 2: **Coding comparison diagram** - Shows Anna and Florence in the centre of the diagram. Both talked about university learning as 'going into the unknown' and both used 'closed strategies', i.e. similar to David they did not fully engage with support to learn for various reasons (detailed in discussion chapter).

Appendix G: Self-efficacy mean scores grouped by time of diagnosis

Self-regulated learning: I can …

Self-efficacy questions	Highest MS	Time	Lowest MS	Time
Plan and organise learning	4.00	3-4yrs	2.50	5-6yrs
Use library resources to find information	3.78	3-4yrs	2.43	10yrs +
Always concentrate in class	3.25	7-10yrs	2.13	5-6yrs
Motivate myself to study	3.88	7-10yrs	2.75	5-6yrs
Finish assignments by the deadlines	4.25	7-10yrs	3.25	5-6yrs

Academic achievement: I can …

Self-efficacy questions	Highest MS	Time	Lowest MS	Time
Learn to read for university	4.25	7-10yrs	3.33	3-4yrs
Learn to write for university	4.25	7-10yrs	2.88	5-6yrs
Follow lectures and understand	4.25	7-10yrs	3.57	10yrs+
Use computers to help me study	4.14	10yrs+	3.22	3-4yrs

Seek help / interact with staff: I can …

Self-efficacy questions	Highest MS	Time	Lowest MS	Time
Ask questions in lectures	4.50	7-10yrs	3.22	0-2yrs
Approach lecturers to question feedback	4.38	7-10yrs	3.38	5-6yrs
Ask lecturers for help when stuck	4.38	7-10yrs	3.29	10yrs+

Seek help / interact with peers: I can …

Self-efficacy questions	Highest MS	Time	Lowest MS	Time
Approach another student for help	3.44	3-4yrs	3.25	5-6yrs 7-10yrs
Express opinions when peers disagree	4.25	7-10yrs	2.86	10yrs+
Form relationship with other students	4.13	7-10yrs	3.43	10yrs+

Meet expectations: As a student, I can …

Self-efficacy questions	Highest MS	Time	Lowest MS	Time
Live up to lecturers' expectations	3.89	3-4yrs	3.00	5-6yrs
Live up to my own expectations	3.67	3-4yrs	3.00	10yrs+
Live up to family's expectations	4.00	7-10yrs	3.00	5-6yrs

Table 0.3: Self-efficacy responses grouped by time of diagnosis

Key: Mean Score = MS

Appendix H: Top tips from dyslexic students

Ideas collated. Top tips from students in this study to help others.

1. **Planning strategies for university:**
    - Keep a diary (Grace)
    - Organise your notes by colour coding (Emma)
    - Manage coursework by breaking it down into ‘chunks’ (Clare / Florence)
    - Planning is key to success (Anna / John)
    - Mind mapping, draw it out, use colour (Dawn)
    - Highlight information to keep focused (Florence)
    - Set mini goals to keep on track. Give yourself a weekly push. Remain motivated (Grace)

2. **Personal/Self-care tips:**
    - Take regular breaks (Dawn)
    - Create visual floor maps to move yourself around and learn information from new angles (Dawn).
    - When things get tough, take time out, then try again. (Stephen)
    - Managing yourself outside of studies. Try to balance life. (Jade)

3. **Revision strategies:**
    - Spider’s web to memorise and visualise literature (Vicky)
    - Use pictures to remember theorists (Dawn)

4. **Learning strategies students discovered:**
    - Colouring books to learn bones in the human body (Maria)
    - Constructing a paper skeleton to learn bones (Emma).