THE EXPERIENCES OF YOUNG PEOPLE WITH VISION IMPAIRMENT MAKING THE TRANSITION INTO HIGHER EDUCATION

by

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ABSTRACT

This thesis is concerned about the transition experience and inclusion of vision impaired students in Higher Education (HE) in the UK. It takes a holistic perspective by investigating how well supported students were into HE, how inclusive the environment was when they got there, and how prepared they were for studying independently in a HE environment.

The thesis draws upon a longitudinal qualitative study into the post-16 transition experiences of young people with vision impairment, and focuses the analysis upon a series of semi-structured interviews and case study work with 39 participants, who applied for a broad range of courses at institutions across England, Scotland and Wales.

Applying Bronfenbrenner's Bioecological Model of Human Development as a lens through which to interpret the findings, the thesis offers two new conceptual models. The first model*, the Bioecological Model of Inclusive Higher Education,* offers a framework through which to interpret the interaction of different factors on the learner's experience, which includes the learner's development over time. The second model *the Balanced Model of support* proposes a balanced strategy for inclusive access to HE through examining an appropriate balance of inclusive practice, individual adjustments, individual agency, and how this might be facilitated through progressive mutual accommodations.

ACKNOWLEDGEMENTS

When I first started working at VICTAR back in 2010, little did I know that nine years later I would be writing the acknowledgements for my thesis! During that time I have been fortunate enough to have worked with some incredible colleagues from across the field of vision impairment through both this thesis and the broader Longitudinal Transitions Study.

I would like to start by thanking the participants in the study who have committed so much time in sharing their lives with me. When we first started the study we anticipated that it would only last five years, yet the study is still going strong over nine years later! It has been a pleasure to watch you all grow and to celebrate with you in your triumphs.

I would also like to thank the countless members of the project steering group who represent organisations across the sector. Their expert guidance has no doubt had a significant impact on the success of the research, and their enthusiasm for the study as a whole has kept the work going; even at times when we weren’t sure where the next source of funding would come from. On that note, I would also like to thank RNIB, the Nuffield Foundation and Thomas Pocklington Trust for funding the research and ensuring the continuity of the study. It’s well documented how one of the main challenges of a longitudinal research is maintaining funding, and yet I have been fortunate enough to have benefited from funding from three extremely supportive organisations.

I would like to extend a special thank you to Sue Keil at RNIB/VIEW for dedicating so much of her time to the Longitudinal Transitions Study (your knowledge of research in the sector really is second to none), and to Tara Chattaway at Thomas Pocklington Trust for taking the research findings and using them to develop a lobbying campaign which is starting to have real impact in society. I always wanted to undertake research that would make a real difference in people's lives, so for me this is a personal highlight.

I have been fortunate to work with such supportive colleagues in VICTAR and DISN (you know who you all are!) who have given me advice, been patient with my rants from time to time, offered encouraging words in the corridor and helped keep me motivated to get to this point. We really are so blessed to have such a fantastic team.

My thanks to John for his support and understanding over the past seven years whilst I have worked on this thesis; including the countless cups of tea, the sacrificing of weekends and evenings out and help with proofreading. Thank you also to all my friends and Birmingham family for your patience when I might have been anonymous at times, or when you did see me, I was no doubt yawning into a cup of tea. I owe so many people home-cooked meals!

Finally, my thanks to my supervisor Professor Graeme Douglas, and also to Professor Mike McLinden, who informally took on a supervisory role. Firstly, to Graeme, thank you for giving me my first role in VICTAR and for nurturing me as a researcher. In particular, thank you for being such a fantastic supervisor, and for

pushing me to get the thesis to where it is now. These past nine years have been an absolute pleasure! To Mike, thank you for the countless chats over noodles in Gisbert Kapp, for asking me difficult questions, and for pushing me to write the papers which form some of the chapters in this thesis.

Lastly, I would like to dedicate this thesis to my Mum, who I know as a great enthusiast of higher education would have been thrilled to have seen me submit my doctoral work.

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GLOSSARY

APPG'S	All Party Parliamentary Groups
BIS	Department of Business Innovation and Skills
DfE	Department for Education
DSA	Disabled Students' Allowance
DSO	Disability Support Office(r)
FE	Further Education
HE	Higher Education
HEI	Higher Education Institution
ICF	International Classification of Functioning, Disability and Health
LVA	Low Vision Aid
LQS	Longitudinal Qualitative Studies
OECD	The Organisation for Economic Co-Operation and Development
QTVI	Qualified Teacher of Children and Young People with Vision Impairment
RNIB	Royal National Institute of Blind People
SEN	Special Educational Needs
SEND	Special Educational Needs and Disabilities
STEM	Science, Technology, Engineering and Mathematics
VI	Vision Impairment
VICTAR	Vision Impairment Centre for Teaching and Research
Year 9	Participants who were recruited in school Year 9, aged approximately 14 at the start of the study

Year 10	Participants who were recruited in school Year 10, aged approximately 15 at the start of the study
Year 11	Participants who were recruited in school Year 11, aged approximately 16 at the start of the study

1. INTRODUCTION

1.1. OVERVIEW

This thesis is concerned about the inclusion of vision impaired students in Higher Education (HE) in the UK, and draws upon evidence collected with 39 participants who applied to HE institutions (HEIs) across England, Scotland and Wales. In particular it is concerned with answering three research questions:

1. How well supported are students with vision impairment as they make the transition into higher education?
2. How inclusive is higher education for students with vision impairment?
3. How well prepared are vision impaired students for being independent learners in higher education?

However, all research has a context, and this chapter provides an overview of how this research thesis came about. The chapter does this by providing an overview of the thesis, particularly in the context of the sponsored research the ‘Longitudinal Transitions Study’ to which this thesis is connected. Section 1.2 provides a detailed description of the sponsored study, including explaining how it came about and the research design used. It also gives an overview of the data collected as part of the sponsored study and details of associated research outputs. Section 1.3 provides justification for focusing the thesis on the transition experience of young people with vision impairment (VI) into HE. Section 1.4 discusses the rationale behind basing the thesis upon a sponsored study by outlining the advantages of doing so. Section 1.5 concludes by providing an overview of the different chapters of the thesis.

1.2. DESCRIPTION OF THE SPONSORED STUDY

1.2.1. OVERVIEW OF THE RESEARCH PROPOSAL

The Longitudinal Transitions Study was devised by UK-based charity Royal National Institute of Blind People (RNIB) in response to poor employment outcomes for young people with VI. In particular there were concerns regarding the limited research evidence to understand the transition experience of young people with VI from compulsory education through to the labour market.

Researchers at Vision Impairment Centre for Teaching and Research (VICTAR) based in School of Education, University of Birmingham were successful in a tender for the research project and commenced the longitudinal study in 2009. The key objectives of the project were to:

1. Track the process of transition for blind and partially sighted young people from age 14 for at least five years (from compulsory education through to the labour market)
2. Identify the roles of professionals involved
3. Identify the factors that improve or reduce a young person’s chance of gaining employment.

The original project plan included the following key phases:

1. Recruit and survey VI services
2. Through these services, recruit and survey a sample of Year 9 and 11 students (this was later extended to Year 10 students) with VI

3. Carry out follow-up surveys of the sample of students with VI

1.2.2. TIMETABLE AND MANAGEMENT OF THE SPONSORED STUDY

The research presented in this thesis is part of a larger longitudinal study of which the writer has been the sole full-time researcher for the duration of the study to date. The study took place over three stages. Stage one was funded by RNIB, and took place from autumn 2009-spring 2012. Stage two was funded by the Nuffield Foundation and took place from spring 2012 – autumn 2015. Stage three is being funded by Thomas Pocklington Trust and commenced in autumn 2015.

From February 2010 I was employed as the full-time researcher on the project with responsibilities for the development of survey instruments, data collection, analysis and reporting, as well as the day-to-day management of the project. The overall direction of the research was overseen by a steering group made up of professionals within the field (including representatives from the voluntary sector, careers advisors, heads of local authority sensory support services) and young people with VI. Shorter term plans and decisions were made by myself (full time researcher on the study), the principal investigator (Professor Graeme Douglas) and a research officer from RNIB (Sue Keil) as part of the collective project team.

Participants were recruited in summer 2010, and at the time were informed that they were consenting to take part in a longitudinal study of five years (with the freedom to withdraw from the project if they wished). Participants of the study have been surveyed on average twice yearly throughout the course of the ongoing funded study.

The first of these interviews, usually held in the autumn, addressed particular themes (as well as obtaining longitudinal data relating to the young person's transition experience). The second, usually held in the spring/early summer took the form of a 'catch-up' interview by again collecting longitudinal data and also looking at decisions that the young people had made for the next academic year.

In autumn 2013, case study work commenced amongst a subsample of the participants. As well as speaking to these young people in more depth about their transition experiences, 'associates' of the young people (i.e. family members and key professionals involved in supporting them through their transition) were recruited to take part in interviews.

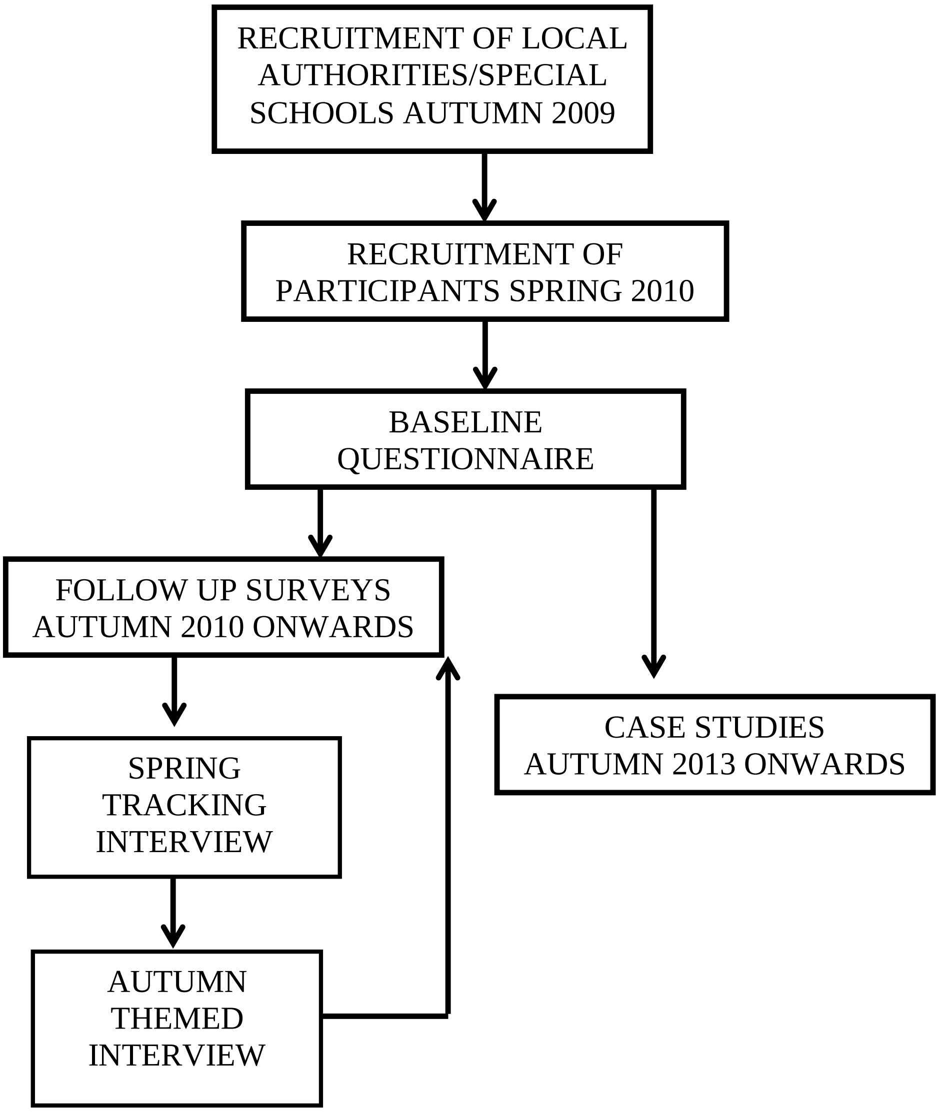
1.2.3. RECRUITMENT AND ENTRY CRITERIA

Participants in the longitudinal study were recruited from 14 Local Authority VI support services across the England Midlands and Wales, two special schools and two mainstream schools with specialist resource bases.

In autumn 2009, the services were asked to complete a questionnaire which asked for basic information about the students they were supporting in school Years 9, 10 and 11 (aged between 13 and 16). Anonymised information included: the participant's ethnicity; gender; preferred reading format; and whether they had additional special educational needs (SEN). Using this data, recruitment packs were then prepared for the young people identified, in the students' preferred format (and in the case of non-English speakers, their preferred language), before being passed on for distribution by the various services. A key question on this survey was whether the service believed the young person would be able to ‘independently complete a questionnaire’ which was used as the main inclusion criteria for the project. Only those who were assessed as being able to independently complete a questionnaire were approached to take part in the study, thus excluding young people with more complex needs.

Informed consent was received from 86 young people and their parents/guardians, 84 of whom completed baseline questionnaires: 31 in school Year 9, six in Year 10 (recruited during the third year of the project), and 47 in Year 11. In autumn 2013, a sub-sample of young people were invited to take part in a separate strand of case study work. They were provided with an information pack containing a covering letter, information sheet and consent form. Once consent forms were received, those recruited were contacted to obtain contact details of any key people (‘associates’) that they would be happy to be approached. Again, these associates were provided with an information pack, and informed consent was expressed through the return of the completed consent form.

Figure 1: Timeline summarising recruitment and data collection



1.2.4. CASE STUDY WORK

When writing the funding proposal for Phase 2 of the project, the project team had concerns that the interviews conducted during Phase 1 had only captured the voices of the young people. Whilst I had spoken with the young people on many occasions, the perspective of other key parties had not been captured. This included parents/carers, school teachers (in mainstream settings), and other professionals. As will be highlighted in the literature review, the preparation for the transition into adulthood and employment for young people with VI commences (at least ideally) in the earlier stages of the young person's life. Therefore, by speaking with some of the key people involved in supporting the participants through these transitions, a more comprehensive overview of their experiences could be obtained. Additionally, as will be presented in this thesis, the transition into HE for young people with VI can be a complex one, requiring the input of a range of professionals. For example, professionals involved in supporting a young person with VI through this transition could include departmental welfare tutors, disability support officers, mobility officers and library transcription services.

Potential participants for case studies on experiences in HE were identified by myself in spring 2013 and the shortlist was discussed further within the project team. Priority was given to recruiting a diverse range of participants (in terms of characteristics and chosen course), rather than seeking to necessarily get a representative group. This is more typical of case study research, which by nature does not seek to obtain generalisable results (Thomas, 2011a). The criteria which I considered when short-listing these participants included:

- Range of VI (using preferred reading format as a proxy)
- Previous secondary education settings (mainstream, special school and mixed settings)
- Range of subjects (e.g. arts, science, vocational)
- Range of institutions (e.g. pre and post-1992 universities)

A further factor taken into consideration was the level of involvement and enthusiasm that the participants had shown in the past. As the case study work involved recruiting the participants to take part in interviews and data collection in addition to the ongoing longitudinal research, it was important to consider how well engaged the participants were in the research, avoiding the possibility of over-burdening them and losing their participation in the broader study.

1.2.5. KEY DATA CAPTURES AND PUBLICATIONS

Since 2010, the young people have been interviewed roughly twice a year. Table 1 outlines the focus of each round of interviews and provides an overview of the corresponding technical reports which have been published. Only data which was collected up to spring 2017 has been included within this thesis.

Table 1: Longitudinal study: key data collection periods and their focus (as of December 2018)

Date	**Year 9**	**Year 9 (N)**	**Year 10**	**Year 10 (N)**	**Year 11**	**Year 11 (N)**	**Publications/Reports (all publically available)**
Summer 2010	Background questionnaire: details of their VI, support received in school, transition planning and future plans	31	N/A	N/A	Background questionnaire: details of their VI, support received in school, transition planning and future plans	47	Hewett, R., Douglas, G., and Williams, H. (2011) Post-14 transitions support – a survey on the transition experience of visually impaired young people: Technical Report. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Autumn 2010	N/A	N/A	N/A	N/A	Follow-up interviews after GCSE exams: results obtained, exams experience, transition from compulsory education	46	Hewett, R., Douglas, G., and Williams, H. (2011) Post-14 transitions support – a survey on the transition experience of visually impaired young people: Technical Report. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Easter 2011	Transition interview from Year 9 into Year 10	28	N/A	N/A	Transition interview following GCSE courses into sixth form, FE,	47	Hewett, R., Douglas, G., and Williams, H. (2011) Post-14 transitions support – a survey on the transition experience of visually impaired young people: Technical

					employment and apprenticeships.		Report. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Summer 2011	Social networking: use of computers, use of social networking sites, use of mobile phones	28	N/A	N/A	Social networking: use of computers, use of social networking sites, use of mobile phones	42	Hewett, R., Douglas, G., Ramni, A. and Keil, S. (2012). Post-14 transitions – A survey of the social activity and social networking of blind and partially sighted young people: Technical Report. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Summer 2012	N/A	N/A	Background questionnaire: details of their VI, qualifications, current studies, future plans	6	N/A	N/A	Hewett, R., Douglas, G., and Keil, S. (2013) Young people's progress and views of independence aged 16-19: Post-14 transitions support. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Autumn 2012	Independence interviews – an investigation of the participants views of independence	24	Independence interviews – an investigation of the participants views of independence	6	Independence interviews – an investigation of the participants views of independence	34	Hewett, R., Douglas, G., and Keil, S. (2013) Young people's progress and views of independence aged 16-19: Post-14 transitions support. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Summer 2013	Transition interview –	26	Transition interview –	6	Transition interview – transitions made	37 (17	Hewett, R., Ellis, L., Douglas, G., and Keil, S. (2014) Vision, Accessing Information and Accessing Benefits.

	transitions made in 2013		transitions made in 2013		in 2013(including HE)	in HE)	Technical report of findings to December 2013. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Autumn 2013	Case study work commenced						
Autumn 2013	Vision interview: registration, use of equipment (specialist and mainstream), vision in different contexts, braille, DLA/PIPs	24	Vision interview: registration, use of equipment (specialist and mainstream), vision in different contexts, braille, DLA/PIPs	6	Vision interview: registration, use of equipment (specialist and mainstream), vision in different contexts, braille, DLA/PIPs	34	Hewett, R., Ellis, L., Douglas, G., and Keil, S. (2014) Vision, Accessing Information and Accessing Benefits. Technical report of findings to December 2013. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Summer 2014	N/A	N/A	End of first year HE interviews	5	End of first year HE interviews	1	Hewett, R., Keil, S., and Douglas, G. (2015a) Summary Report: Experiences of blind and partially sighted young people as they make the transition into Higher Education, *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Keil, S., and Douglas, G. (2015b) Experiences of blind and partially sighted young people as they make the transition into Higher

							Education, *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Autumn 2014	Transition interview and investigation into wellbeing, friendships, support and information in relation to VI, and independent living	22	Transition interview and investigation into wellbeing, friendships, support and information in relation to VI and independent living	6	Transition interview and investigation into wellbeing, friendships, support and information in relation to VI, and independent living	33	Hewett, R., Douglas, G., and Keil, S. (2015a) Longitudinal Transitions Study of Young People with Visual Impairments: Methodology Summary. *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Douglas, G., and Keil, S. (2015b) The Transition Experiences of Young People with Visual Impairments aged 17-21. *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Douglas, G., and Keil, S. (2015c) Wellbeing of Young People with Visual Impairments. *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Douglas, G., and Keil, S. (2015d) Support and Information received by Young People with Visual Impairments: Technical report of findings October 2014 to February

							2015. *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Douglas, G., and Keil, S. (2015e) Young People with Visual Impairments Transitioning into Independent Living: Technical report of findings October 2014 to February 2015. *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Summer 2015	End of first year HE interviews and follow-up interviews with all who transitioned into HE	4	End of first year HE interviews and follow-up interviews with all who transitioned into HE	5	End of first year HE interviews and follow-up interviews with all who transitioned into HE	15	Hewett, R., Keil, S., and Douglas, G. (2015a) Summary Report: Experiences of blind and partially sighted young people as they make the transition into Higher Education, *Vision Impairment Centre for Teaching and Research, University of Birmingham* Hewett, R., Keil, S., and Douglas, G. (2015b) Experiences of blind and partially sighted young people as they make the transition into Higher Education, *Vision Impairment Centre for Teaching and Research, University of Birmingham*

Winter 2015/16	Transition interview, SEND reforms and reflections on how well they were supported during their time in compulsory education	20	Transition interview, SEND reforms and reflections on how well they were supported during their time in compulsory education	6	Transition interview, SEND reforms and reflections on how well they were supported during their time in compulsory education	33	Hewett, R., Douglas, G., and Keil, S. (2017) Reflections of Transition Experiences by Young People with Visual Impairments aged 19-22: Technical report of findings to April 2016, *Vision Impairment Centre for Teaching and Research, University of Birmingham*
Winter 2016/17	Transition interview, employment readiness, self-advocacy in the workplace, locus of control and wellbeing	19	Transition interview, employment readiness, self-advocacy in the workplace, locus of control and wellbeing	5	Transition interview, employment readiness, self-advocacy in the workplace, locus of control and wellbeing	28	Hewett, R and Douglas, G. (2018) The Transition Experiences of Young People with Vision Impairment aged 21 to 24. Technical report of findings to November 2017, *Vision Impairment Centre for Teaching and Research, University of Birmingham*

This thesis also incorporates the data collected from eight case studies. Five of the case study participants were recruited in their first year of HE, one in their second year, and two as they prepared to make the transition from further education (FE) and into HE.

Table 2: Summary of case study data collection

Type of data collection	**Total (N)**
Shadowing diary	5
Shadowing follow-up interview	5
Focused interview with case study participants	5
Interview with parent/carer	4
Interview with welfare tutor	5
Interview with disability support officer	5
Interview with mobility officer	1
Total	30

In addition to the series of technical reports, the research findings have also been presented in a number of peer-reviewed publications and end-of-phase summary reports. These include:

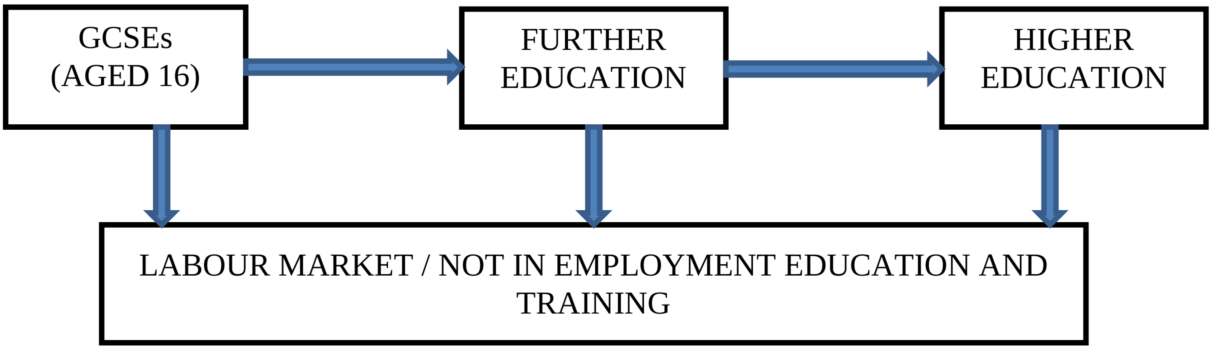
- Hewett, R., Douglas, G., McLinden, M. & Keil, S. (2018) Balancing inclusive design, adjustments and personal agency: progressive mutual accommodations and the experiences of university students with vision impairment in the United Kingdom. International Journal of Inclusive Education.
- Hewett, R., Douglas, G., McLinden, M., & Keil, S. (2017). Developing an inclusive learning environment for students with visual impairment in higher education: progressive mutual accommodation and learner experiences in the United Kingdom. European Journal of Special Needs Education, 32(1), 89-109

- Hewett, R. (2017) Recruiting and retaining participants in a longitudinal qualitative study. Sage Research Methods Cases. Sage Open.
- Hewett, R., Douglas, G., and Keil, S (2016) Transition to adulthood: Final summary report for project “Longitudinal study of transitions experiences of blind and partially sighted young people (Phase 2)”. Vision Impairment Centre for Teaching and Research, University of Birmingham.
- Hewett, R., and Douglas, G. (2015) Inclusive Design: Its impact on young people with vision impairment. Journal on Technology & Persons with Disabilities. 3, 277-290.
- Douglas, G. and Hewett, R. (2014) Views of independence and readiness for employment amongst young people with visual impairments in the UK. The Australian Journal of Rehabilitation Counselling, 20 (2), 81–99
- Hewett, R., Douglas, G., Keil, S. (2014) Post-16 transition experience of visually impaired young people in England and Wales: Early findings from a longitudinal study. British Journal of Visual Impairment, 32 (3), 211-222

1.3. DECIDING ON THE FOCUS OF THE THESIS

Once the participants left compulsory education there were three main pathways which they pursued. These were: FE; HE; employment and apprenticeships. At this point in the study the focus of the data collection periods moved from following the young people in year groups towards investigating the specific ‘pathways’ which each young person followed. Figure 2 provides a summary of the main pathways pursued by the participants.

Figure 2: Pathways pursued by the participants



Over half of the participants chose to go to HE after completing qualifications in sixth form and FE, highlighting what an important pathway this is for young people with VI. As will be discussed further in the literature review in Section 2.3, research evidence suggests improved employment outcomes in the UK for people with VI if they have higher qualifications, in comparison with those who have lower or no qualifications (above that observed in the general population). As the participants were different ages, and some took longer to make the transition from FE than others, this enabled me to make initial observations of the complexity of the transitions into HE for a small number of participants, before concluding that their experiences warranted a more extensive investigation, beyond the scope of the original research study.

Therefore, the rationale behind the decision to focus specifically on those young people on the university pathway can be summarised as follows:

- HE was a pathway taken by over half of the participants, highlighting how important it is to understand their experiences on this pathway;

- There is evidence which suggests a greater likelihood of a successful transition into employment for vision impaired people who have HE qualifications
- Initial discussions with the older cohort (Year 11) who had made the transition into HE showed that the processes of support seemed complex and worthy of further investigation

The primary aim of this thesis has been to understand the experiences of young people with VI making the transition into HE and to identify ways in which to improve the outcomes for these young people.

1.4. BASING A THESIS UPON THE SPONSORED STUDY: A RATIONALE

In this section I provide a rationale for basing this thesis upon a sponsored study, rather than a piece of research funded by the individual researcher. In particular, I outline the benefits of investigating transition through a longitudinal study whilst considering the challenges which are often encountered in resourcing such studies.

1.4.1. RESOURCING A LONGITUDINAL QUALITATIVE STUDY

A number of researchers experienced in conducting longitudinal qualitative research (e.g. Holland et al., 2006; Henwood and Lang, 2003) highlight what a valuable research method it is has proved to be for investigating experiences of different transitions. However, researchers also note (e.g. Farrall, 2006; Holland et al., 2006) that longitudinal qualitative studies can be extremely resource intensive. This is particularly true in the case of transition where the changes that the researcher seeks to observe can take a long period of time to be realised. This proved to be the case in this study where the participants were initially recruited in 2010 (aged between 14 and 16), but some of them are still preparing to make their initial transition into HE (aged between 21 and 23). Therefore, by basing the research around the sponsored study it has ensured that there are sufficient resources (crucially the salary of a fulltime researcher – me – for several years) to be able to maintain contact with the participants and to be able to continue tracking their progress.

1.4.2. PROVIDING CREDIBILITY TO THE RESEARCH

When working with participants in a longitudinal study it is especially important to be able to reassure them of the credibility of the research, to help ensure their commitment and confidence in the research process. This is because, in contrast to other research designs, the participants are asked to take part in multiple data collections. As the purpose of the research is to observe the experiences of the individual, it is essential that the same participants are used throughout the research study. Therefore, it could be challenging for an individual researcher to be able to recruit participants into a longitudinal study if they were not able to convince the participant that the research is likely to have any impact on the world around them. The research presented in this thesis has therefore benefited from being linked to the wider project which is being supported by voluntary sector organisations which are well positioned to respond to any important findings which emerge from the research.

1.4.3. SINGULAR CONTRIBUTION

A potential concern with embedding a PhD study within a larger sponsored research project is that the ‘singular contribution’ required by the PhD candidate may be difficult to discern from the contribution made by the broader research team. For this reason it is important to explicitly describe this singular contribution. For the duration of the research study I have acted as the sole researcher on the project, facilitated by the principle investigator and a research officer from partner organisation RNIB. This has included leading on: the recruitment of the participants; development of survey instruments; data analysis; reporting and other dissemination activities. I have been first author on all technical reports which have been published from the study. In particular, I have led the research into the experiences of the participants in HE and have extended the research conducted to beyond the remit of the original research proposal by:

- conducting additional follow up interviews with all the participants who made the transition into HE
- recruiting additional case study participants (compared with the other pathways)
- spending a day shadowing the case study participants in HE
- developing a conceptual framework through which to view the research findings.

1.5. OVERVIEW OF THE THESIS

I conclude this introduction by giving a short overview of the individual chapters of the thesis.

In Chapter Two, ‘Literature Review’, I outline some of the key literature which has informed this thesis. I begin by setting the scene and outlining the problem under consideration through a discussion of the employment outcomes of young people with VI. I explore research evidence of enablers and barriers which can impact upon these employment outcomes, and the particular challenges faced by young people with VI during the transition from school. I highlight the significance of education and the impact upon longer term outcomes of the delivery of specific skills through an ‘additional’ or ‘expanded core curriculum’. The second part of the chapter focuses on experiences of students with disabilities in HE, including a detailed analysis of literature that investigates the experiences of students with VI. The chapter concludes by outlining the three research questions which are explored in this thesis.

In Chapter Three, ‘Theoretical Framework’, I outline the theoretical framework used in this study by outlining three interconnected models. Applying these models in the context of VI, they provide a holistic view of the process of personal development. Firstly, I examine literature on different interpretations of ‘disability’ to consider how understanding of disability has developed over time, as well as presenting current guidance given by the World Health Organisation on how to view disability, through the International Classification of Functioning Disability and Health (ICF) Framework. Secondly, I provide an overview of Bronfenbrenner’s Bioecological

Model for Human Development and consider its potential for conceptualising the development of young people with VI, including interpreting how their life experiences and personal characteristics might impact upon the transitions that they make. Thirdly, I present a dual ‘access to learning model’ (McLinden et al., 2016) to consider the balance between a young person with VI being facilitated directly in their learning, but also being supported to learn the necessary skills to access learning independently.

Chapter Four, ‘Methodology: The Longitudinal Transitions Study’ outlines the broader study in which this thesis is situated. The chapter commences with a comprehensive discussion of the research methods which have been used in the study, including a presentation of longitudinal qualitative studies and case studies and the research design. This is followed by a discussion of the principles of participatory research which were adopted in this thesis, and an overview of the data collected as part of the Longitudinal Transitions Study which has been used in this thesis. The chapter also presents data on the characteristics of the participants who took part in interviews on their experiences of HE, and summarises the topics which were investigated through both the routine follow-up interviews with the participants and through the case studies. Finally, a description and justification is provided for the approach used for data analysis.

Chapter Five outlines my development of the *Bioecological Model of Inclusive Higher Education*. Drawing upon the findings of the longitudinal study and applying Bronfenbrenner’s original theory, I present the conceptual model which I developed and applied throughout the rest of the thesis as a ‘lens’ through which to view the ‘ecology’ in which the young people’s education took place. The Bioecological Model of Inclusive Higher Education is applied in Chapters Six to Nine as I present the findings from the research to seek to answer the three research questions.

Chapter Six addresses the first research question: ‘How well supported are students with vision impairment as they make the transition into HE?’ This chapter focuses on the support which the students received when preparing to transition into HE, covering the time period from their initial investigation into course providers through to their initial entry into HE and the first year of their course.

In Chapter Seven I address the second research question: ‘How inclusive is Higher Education for students with vision impairment?’ In this chapter I consider the different factors which made an impact upon the participants’ experiences in HE during the initial months on their courses. I provide examples of good practice by institutions for developing inclusive learning environments and discuss ways in which inclusive practice could have been developed.

In Chapter Eight I address the third research question: ‘How well prepared are students with vision impairment for being independent learners in Higher Education?’ In this chapter I focus specifically on the skills and resources which the participants were prepared with when they made the transition into HE, and question whether they were sufficiently prepared for this new environment.

In Chapter Nine, ‘Discussion: Balanced Strategies of Support for Students with Vision Impairment’, I take a holistic perspective of the transition experiences of young people with VI in HE by applying the research findings to propose the Balanced Model of Support, for approaching the support of students with VI in HE through inclusive design, individual adjustments and the individual agency of the student. I discuss the importance of prioritising the development of an inclusive learning environment for students with disabilities in HE, but argue for the importance of also making appropriate individual adjustments to meet specific needs, whilst taking into account the personal agency of the learner and their role as an independent learner.

Finally, Chapter Ten, ‘Conclusions’, revisits the research questions which were explored in this thesis and provides a summary of the key research findings, including providing a discussion on the implications of the findings for different stakeholders and providing suggestions for future work.

2. LITERATURE REVIEW

2.1. INTRODUCTION TO THE LITERATURE REVIEW

In this chapter I outline relevant literature which has informed the research study presented in this thesis. As will be discussed, historically research evidence has shown that young people with VI have very low employment outcomes, even in comparison to other disability groups. Consequently the primary objective of the Longitudinal Transitions Study has been to identify enablers and barriers which can impact upon a young person with VI making the successful transition into the labour market.

As will be explored further, research evidence shows that the higher the qualifications that a young person with VI has, the more likely they are to be in employment, and importantly, that higher qualifications have been shown to have more of an influence on whether an individual has positive employment outcomes for individuals with VI than for the general population. As over half of the participants in the Longitudinal Transitions Study pursued HE, it is important to understand the experiences that young people with VI have when in HE; to ensure that HE is as accessible to them as possible and to ensure that these young people have an equitable opportunity to obtain higher qualifications.

Many factors which are identified in research evidence as having an impact on the employment outcomes of young people with VI relate back to the young people's experiences when in school, and the skills which they acquire through an 'additional curriculum' (or the similar 'expanded core curriculum' as it is referred to in United States). Therefore, it is also important to investigate the skills and experiences which young people with VI have developed through school and how the availability of these skills and experiences impact upon outcomes in settings after school, including HE, to ensure that their HE experiences are not viewed in isolation of prior life experiences.

2.2. OUTLINE OF CHAPTER AND THE LITERATURE SEARCH AND REVIEW PROCESS

The review of literature formed an ongoing process due to the nature of the longitudinal study and the focus of the study evolving as the participants moved from setting to setting. Prior to the study commencing, research evidence had already been identified which highlighted the challenges faced by students with VI making the transition from school through to employment and adulthood. This acted as the catalyst for the broader Longitudinal Transitions Study, and this literature therefore inevitably had an impact on the focus of interviews with the participants.

When the decision was taken to focus on the experiences of students with VI in HE for this doctoral work, I returned to this literature base and made a more systematic investigation of the research literature. This section describes the approach which was taken in identifying and reviewing the literature presented in this thesis. A range of publications were examined, according to the topic of focus. These include:

- peer-reviewed journal articles and book chapters,
- policy and legal documents which provide important context,

- factsheets and publications produced by specialist voluntary organisations, and
- data collected by government agencies.

For systematic searches, a thirty-year period was chosen in line with previous literature reviews conducted by VICTAR (in which the research is situated), such as Douglas et al (2019).

2.2.1. SETTING THE SCENE AND SETTING THE PROBLEM

Section 2.3 presents research evidence to help set the scene of the research problem of the broader Longitudinal Transitions Study, to illustrate why it is so important to gain a better understanding of the transition experience of young people with VI. I firstly give an overview of estimates of the population of young people with VI in the UK and discuss some of the key characteristics of this group. This draws upon data compiled by specialist voluntary organisations and secondary data analysis of government datasets. Next I look at evidence of the employment outcomes of young people with VI. These estimates were drawn from a number of sources, including targeted surveys of individuals with VI, and secondary analysis of government datasets. Finally, I provide a presentation of available research evidence of the enablers and barriers which impact upon employment outcomes of young people with VI. The papers examined were identified through a systematic search. This search was conducted through the EBSCO Education database and the search terms used were ((visual impairment OR blind OR low vision) AND employment). Only publications from peer-reviewed journals relating to studies conducted in OECD countries in the previous 30 years (January 1987 to July 2017) were selected. The abstracts for the articles were imported into Endnote and then reviewed to identify papers which had relevance to the outcomes for young people with VI. This was important as many people with a VI experience the onset of their VI later in life, and therefore will not have benefited from receiving specific interventions relating to having a VI whilst in education. This search resulted in 24 full publications being retrieved and reviewed, before 13 papers were selected for inclusion in this section of the review.

2.2.2. EDUCATIONAL PROVISION IN THE UNITED KINGDOM FOR STUDENTS WITH VISION IMPAIRMENT

Section 2.4 looks at the educational provision for young people with VI, such as the educational settings in which these students might be situated; the role of specialist teachers (Qualified Teacher of Children and Young People with Vision Impairment or QTVIs) who have responsibility for overseeing the support of children and young people with VI during compulsory education; and the role of an ‘additional curriculum’ or ‘expanded core curriculum’ in developing the additional skills that a young person with VI will require in life. The objective of this section is primarily to provide an overview of the type of specialist support which is received by children and young people with VI. Sources drawn upon include a report from a systematic literature review, a guidebook for specialist teachers, government publications and publications from specialist charity organisations.

2.2.3. POST-16 TRANSITION

Section 2.5 investigates post-16 transition, and outlines why this is considered such a significant period of time for a young person with special educational needs and disabilities (SEND). This section investigates what is meant by the term ‘transition’, and what targeted support is provided for post-16 transition in the UK for students with SEND (particularly in the context of recent legislative changes). This section primarily draws upon two key UK government policy documents to examine the statutory support which should be received by students with SEND, and is supplemented by research literature to help define ‘transition’.

2.2.4. TRANSITIONS INTO AND EXPERIENCES IN HIGHER EDUCATION FOR STUDENTS WITH DISABILITIES

Section 2.6 focuses specifically on broader literature and research evidence relating to HE, including evidence of the experiences of young people with disabilities in HE, identified through a systematic search. It also outlines important policy which impacts upon practice in HE and secondary data on participation rates of students with disabilities.

The section starts by reviewing key policy documents which have been produced by key organisations in the UK HE sector, including the Department for Education, the Department for Business, Innovation and Skills (BIS), the Equality Challenge Unit and the Higher Education Academy, as well as the core legislation which determines the provision which should be made for students with disabilities in education.

The papers examined for the systematic search into the experiences of students with disabilities were identified through the EBSCO Education database. The search terms used were ((higher education OR university) AND disability). Only papers which were published in the previous 30 years (from January 1987 to July 2017), publications from peer-reviewed journals and relating to studies in Organisation for Economic Co-operation and Development (OECD) countries were selected. The abstracts for the articles were imported into the referencing software EndNote and then reviewed to identify papers which had relevance to the experiences of students with disabilities. Priority was given to articles which focused on the experiences of students with a broad range of disabilities, and therefore ones which focused on specific learning difficulties or impairments were discounted. This was to keep the analysis of literature suitably focused and also because I wished to obtain as broad an overview of the experiences of students with disabilities as possible. This would enable me to later identify factors which appear specific to students with VI and factors which are true for all students with disabilities. After shortlisting the articles by reviewing abstracts and then refining the list further by reviewing full papers, 18 papers were identified. Various factors which impact upon the experiences of students with disabilities were identified through this literature review, which were later grouped into ‘enablers’ and ‘barriers’.

2.2.5. EXPERIENCES OF YOUNG PEOPLE WITH VISION IMPAIRMENT IN HIGHER EDUCATION

Section 2.7 presents the outcome of a systematic review of research evidence into the experiences of young people with VI in HE. It commences by presenting evidence of how external legislation and institutional policies have impacted upon the student experience. It then looks at research evidence which identifies the importance of students being prepared with a broad range of skills and experiences to be able to participate in HE. It considers evidence on how students with VI can be best supported in HE by examining the specific challenges faced by this group of students as well as the importance of reasonable adjustments and use of technology. The section concludes by looking at studies which identify the importance of partnerships between student and institution for successful outcomes.

The papers examined for the systematic search into the experiences of students with disabilities were identified through the EBSCO Education database. The search terms used were ((higher education OR university) AND visual impairment). Only papers which were published in the previous 30 years (between January 1987 and July 2017), publications from peer-reviewed journals and relating to studies in OECD studies were selected. The abstracts for the articles were imported into Endnote and then reviewed to identify papers which had relevance to the experiences of students with VI in HE. After shortlisting the articles by reviewing abstracts and then refining the list further by reviewing full papers, 47 papers were reviewed in full - 43 of which focused specifically on VI. A further 4 papers which had also been identified by the search, but did not meet the entry criteria in talking specifically about VI, were retained as they were judged to provide important context to some of the issues that had been identified by the participants. A summary of the 47 papers is provided in Appendix 2.. The larger number of papers is reflective of the broader inclusion criteria for this particular systematic search, which was deemed appropriate, being central to the overall thesis. Various themes were identified in the papers reviewed, which were later refined into four categories: external legislation and institutional policies; preparation of students with VI for transition into HE; supporting students with VI in HE; partnership and the role of the learner. The summary table in Appendix 2 provides an overview of the different themes which were identified in each paper.

2.2.6. CONCLUSIONS AND RESEARCH QUESTIONS

To conclude, Section 2.8 draws together the key themes which were identified during this review process, and introduces the research questions that emerged through the literature reviewed and the gaps that were identified.

2.3. SETTING THE SCENE AND SETTING THE PROBLEM

2.3.1. YOUNG PEOPLE WITH VI IN THE UK

ESTIMATIONS OF PREVALENCE

It is estimated that two in every 1,000 (0.2%) of children and young people up to the age of 25 in the UK have VI (Vision2020UK, 2015; Bone and Meltzer, 1989; Cumberland et al., 2010; Flanagan et al., 2003), while five in every 10,000 (0.05%) of children and young people are estimated to be severely sight impaired/blind (Vision 2020UK, 2015 and Rahi and Cable, 2003). These estimates are based upon the WHO international classification of childhood VI, and are taken from Vision 2020UK, 2015.

It is also common for a young person with VI to have additional special educational needs or disabilities. For example, Keil (2012) estimates that approximately 20% of young people with VI have additional special educational needs and/or disabilities and 30% have complex needs. As the Longitudinal Transitions Study is interested in transitions into employment, the study has focused on young people without complex needs. This was reflected in the entry criteria of being able to ‘independently complete a questionnaire’.

It is challenging to obtain accurate figures of young people with VI as there is no legal requirement for an individual to register with local authorities as having sight impairment. Additionally, as a large proportion of young people with VI have additional special educational needs or disabilities, often these individuals are recorded under categories such as ‘multiple disabilities’. Secondary data analysis of the UK Labour Force Survey has identified 14,576 young people aged between 16-25 as being ‘long-term disabled with a seeing difficulty’ (Hewett and Keil, 2015), whilst analysis of government data identified more than 25,000 of children and young people aged 0-17 in England as being supported by specialist services for VI (Vision 2020, 2015).

These statistics highlight that VI is a low incidence disability among children and young people and that therefore their specific needs may easily be overlooked in investigations which don’t specifically focus on VI. There is a much higher prominence of VI within the older population due to individuals acquiring their sight loss in later life. An analysis of the Labour Force Survey showed that while 0.29% of the working age population were long term disabled with a seeing difficulty, when looking at specific age groups only 0.18% of people of people aged 16-25 were long term disabled with a seeing difficulty compared to 0.56% aged 55-64 (Hewett and Keil, 2015). This is significant when reviewing employment-related literature on people with VI as it shows the importance of examining whose experiences the research evidence represents - whether the individuals represented grew up with a VI and therefore have never experienced the labour market as a sighted person, or if they acquired their VI during their working life.

2.3.2. EMPLOYMENT ESTIMATIONS FOR YOUNG PEOPLE WITH VISION IMPAIRMENT

Hewett and Keil (2015) conducted a secondary data analysis of the UK Labour Force Survey to obtain estimates of the economic activity of ‘people of a working age who have a VI’. Table 3 compares the economic activity of young people aged 16-25 with VI, compared to those of the same age with another long-term disability and non-disabled workers.

Table 3: Economic activity of 16-25 year olds (by primary disability type). Adapted from Hewett and Keil, 2015

Activity	**Long-term disabled with a seeing difficulty (%)**	**Other long-term disabled (%)**	**Not disabled and without a seeing difficulty (%)**	**Total (%)**
Employed	27.8%	36.4%	54.9%	52.8%
ILO unemployed	*	15.1%	12.0%	12.4%
Student	29.4%	21.1%	25.9%	25.4%
Long term sick or disabled	*	15.4%	0.05%	1.7%
Other	*	12.0%	7.1%	7.6%
Total (N) (Weighted)	14,576	870,763	7,160,913	8,056,575

* = not sufficiently high for publication (less than 3,000)

The data shows that young people long-term disabled with a seeing difficulty aged 16-25 were less likely than the rest of the population of the same age to be in education or employment. It can be estimated that 42.8% of young people long term disabled with a seeing difficulty aged 16-25 are not in employment, education or training (NEET) compared to 21.7% of 16-25 year olds in the general population.

The table below summarises data collected by the ‘My Voice’ survey (RNIB, 2015) which was conducted by RNIB between November 2014 and April 2015 is the most recent survey of people with VI in the UK.

Table 4: Economic activity of people who are registered as blind or partially sighted in the UK, aged 18-29 (N=121)

Self-reported employed status	Total (%)
Paid employment	23%
Self-employment	2%
Unemployed	30%
Looking after family or home	2%
Student	21%
Long term sick or disabled	16%
Other	7%

The survey estimated that 25% of young people with VI are in some form of employment, while 46% are either unemployed or consider themselves to be long term sick or disabled.

In an earlier study, the Network 1000 survey, Douglas et al. (2009) conducted research amongst 1000 people with VI in the UK, and used weighted data to estimate the economic activity of this population, according to age group. As shown in Table 5, they estimated that 33% of people with a VI aged 18-29 were in employment.

Table 5: Economic activity of those of a working age who are either blind or partially sighted, adapted from Douglas et al., 2009

Activity	18-29 years weighted (%)
Employed	33%
Unemployed	22%
Long term sick or disabled	17%
Student	22%
Other	6%

Significantly the Network 1000 survey found a higher employment rate of 40% for those individuals in the sample who reported they experienced onset of VI during childhood. Pavey, Douglas and Corcoran (2008) concluded that this gave evidence of a positive effect of education and that life opportunities of young people with VI could be improved through their educational experiences.

In the United States of America, Capella McDonnall (2011) drew upon data from the ‘Current Population Survey’ conducted by the Bureau of Labor Statistics to provide estimates of the economic activity of young people with VI. They also found a considerable disparity between the employment rate of youths with VI in comparison to youths in the general population. In particular (as summarised in Table 6), for the age category 20-24 only 39.5% of youths with VI were in employment in comparison to 63.8% of the general population.

Table 6: Percentage of young people in employment in the United States of America, adapted from Capella McDonnall, 2011

Age	**Youths with vision impairment in employment (%)**	**Youths in the general population in employment (%)**
16-19	19.8%	29.2%
20-24	39.5%	63.8%

Whilst estimates vary between studies, they do show a consistent picture that young people with VI are very vulnerable to becoming unemployed.

2.3.3. INDICATORS OF EMPLOYMENT OUTCOMES FOR YOUNG PEOPLE WITH VISION IMPAIRMENT

Due to the low incidence of VI in childhood, there is limited research evidence to identify the factors which can impact upon the employment outcomes of young people with VI. The primary research evidence comes from the USA where there are large datasets available of youth transitions with sufficient data available to be able to make statistical inference about this population.

NATIONAL LONGITUDINAL TRANSITIONS STUDY-2 (NLTS-2)

The National Longitudinal Transitions Study-2 was a US government funded study which followed students with special educational needs over a period of ten years and five waves of data. The objective of the study was to follow the experiences of these youths from school through to early adulthood. Identified within this data set are several hundred young people with VI. Many academics have drawn upon this data to conduct secondary data analysis in order to identify factors which have significance in the employment outcomes of young people with VI (Institute of Education Sciences, 2017). The following table summarises these different studies, including giving an overview of the waves of data used, the statistical method used and the key findings of each study.

Table 7: Summary of findings from National Longitudinal Transitions Study-2

Authors	Waves of data used	Overview of method used	Findings
Kirchner and Smith (2005)	Waves 1 and 2	Secondary data analysis of two waves of data	Paper looks at research evidence that highlights that despite good qualifications, young people with VI still do not achieve good employment rates. Suggests that this is because of a lack of work experience opportunities, and a focus on qualifications rather than broader achievement.
Capella McDonnall (2011)	Waves 1 to 4	Logistic regression using a sample of 200 to predict employment at two levels: working 20 or more hours per week and working 35 hours per week or more.	Significant variables for predicting positive employment outcomes were: early and recent work experiences; completion of postsecondary program; difficulty with transportation; independent travel skills; and social skills
Zhou, Smith, Parker, Griffin-Shirley (2013)	Waves 1 to 3	Logistic regression using data of 200 in-school youths and 190 out-of-school youths. Examined the relationship between self-perceived computer competence and employment outcomes, whilst	Those with a high self-perceived computer competence were significantly more likely to have paid jobs than were those with a low self-perceived computer competence when other variables controlled.

		controlling for gender, severity of sight loss, and other disabilities.	
Wolffe and Kelly (2011)	Waves 1 to 4	Secondary data analysis to investigate possible significant relationships between students who received the expanded core curriculum (ECC) and positive outcomes of students with VI.	Found a number of significant relationships between the components of the ECC and positive outcomes for students. These included: use of braille; use of assistive technology and receipt of orientation and mobility services; using assistive technology; attending a postsecondary institution since high school; engaging in social activities; having had a paid job; receiving careers counselling and help in finding a job; training in job skills or vocational education whilst still in school; participating in volunteer efforts or community services.
Connors, Curtis, Emerson, Dormitorio (2014)	Waves 1 to 5	Analysis of the employment outcomes of 460 young people up to eight years after leaving high school. Dependent variable: post high school success was	Significant factors: completion of high school and paid work experience during high school are critical to long-term success for up to eight years post high school

		defined as either working or attending post-secondary education.	
Cmar (2015)	Waves 1 to 5	Multivariate logistic regression of data for 510 young people to identify significant factors in predicting positive employment outcomes.	Found that orientation and mobility skills and levels of expectation are significant factors in predicting positive employment outcomes for young people with VI.

The findings of these various analyses of the NLTS-2 data highlight the importance of the skills that young people with VI develop through specialist education for securing positive employment outcomes, as well as the importance of previous work experience and receiving a post-secondary education.

OTHER QUANTITATIVE STUDIES

The search also identified a small number of additional quantitative studies that have investigated transition into employment for young people with VI – these are discussed in turn. Giesen and Cavenaugh (2012) performed a logistic regression of data collected from transition-aged youths with VI who had accessed vocational rehabilitation programmes, in order to identify factors which contributed to their employment outcomes. Data was available for over 2000 clients under the age of 22. Significant factors identified included gender, race, education, having other disabilities, severity of VI, receipt of supplemental security income and early work experience.

Capella McDonnall and Crudden (2009) conducted a secondary data analysis of the US-based Longitudinal Study of the Vocational Rehabilitation Services programme. This was a relatively small sample of 41 young people with VI and therefore it was only possible to conduct univariate analysis. Significant factors identified included: work experience; academic competence; self-determination; use of assistive technology and locus of control.

Pavey et al. (2008) presented findings from the Network 1000 study, which investigated the life experiences of 1000 people with VI in the United Kingdom. By looking at a subset of 250 individuals who experienced their onset of VI during childhood, they found evidence of the positive impact of education on employment outcomes. They concluded that this analysis provided evidence of improved outcomes as the result of young people with VI receiving specialist support whilst in school.

Hewett and Keil (2015) conducted a secondary data analysis of the UK Labour Force Survey to investigate the economic activity of people with VI in the UK. One analysis they conducted was of the relationship between employment levels and highest qualification level. Their analysis found that the likelihood of a person with VI being in employment greatly increased if they had higher qualifications. Whilst this is also true of the general population, there was a greater disparity in positive employment outcomes for people with VI with a degree or above and no qualifications for those with VI (54% compared to 43.7%).

Table 8: Proportion of working-age people in employment, adapted from Hewett and Keil, 2015

	Degree or above (%)	**A-level and below degree level (%)**	**GCSE level and other (%)**	**No qualification (%)**	**Total weighted (%)**
All people with a seeing difficulty	72.2%	68.9%	54.4%	18.2%	55.0%
Whole population	85.6%	82.2%	70.0%	41.9%	72.8%

Whilst this evidence is significant in confirming the importance of delivery of the expanded core curriculum/additional curriculum (discussed in Section 2.4.2.), it still does not address important questions such as why some young people are able to access support whilst others are not, and how this support might be delivered most effectively.

QUALITATIVE STUDIES

There have also been a small number of qualitative studies that have been conducted with young people with VI to investigate factors which impact upon their transition outcomes. Whilst these studies do not provide such strong evidence in terms of successful interventions, they are important for gaining a more comprehensive understanding of the transition experiences into employment. Crudden (2012) conducted five focus groups with rehabilitators to explore their views on what skills and experiences young people with VI need to facilitate the transition from school to paid employment. The study identified several important factors, including: access to transition services before the age of 16; good communication between service providers and families; appropriate assessment; development of the specific skills required by young people with VI and parental support.

Hutto and Hare (1997) conducted interviews with six women who had achieved highly in education and gone on to obtain careers which could be considered atypical for a person with VI. The interviews focused on what the women believed had led to their success. Key factors they identified included: organisational skills; mobility skills; social competence; independence (and a desire to be independent); skills in assistive technology; having experienced life in mainstream education; social skills (including advocacy and networking); self-determination and family support (in particular, higher expectations from families).

The findings of these smaller studies align closely with the outcomes of the analysis of the NLTS-2, in highlighting the significance of the young person being able to develop specific skills and experiences, common to those discussed within the additional or expanded core curriculum. Of particular relevance to this thesis, they also emphasised the importance of higher qualifications and support for making transitions.

2.4. EDUCATIONAL PROVISION IN THE UK FOR STUDENTS WITH VISION IMPAIRMENT

As will be outlined further, in order to interpret the experiences of young people with VI in HE, it is important to understand the educational provision available in compulsory education for this population. This section provides an overview of this provision by firstly discussing the settings in which children and young people with VI are situated, and secondly outlining the different components of recognised specialist curriculum delivered to this group.

2.4.1. EDUCATIONAL SETTINGS

Douglas et al. (2009) provided an analysis of the evolution of educational provision for children and young people with VI in the United Kingdom. They noted that by 2000, educational “inclusion” of children with VI in mainstream schools had become well established in policy and practice” (p42). They also highlighted the significance of the ‘Warnock Report’ in driving forward these changes to educational practice, consolidating “the right of children with SEN to placement in the local school” (p42). Keil (2012) conducted an analysis of the settings in which children and young people with VI were situated in 2012. This is summarised in the table below.

Table 9: Settings in which pupils with VI are being educated in summer 2012, adapted from Keil (2012)

Type of setting	**Primary-aged pupils with VI (nursery/reception to Year 6)**	**Secondary-aged pupils with VI (Year 7 to 11)**
Mainstream school/academy	66.1%	55.0%
Mainstream with VI resource provision	1.5%	4.4%
Maintained special school for pupils with VI/Non-maintained special school for pupils with VI/Special school academy	2.4%	5.4%
Other type of special school (e.g. PD, SLD, HI) (maintained & non-maintained)	28.6%	35.0%
Other type of setting (e.g. hospital school, home educated)	1.3%	1.2%
Total	**100%**	**100%**
Base	**7714**	**4909**

The table shows that in 2012 around two-thirds of children and young people with VI were placed in a mainstream setting, whilst a large proportion of those placed in special schools were children and young people who had significant additional learning needs. Douglas et al. (2009) noted that in response to changes in educational policy, an increased proportion of children with VI in the UK were being educated in mainstream settings and being supported by a visiting or "peripatetic" qualified teacher of the visually impaired (QTVI). RNIB (2016) defined the role of a QTVI as being to "carry out a central role in the education of children and young people with VI from birth, working in homes, early year settings, schools and post 16 settings" (p1). In the UK, to teach a class of pupils with VI the teacher must hold what is a mandatory qualification for teachers of children and young people with VI, and teachers are “strongly advised” to obtain the qualification if acting as a specialist peripatetic teacher in mainstream schools (Department for Education, 2015a, p4).

2.4.2. ADDITIONAL CURRICULUM AND EXPANDED CORE CURRICULUM

In this subsection, I explore the components of three specialist curriculums/frameworks of support for children and young people with VI that are recognised in the UK. These are the *additional curriculum*, the *expanded core curriculum* and the *learner outcomes framework*. As noted above, as the majority of learners with VI are educated in mainstream settings, these are typically delivered on a peripatetic basis.

Additional Curriculum

In the UK, QTVIs have responsibility for the coordination of an “additional curriculum” for learners with VI; the term given to specific skills which are taught to students with VI which are not part of the core curriculum (Douglas and Hewett, 2014). In a literature review of best practice models and outcomes in education, Douglas et al. (2009) identified four strands to the additional curriculum:

- mobility and independence,
- social and emotional inclusion,
- ICT, and
- low vision training.

Some of the evidence identified through the literature review, which highlight the importance of young people with VI being facilitated to develop these different skills, is summarised briefly below.

Mobility and independence

The review found evidence of how important it is for children who are vision impaired to receive mobility and independence education to enable them to "participate safely and confidently in activities within and beyond school" (Douglas et al., 2009, p119). The review concluded that specialist one-to-one intervention is needed in order to compensate for the child not being able to develop such skills through observation, as their sighted peers would do.

Social and emotional inclusion

A previous literature review by Kemp (1981) concluded that the problems experienced by people with VI when communicating with others may be due to challenges in interpreting social cues. Later O'Donnell and Livingston (1991) found evidence that these barriers lead to delays in young children developing social skills. Drawing on the literature identified, Douglas et al. (2009) found an acceptance amongst experts that children with VI need a form of intervention, delivered by adults, to enable the young person to develop these important social skills. They identified that the challenges faced by a child with VI may result in difficulties in making friends and result in social isolation. Of particular significance to this study, they also found evidence that the child or young person may face particular challenges at times of transition and during later teenage years.

ICT

Douglas et al. (2009) noted that “computer technology has been ubiquitous in the education of visually impaired children, as it provides access to information that would otherwise be difficult or even impossible to obtain” (p138). They identified literature which emphasises the importance of ICT skills in later life, such as for the completion of college courses and for succeeding in employment. Important examples of specific skills identified by the review include being taught how to touch type and use access technology, such as magnification software.

Low vision training

The Douglas et al. review identified research evidence such as Barraga (1964) and Barraga (1990) has shown the importance of children and young people with VI being taught how to efficiently and effectively use their residual vision, including through use of appropriate visual aids (Douglas et al., 2009, p142). The review also identified the importance of having a multi-disciplinary approach to supporting children and young people with VI to develop these skills, highlighting that whilst low vision aids (LVAs) are often prescribed at low-vision clinics, educators have an important role in ensuring that these aids are implemented properly.

The Expanded Core Curriculum

The UK additional curriculum broadly parallels what is known in the United States of America as the “expanded core curriculum” (ECC). Sapp and Hatlen (2010) noted that the ECC “refers to the generally accepted nine areas of instruction that children and youths with visual impairments (both those who are blind and those with low vision), including those with additional impairments, need to be successful in school, the community and the workplace. The framework of the ECC gives service providers and parents a common language and understanding for structuring assessments and planning educational programs" (p338).

They state that they ECC consists of the following nine areas:

- compensatory or access skills (e.g. skills to access all areas of the curriculum, including braille, large print and study skills);
- career education (e.g. opportunities for first-hand experiences with various jobs and roles in life);
- independent living skills (e.g. food preparation and organisational skills);
- orientation and mobility skills and concepts (skills to move and travel as independently as possible);
- recreational and leisure skills (development of recreational skills which would otherwise be learnt through observation);
- self-determination skills (facilitating to make own decisions);
- social interaction skills (e.g. making eye contact);
- use of assistive technology (e.g. use of screen-reader or magnification software); and
- sensory efficiency skills (e.g. visual efficiency and auditory learning).

In their textbook, which outlines the ECC, Allman and Lewis (2014) noted that when specialist educational professionals start to work with students with VI, they should do so by “beginning with the end in mind…focussing on the potential adult” (p14-15). The argument for the necessity of the ECC for preparing a child/young person with VI for adulthood can be supported by various research studies. For example, as outlined in section 2.3.3, Wolffe and Kelly (2011) conducted a secondary analysis of a longitudinal data set and found “numerous significant relationships between instruction in the expanded core curriculum and positive outcomes for students” (p340). Sapp and Hatlen (2010) contrasted the longer-term outcomes of two young men, one of whom had been supported to develop key independence skills whilst the other had received a lot of individualised support. They used their contrasting levels of independence once in adulthood to emphasise the importance of preparation for adulthood through the ECC.

Department for Education (2015a) refers to the QTVI as an “agent of change” (p15), stating that QTVIs have responsibility for “ensuring that learners with VI have high expectations for what they can achieve” (p23). McLinden et al. (2017) explored this concept of “agent of change” in the context of Bronfenbrenner’s model and argued that QTVIs should act as a “proactive agent of change in seeking to promote progressive, mutual accommodations between the active learner and the changing environment over a period of time with a view to developing independence” (p580-581). These studies have emphasised the importance of the role of the QTVI in supporting a young person with VI to be prepared for different transitions, and ultimately for adulthood.

Learner Outcomes Framework for Vision Impairment

Thinking more specifically about independence outcomes, UK-based National Sensory Impairment Partnership (NatSIP) have also published a ‘Learner Outcomes Framework for VI children and young people’ (Keil, 2016a). This framework, which focuses heavily on promoting the independence of the individual, takes into account key short-, medium- and long- term outcomes needed by an individual with VI, both during education and through to independent adulthood. The framework was developed by drawing upon research evidence and through consultation with children and young people with VI. Importantly, the framework is organised around the UK ‘core and additional curriculum’ and the US ‘expanded core curriculum’ (Keil, 2016a, p5).

The eight categories which make up this framework are:

1. Learning to Access (skills to access information independently).
2. Use of equipment (use equipment effectively and make appropriate choices).
3. Independence and negotiation skills (self-advocacy and problem solving).
4. Participation (included in all aspects of school life).
5. Meeting others (able to take part in extracurricular activities and get to know others with a VI).
6. Getting around (age appropriate independent mobility skills).
7. Looking after him/herself (age appropriate everyday living skills).
8. Life after school (age appropriate skills and knowledge to approach transitions).

The focus on independence outcomes and preparation for adulthood correlates strongly with the philosophy of the UK 2014 Special Educational Needs and Disabilities (SEND) Code of Practice (Department for Education, 2015b) which, as is acknowledged in the foreword, has a greater focus on life beyond school than the previous Code of Practice:

> "Importantly, the aspirations for children and young people will be raised through an increased focus on life outcomes, including employment and greater independence" (Department for Education, 2015b, p11).

Thus, this statutory document calls for education providers to facilitate children and young people with special educational needs and disabilities to work towards outcomes beyond simply attainment in exams, and instead to consider the broader skills that the individual requires. As Douglas et al. (2016) have noted, however, delivering such outcomes can be challenging in educational systems such as that in the UK which focus heavily on assessments. This can result in a "narrowing of the curriculum" by placing less emphasis on broader outcomes such as those presented above.

Significantly, these research findings and policy positions highlight just how important it is to consider the experiences which a young person with VI had whilst in compulsory education, in order to interpret outcomes as the young person moves into adulthood.

2.5. POST-16 TRANSITION

2.5.1. LIFE BEYOND SCHOOL: TRANSITION INTO ADULTHOOD

Cobb and Alwell (2009) who conducted a systematic review of transition interventions and transition outcomes for secondary-aged students with disabilities defined the process of transition from school into adulthood as:

> “Transition refers to a change in status from behaving primarily as a student to assuming emergent adult roles in the community. These roles include employment, participating in postsecondary education, maintaining a home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships. The process of enhancing transition involves the participation and coordination of school programs, adult service agencies, and natural supports within the community.” (p71).

Mazzotti et al. (2014) who explored evidenced-based practices for supporting students with disabilities through postschool transitions stated that “the purpose of secondary transition is to prepare students with disabilities for positive postschool success in the areas of education, employment, and independent living” (p8), and argued the importance of targeted transition support for supporting these students to improve postschool outcomes. This is echoed by researchers in other countries, such as Winn and Hay (2009) who through an analysis of the challenges faced by young people with disabilities making transitions from school in Australia, identified different examples of targeted support required to improve long-term outcomes.

Brown et al. (1991) who provided a reflective piece on the employment outcomes of young people with disabilities in America, stated that education has a “responsibility that goes beyond helping disabled students to receive services and to perform academically…to assist them in the development of their own independence, to ‘empower’ them” (p264). Ward et al. (1994) who explored the transition outcomes of a cohort of 618 young people with disabilities noted that young people with disabilities face more challenges than their non-disabled peers during this period of their life while Eckes and Ochoa (2005), who looked at profiles of some of their students in a US college in the context of policy and legislation, called for improved transition support for students with disabilities preparing to transition into HE. Lindsay et al. (2015), reflecting on statistics showing poor outcomes for young people with disabilities they had identified as part of a systematic review of mentorship interventions, stated that “making education and employment accessible to youth with disabilities is critical” (p1329).

2.5.2. POST-16 TRANSITION AND YOUNG PEOPLE WITH SPECIAL EDUCATIONAL NEEDS

During the period in which the Longitudinal Transitions Study has been conducted, there has been a significant change to educational policy for children and young people with special educational needs. This came about in 2014 with the introduction of a new Special Educational Needs and Disability Code of Practice (Department for Education, 2015b), which replaced the 2001 Special Education Needs Code of Practice (Department for Education and Skills, 2001). Similar policy exists in the

USA through the Individuals with Disabilities Education Act (2004), with transition objectives being captured in “Individualised Education Plans”.

The participants who were recruited into the Longitudinal Transitions Study went through the education system when the 2001 SEN Code of Practice was in effect. This Code of Practice recognised the need for focused transition support for children and young people with SEN, particularly leading up to the point at which they prepare to leave compulsory education. This process was designed to commence in year 9 (age 13), at which point multiple agencies including the school, careers service and specialist teachers should meet to develop a Transition Plan (Department for Education and Skills, 2001, p129). The aim of this plan was to “draw together information from a range of individuals within and beyond school in order to plan coherently for the young person’s transition to adult life” (p130). This process was coordinated by Connexions - a government agency which provided advice, support and guidance during this period of transition for all young people up to age of 19, and up to the age of 25 for young people with SEND. Whilst Connexions had responsibility for supporting the young person until the age of 25, responsibility for specialist educational services ceased at the point at which the student left school. This meant that under this previous Code of Practice, specialist educational services were not obliged to provide specialist guidance for young people with VI as they made the transition into HE.

The objective of the new (and current) 2014 Code of Practice was to bring together agencies across education, health and social care to promote a multi-agency approach to supporting children and young people with SEND (Department for Education, 2015b, p11), with details of support provision being captured in an Education Health and Care plan (EHC plan). One of the significant changes in this Code of Practice is the requirement for agencies to support the young person through to the age of 25, with a focus on helping facilitate the individual to become an independent adult (as reflected in Section 8 of the guidance: “Preparing for adulthood from the earliest years”). The Code of Practice has noted high aspirations as being “critical to success” (p120), stating that “local authorities and health services should plan strategically for the support children and young people will need to prepare for adult life [to] enable children and young people to have the information and skills they need to gain independence and prepare for adult life” (p120). Special reference is made to support for transition into HE, including placing responsibility on local authorities to provide information about the support available in HE and putting steps in place to plan for a “smooth transition to higher education” (p134). Once a young person enters HE, the local authority no longer has to maintain their EHC plan, and instead the local authority passes the EHC plan to relevant staff at the young person’s institution.

2.6. TRANSITIONS INTO AND EXPERIENCES IN HIGHER EDUCATION FOR STUDENTS WITH DISABILITIES

2.6.1. SETTING THE SCENE: POLICIES PROMOTING INCLUSIVE EDUCATION WITHIN HIGHER EDUCATION IN THE UNITED KINGDOM

The most significant development which has impacted upon the experiences of UK-based students with disabilities in recent years has been the introduction of the UK Equality Act of 2010. This brought together previous equality legislation into one legislative document (Department for Education, 2017; ECU, 2012). Looking specifically at education and disability, the Equality Act requires providers to make 'reasonable adjustments' for disabled students in such a way that they are not put at a disadvantage when compared to their non-disabled peers. These reasonable adjustments apply to admissions, curriculum delivery and examinations (Hewett et al., 2015).

This legislation means that if you are a disabled student your education institution:

- Must not treat you unfavourably because of something connected to your disability, where they cannot show that what they are doing is objectively justified.
- Must make reasonable adjustments to ensure that you can use the education and other benefits, facilities and services provided, as far as is reasonable, to

> the same standard as non-disabled students. (Equality and Human Rights Commission, 2012 p6).

The ECU (2012) identified three types of reasonable adjustments which HE institutions should adhere to:

- Provision, criteria or practice, e.g. making lecture notes available in an accessible format.
- Physical features, e.g. inclusive access to lecture theatres.
- Auxiliary aids, e.g. assistive technology.

Significantly, as noted by Equality and Human Rights Commission (2012), HE institutions are responsible not simply for *making* reasonable adjustments, but also for *anticipating* the adjustments which may be required.

> “If you are a disabled student, the duty requires further and higher education institutions to take positive steps to ensure that you and disabled students generally can fully participate in the education and other benefits, facilities and services provided for students. This includes taking advance action, where it is reasonable, to anticipate disabled students’ requirements so that it is then not difficult or too late to make adjustments when disabled students ask for them” (Equality and Human Rights Commission, 2012, p14).

Department for Education (2017) also emphasises this responsibility of HE institutions to make anticipatory adjustments:

> “Higher Education Providers should not wait until a disabled person wants to use a service that it provides before they give consideration to their duty to make reasonable adjustments. Collectively we must seek to anticipate the requirements of disabled people and the adjustments that may have to be made for them” (p11).

When investigating into the experiences of students with disabilities in HE, therefore, it is important to provide some form of assessment of how well institutions meet these requirements under the Equality Act.

A further significant policy development has related to the UK government funded ‘Disabled Student Allowances’ (DSA) scheme. This scheme funds specialist equipment and support for students with disabilities, to enable them to participate in HE. In 2015, Department for Business, Innovation and Skills (BIS), who at the time had responsibility for DSA, announced a consultation into its future remit (BIS, 2015). The proposed reforms to the DSA scheme were on the basis that HE institutions should take greater responsibility for offering an inclusive learning experience, rather than relying on DSA to fund individualised adjustments (Department for Education, 2017; Hewett et al., 2017).

In response to the Equality Act, organisations such as the Higher Education Academy, Equality Challenge Unit and Department for Education released a number of publications aimed at assisting HEIs to develop inclusive practice. These publications provide a number of definitions of what form inclusive education should take:

> "Inclusive practice is an approach which recognises the diversity of students, enabling all students to access course content, fully participate in learning activities and demonstrate their knowledge and strengths at assessment. Inclusive practice values the diversity of the student body as a resource that enhances the learning experience." ECU (2013, p1)

> "Inclusive learning and teaching in higher education refers to the ways in which pedagogy, curricula and assessment are designed and delivered to engage students in learning that is meaningful, relevant and accessible to all. It embraces a view of the individual and individual difference as the source of diversity that can enrich the lives and learning of others." (Hockings 2010, p1).

Central to both of these definitions is the celebration of diversity and a commitment to improving the student experience. This is representative of the underlying philosophy of these publications, that inclusion should be viewed as a positive opportunity which HEIs should strive towards. For example, Department for Education (2017) argued that an inclusive approach forges "…the link between excellence and enabling all students to deliver to their full potential. That is after all the core purpose of higher education" (p14). BIS noted that equal access to HE can have wider benefits for society, stating:

> “…everyone with the potential to benefit from higher education should have equal opportunities to do so. Higher education brings significant benefits to individuals, society and the economy. It enriches the lives of individual students, opening the door to rewarding careers and enhancing physical and mental wellbeing” (BIS 2014, p3).

Department for Education (2017), writing in response to the changes to DSA, highlighted four key ways in which inclusive practice should benefit HE providers. These are:

> 1. It addresses key issues around differential outcomes for students from different backgrounds which can otherwise lead to external scrutiny.
> 2. It addresses the responsibilities placed on HE providers by the Equality Act 2010 and recent changed to DSA.
> 3. It leads to cost saving.
> 4. It improves the reputation of the quality of learning and teaching at a HE institution (Department for Education, 2017, p9-10).

Hockings (2010) suggested that principles of inclusive education are akin to those of Universal Design, a concept which originated in architecture. The basis of Universal Design is that through anticipation of the diverse needs of individuals, an environment (or in the case of education, a curriculum) can be developed from the outset in a manner which accommodates all.

As stated by ECU (2013) and BIS (2014), inclusion in HE is important throughout the student lifecycle: entry *into,* participation *within* and progression *from* HE. QAA (2013) and BIS (2014) emphasised that to be successful, inclusive education should be seen as a partnership between the institution, its staff, students and other stakeholders. QAA (2013) argued that “all have a role in and responsibility for promoting equality” (p1) while BIS (2014) suggested that genuine partnerships are needed between all stakeholders (p3). This provides further rationale for using this study not just to investigate the experiences of the participants once in HE, but also to look at the journey they followed to get there.

2.6.2. EXPERIENCES OF STUDENTS WITH DISABILITIES IN HIGHER EDUCATION

In this section I explore the educational experiences of students with disabilities in HE, including exploring relevant policy from other countries and how these align with UK legislation, and an investigation of recurring themes across different studies about the factors which can impact upon the experiences of students with a broad range of disabilities. A summary of all the papers referenced in this section is available in Appendix 2 to provide further context.

Many of the recent papers identified (from 2000 onwards) highlighted how significant the introduction of legislation has been across multiple countries for promoting opportunities for students with disabilities. The legislation outlined in papers from studies outside of the UK use very similar language to the UK Equality

Act of 2010. For example, Kilpatrick et al. (2017) discussed the Australian Disability Standards For Education, 2005, which obligates Australian universities to “ensure students with disability can access and participate in education on the same basis as other students,” and to “anticipate and plan for the inclusion of students with disability and make reasonable adjustments” (p747-8). Yssel et al. (2016) referenced the Individuals with Disability Act in the USA; Brant (2011) the Quality Reform in the Norwegian HE system, which has the objective of “providing equal rights to education for all” (p108); and Camacho et al. (2017) the Organic Law 4/2007, which mandates the “inclusion of people with disabilities and guarantees equal opportunity and non-discrimination” for students with disabilities in Spain (p148). Morina (2017a) acknowledged shifts in policy and observed that they have led to an increased focus on inclusion within HE, which in turn this has led to higher participation rates for students with disabilities.

Despite these changes in policy, Morina (2017a) and Vickerman and Blundell (2010), having researched into student experience, argued that there is still much work required in “levelling” HE for students with disabilities. The research literature examined provides many examples of ways in which students with disabilities can be both facilitated and restricted in accessing HE, as well as highlighting the significant role which the learner plays in their overall experience. These are discussed in turn.

Barriers faced by students with disabilities in accessing Higher Education

Environmental barriers

One of the most commonly identified challenges for students with disabilities were environmental barriers (e.g. Riddell (1998) and Tinklin and Hall (1999). Specifically, West et al. (1993) noted that students face challenges because of the inaccessibility of the learning environment, Fuller et al. (2004) identified problems with difficulties in accessing library facilities and Morina (2017a) noted flaws in architectural design which restricted students. Similarly, Tinklin and Hall (1999) found that students faced barriers because of inaccessible information. Morina (2017a) noted that legislation (as discussed above) should prevent such barriers, but these problems persist in HE, due to a lack of enforcement.

Knowledge and expertise of staff and stakeholders

A large number of studies identified challenges due to the limited knowledge and expertise of staff and other stakeholders. West et al. (1993), Morina (2017a) and Brandt (2011) found an apparent lack of training for staff on how best to support students with disabilities, including how to incorporate inclusive pedagogy. Brandt (2011) described existing knowledge regarding how to support students with disabilities in HE as “fragmented” (p107). Riddell (1998) identified a failure of HE staff to understand that disabled students are not starting from the same position as other students. A further problem identified by Kendall (2016) and Fuller et al. (2004) is that lecturers are often not informed about the needs of disabled students in their lectures and when they are, the information provided on how to support these students can often be too narrow and generic. These findings provide some explanation for why students with disabilities still seem to be facing barriers to participation, despite the introduction of new disability legislation.

Attitudes of staff

A further barrier identified was the attitudes of HE staff. Fuller et al. (2004) identified that some students with disabilities faced challenges due to a lack of cooperation of lecturers. Kendall (2016) provided examples of an unwillingness by staff to make reasonable adjustments, and Morina (2017a) gave evidence of negative attitudes being displayed by faculty members. This is of particular significance as Duquette (2000) found ‘understanding professors’ to be one of three important factors which can determine whether a student with disabilities continues on their course or not.

Other examples of a lack of adjustments

West et al. (1993) and Fuller et al. (2004) found that students with disabilities can be limited by a lack of available assistive technology within institutions, while Hill (1992) found that students with disabilities can be attracted to particular types of institutions, which in turn can put a strain on the available resources at that institution. Fuller et al. (2004) and Kendall (2016) also found evidence of negative experiences for students with disabilities due to the way in which assessments were constructed, which often proved to be inappropriately time consuming and stressful. They also observed limited offers of alternative assessment.

Reluctance to disclose

Thinking more specifically about the impact which can be made by the student, several studies identified the reluctance of students to disclose their disability as a significant barrier. Riddell (1998) found evidence of students internalising the problems they faced, while Fuller et al. (2004) found that students without visible disabilities were resistant to disclose as having a disability if it might otherwise go unnoticed. This reluctance can be partly explained by the findings of Morina (2017a) who found evidence of the students without visible disabilities being questioned by others about the validity of their claims.

Getzel and Thoma (2008) identified evidence of ways in which students experienced problems due to not disclosing their disability. Yssel et al. (2016) found evidence of a reluctance to disclose because of students wishing to be independent and be viewed like their peers. Kendall (2016) and Morina (2017a) also found evidence that students were resistant to disclosing their disability due to a perceived stigma attached to having a disability. Consequently Kendall (2016) recommended that institutions should actively encourage students to disclose and provide appropriate opportunities to do so.

While a number of studies acknowledged that increasingly more students with disabilities are participating in HE, studies such as Knight et al. (2018) and Morina (2017a) still highlighted a lack of equality, having found that students with disabilities often take longer to graduate from their course, and have to put in significantly more work than their peers.

Enablers which facilitate students with disabilities to access Higher Education

Inclusive approach to education

Many of the barriers faced by students with disabilities which have been identified in this section could arguably have been overcome through a more inclusive approach to education, which anticipates the needs of all students, rather than relying on individual adjustments. This argument is drawn out through the findings of several studies. For example, Fuller et al. (2004) argued for greater variety and flexibility in teaching. Vickerman and Blundell (2010) stated that it is necessary for institutions to conduct themselves in such a way as to facilitate barrier-free access to the curriculum. Tinklin and Hall (1999) noted that whilst support was provided to the students they researched, this support was often to enable the student to overcome barriers which should never have existed. Similarly Morina, (2017b) argued that institutions should be designed in such a way to enable the student to access their course with minimal individualised support. Morina (2017a) argued that this can be best achieved through universal design for learning, defining this as “an approach to teaching that is characterised by the proactive design and use of inclusive strategies that benefit all the students” (p11). These findings emphasise the importance of developing an inclusive approach to supporting students with disabilities.

Role of individual adjustments

Despite many articles placing emphasis on improved outcomes through strategies which reduce the need for individualised adjustments, several studies identified ways in which students with disabilities had more positive outcomes through individualised support. Morina (2017a), Kendall (2016) and Vickerman and Blundell (2010) highlighted the importance of providing dedicated support through specialist departments at institutions which facilitate access for students with disabilities, including ones which provide valuable empowering support such as mentoring. Ysell et al. (2016), Morina (2017a) and Vickerman and Blundell (2010) suggested that the most positive outcomes come when staff work in partnership with students. These findings introduce some tension to the debate on support strategies for students with disabilities, as making individualised adjustments can be seen as going against an inclusive philosophy.

Support networks

As well as having support from the institution, it was also found by Duqette (2000) and Morina (2017a) that it is important for students with disabilities to receive support from family and friends, with an emphasis on peer support networks whilst attending an institution.

Preparation of the student

Several studies identified ways in which outcomes for students with disabilities were improved if they were prepared with certain skills which could enable them to thrive in a HE environment. These skills include self-determination, self-advocacy, problem-solving, self-management, use of assistive technology, resilience, understanding of strengths and weaknesses, and study skills such as time management. Having high expectations and goals were also identified as important (Getzel and Thoma (2008), Morina (2017a), Morina (2017b), Diquette (2000)).

Again, this emphasises the importance of not viewing the participant’s experiences in HE in isolation.

Targeted transition support

A number of studies found evidence of the positive effects of offering targeted support for students with disabilities at the point of initial transition. Morina (2017a), reporting on findings of a comprehensive literature review, concluded that “for people with disabilities, the transition processes to university are fragile and can easily be compromised…a period when more vulnerabilities are revealed which can lead to students dropping out of university” (p8). West et al. (1993) suggested that students with disabilities could be better supported through improved transition support, such as access to information about available services, being better prepared to understand rights, and through support groups and clubs targeted towards students with disabilities. Vickerman and Blundell (2010) argued the need for pre-course induction support, while Morina (2017a) concluded that institutions need to be more proactive in providing such support to facilitate transitions. In reflecting on the key messages from a literature review which explored evidence of the experiences of students with disabilities in HE, Morina (2017a) highlighted quite how significant a change the transition into HE can be for students with disabilities, even when compared to that of their peers.

> “The main source of difficulty in this lies in the fact that the student must often adapt to new organisational, educational and social contexts. When they arrive at university, the needs of students with disabilities are similar to those

> they had in high school, except now they have to be more self-directed in managing their own lives" (Morina, 2017a, p8).

Therefore, as will be discussed further in the next section, whilst more students with disabilities are entering HE, compared to those of their non-disabled peers their transition experiences are not necessarily equitable.

2.6.3. SECONDARY DATA ON STUDENTS WITH DISABLITIES IN HIGHER EDUCATION

Data for the United Kingdom HE sector is collected by the Higher Education Statistics Agency (HESA), an independent, charitable organisation which takes responsibility for collecting data from HE providers. This includes data about students, staff and management. A separate organisation, the Equality Challenge Unit (now under Advance HE), takes responsibility for analysing this data to explore key indicators to assess equality in the HE sector. Equality data relating to students is published each year in a technical report, for example ECU (2017). Downloading the technical report allows access to the MS Excel tables used within the reports. The information presented in the following tables has been extracted from the ECU 2017 report, and presents data collected in the 2015/16 academic year relating to students with disabilities, and students with VI in particular.

Table 10: Profile of first-year students over time by disability status

Year	Not Disabled		Disabled		All first-year students
	Total (N)	Total (%)	Total (N)	Total (%)	Total (N).
2003/04	963,940	95.3%	47,965	4.7%	1,011,905
2004/05	959,005	94.9%	51,845	5.1%	1,010,850
2005/06	999,770	94.5%	57,745	5.5%	1,057,515
2006/07	996,000	94.2%	61,305	5.8%	1,057,305
2007/08	1,002,570	93.8%	66,255	6.2%	1,068,825
2008/09	1,072,160	93.7%	71,860	6.3%	1,144,020
2009/10	1,111,210	93.8%	73,980	6.2%	1,185,190
2010/11	1,067,110	93.1%	78,860	6.9%	1,145,970
2011/12	1,033,615	92.5%	83,725	7.5%	1,117,340
2012/13	893,410	92.0%	78,000	8.0%	971,410
2013/14	912,670	91.7%	83,070	8.3%	995,740
2014/15	899,840	91.0%	89,045	9.0%	988,885
2015/16	895,975	90.3%	96,150	9.7%	992,125

Table 10 shows that since the introduction of policy designed to increase the participation of students with disabilities in HE, there was an increase in the number of students declaring that they have a disability. For example, in 2003/4 4.7% of first year students declared having a disability, but by 2015/16 this had increased to 9.7% (ECU, 2017). It is important to note, however, that this is the proportion of students who *declared* themselves as having a disability, and therefore may not be a true reflection of the change in proportion of students with disabilities in HE. Other explanations for this increase include more young people being identified as having a disability and young people being more willing to declare that they have a disability. Nevertheless, this is important, as several studies found improved outcomes for students who declared their disability (Fuller et al., 2004; Getzel and Thoma, 2008; Kendall, 2016; and Morina, 2017a).

Table 11: First degree undergraduate disabled students by impairment type – 2015/16

Disability type	Total (N)	Total (%)
Blind or a serious visual impairment	2,300	1.1%
Deaf or a serious hearing impairment	3,590	1.8%
A long-standing illness or health condition	18,335	9.1%
Mental health condition	36,950	18.4%
A physical impairment or mobility issues	5,825	2.9%
Social communication/Autistic spectrum disorder	6,995	3.5%
Specific learning difficulty	89,035	44.4%
Two or more conditions	20,190	10.1%
Another disability, impairment or medical condition	17,175	8.6%
All disabled students	200,400	100.0%

The table above provides a breakdown of disabled students, organised by impairment type, who in 2015/16 were undertaking their first undergraduate degree. Just over 1% of the students who declared as having a disability, identified as being blind or having a serious VI. As noted in Section 2.4.1, young people with VI sometimes have additional special educational needs, and therefore it is likely that more students attending HE in 2015/16 had a VI, and are instead recorded in the ‘two or more conditions’ category.

Table 12: Disabled students, first degree undergraduate by DSA take up – 2015/16

Disability type	**In receipt of DSA (%)**	**Not in receipt of DSA (%)**	**Unknown DSA status (%)**	**Total**
Blind or a serious visual impairment	42.6%	53.9%	3.5%	2,300
Deaf or a serious hearing impairment	41.4%	55.2%	3.3%	3,590
A long-standing illness or health condition	25.9%	70.0%	4.0%	18,335
Mental health condition	25.9%	69.3%	4.8%	36,950
A physical impairment or mobility issues	42.5%	53.7%	3.9%	5,825
Social communication/Autistic spectrum disorder	56.3%	40.9%	2.8%	6,995
Specific learning difficulty	57.1%	40.0%	2.9%	89,035
Two or more conditions	45.6%	53.1%	1.2%	20,190
Another disability, impairment or medical condition	25.3%	70.5%	4.2%	17,175
All disabled students	43.7%	52.9%	3.4%	200,400

Table 12 provides a breakdown of students with disabilities in 2015/16, according to whether they were in receipt of the government-funded scheme ‘Disabled Students’ Allowance’ (DSA) or not. Around two-fifths (42.6%) of the participants who declared as being ‘blind or having a serious visual impairment’ received DSA. This is in keeping with the percentage of all disabled students receiving DSA (43.7%).

Table 13: First degree undergraduate qualifiers by degree class and impairment – 2015/16 (rounded figures)

Disability type	**First/2:1**		**2.2/Third/ Pass**		**Total**
	No.	**%**	**No.**	**%**	**No.**
Blind or a serious visual impairment	360	74.3	125	25.7	480
Deaf or a serious hearing impairment	545	68.2	255	31.8	795
A long-standing illness or health condition	3,180	74.7	1,080	25.3	4,260
Mental health condition	5,545	74.7	1,875	25.3	7,420
A physical impairment or mobility issues	*	*	*	*	*
Social communication/Autistic spectrum disorder	935	72.7	350	27.3	1,285
Specific learning difficulty	545	68.2	255	31.8	795
Two or more conditions	16,370	71.2	6,605	28.8	22,975
Another disability, impairment or medical condition	2,090	66.4	1,055	33.6	3,145
All disabled students	2,795	72.0	1,085	28.0	3,880
Non-disabled students	242,725	73.4	87,960	26.6	330,685

Table 13 provides a breakdown of final degree classification by disability type for students who graduated in 2015/16. Approximately three-quarters of students who declared as being ‘blind or having a serious visual impairment’ achieved a first class honours or upper-class second degree qualification, which interestingly is slightly higher than the proportion of non-disabled students who achieved equivalent.

2.7. EXPERIENCES OF YOUNG PEOPLE WITH VISION IMPAIRMENT IN HIGHER EDUCATION

2.7.1. INTRODUCTION

This section outlines research literature which focuses on issues in HE relating specifically to students with VI. Section 2.7.2 views these experiences in the context of external legislation, and how this legislation is translated into institutional policies. Section 2.7.3 looks at evidence of how important it is for students with VI to be prepared to be able to participate in HE, including evidence of the types of specific skills required. Section 2.7.4 reviews evidence on experiences of supporting students with VI in HE, including some of the specific challenges identified, examples of anticipatory adjustments which were made and examples where individual adjustments were necessary (including the students' use of technology). Finally, Section 7.8.5 explores the role of partnership between the institution and the student in developing an environment where the student is facilitated to become an independent learner. A summary of all the papers referenced in this section is available in Appendix 2, to provide further context.

2.7.2. EXTERNAL LEGISLATION AND INSTITUTIONAL POLICIES

Ostrowski (2016) argued that 'changes to government legislation, institutional policy, and instructional practices can alleviate [barriers] and improve postsecondary accessibility for all students, with or without impairments' (p22). He argued that, whilst removed from the student's immediate environment, it is important to understand the implications of any underlying legislations and policies which may impact upon the experiences of students with VI.

Bishop and Rhind (2013), writing about recent experiences of students with VI in HE, highlighted the significance of The World Health Organisation (WHO, 2001) International Classification of Functioning, Disability and Health and its recognition of the reconceptualization of disability which had taken place over recent years. They explained that the ICF views disability as ‘a function of one’s interaction with individual, institutional and social environments’ (p177). This emphasises the importance of taking a holistic perspective when investigating the experiences of people with disabilities.

As already outlined, such societal shifts have led to the introduction of legislation across the world which requires educators to remove barriers for students with disabilities. This has been particularly noted in the context of students with VI by Ostrowski (2016), Lewin-Jones and Hodgson (2004) and Quirke et al. (2018). Brazier et al. (2000) noted that the introduction of such legislation means that students with disabilities like VI now have the option to take courses that they would not have been able to before. They stated “…the ADA [American Disabilities Act] will likely lead to increasing numbers of blind students taking physics and other technical courses” (p116). Beyond this, as will be outlined in later sections, much of the literature reviewed identified how requirements in legislation for making ‘*anticipatory* reasonable adjustments’ was particularly significant for students with VI. Lewin-Jones and Hodgson (2004), however, noted that educators face a challenge in interpreting this legislation to understand what exactly constitutes a ‘reasonable adjustment.’ Ostrowski (2016) argued that legislation should extend to publishers to ensure that students with disabilities such as VI are able to readily access accessible reading material. As noted in Section 2.6, studies into the experiences of students with disabilities support the conclusion that often HE staff have a limited understanding of disability legislation.

Several of the papers identified provided examples of ways in which equality legislation had (or should have) impacted upon internal policies in order for students with disabilities such as VI to have an equitable experience. One of the key arguments made was the importance of having institutional policies which reflect duties to make anticipatory adjustments, including ensuring that infrastructure and facilities are designed with students with disabilities in mind from the outset. Henson (1997) argued the importance of considering the needs of students with VI when designing library facilities, including designing the environment and providing assistive technology. Similarly, Bishop and Rhind (2011) stated that accessibility should extend beyond teaching to include appropriate design to the learning environment and accommodation. One of the key issues identified by Lewin-Jones and Hodgson (2004) was the lack of preparedness of institutions for students with VI, having identified barriers such as not having assistive technology installed on public computers. Yoon et al. (2016), Fichten et al. (2009) and Erickson et al. (2009; 2013) all identified how important it was to have accessible online content, including institution websites, online library catalogues and e-learning resources. Fichten et al. (2009), highlighting the significance of accessible content, stated: “As long as software and hardware are designed and built without consideration for their accessibility and as long as accessibility is not a key consideration when postsecondary e-learning products are developed and purchased, there will continue to be problems with access to e-learning materials" (p556). Similarly to Ostrowski (2016) they suggested that the most appropriate solution was for institutions to adopt a policy of universal design for learning. Fichten et al. (2009) defined this as "using institutional strategies and products that are usable by all students, whenever possible, without the need for adaptations." Ostrowski argued that through applying principles of universal design it is possible to "reduce or remove barriers to learning" and for the need to "write legislation or institutional policies that require the use of universal design for learning principles" (p19).

Quirke et al. (2018), Henson (1997) and Ostrowski (2016) presented evidence showing how important it is for institutions to invest in staff training, including preparing academic staff to think pedagogically about how to support students with VI, thus encouraging thinking beyond individual adjustments and instead towards a whole institution approach. Quirke et al. (2018) suggested the need for "innovative teaching and assessment approaches" (p3374). Reed and Curtis (2011), Getzel (2008) and Ostrowski (2016) also argued that institutions should have policies in place to support students with VI, through individualised transition planning. Reed and Curtis (2011) examined the transition into HE from the perspective of specialist teachers supporting students with VI. Drawing on the responses from a survey of teachers they suggested that HEIs should be prepared to work with specialist teachers to improve the overall student experience by reducing the student’s anxiety, increasing their independence and their ability to succeed.

2.7.3. PREPARATION OF STUDENTS WITH VISION IMPAIRMENT FOR TRANSITION INTO HIGHER EDUCATION

Keil and Crews (2008) conducted a three-year qualitative study, tracking the transition experience of five young people with VI from the age of 16. A key finding of the study was the importance of young people with VI being prepared for the environment which they would be moving into. Similarly, Reed and Curtis (2011), who drew upon data collected from teachers assisting students with VI making the transition to HE, argued the importance of individual planning in order to “mitigate the shock the students experience upon entry” (p557). They stated that investing in preparing the student could lead to improved student outcomes such as reducing anxiety, increasing independence and improving the student’s ability to succeed. They quoted one teacher who stated that “by the time the students graduate [from high school], they should have mastered the expectations of the expanded core curriculum and have the skills they need to live independently” (p556).

Several papers focused on the role of agencies, such as schools, HE providers and specialist services, for preparing young people with VI for HE. Feldmann and Messerli (1995) focused on the role of educators to enable students to become “more independent thinking, and problem solvers, and responsible for determining and advocating for their own needs”, rather than allowing an environment which fosters dependency (p153). Brown et al. (2013) and Reed and Curtis (2011) called for greater collaboration between agencies (including HE providers) to ensure that educators have the required information to support a student with VI preparing to move into their new HE settings.

Several of the papers identified present various specific ways in which young people with VI can be better prepared to make the transition to HE. Firstly, McCarthy and Shevlin (2017) found that it is important for students with VI to be prepared properly with adequate careers guidance before leaving school, having found through their qualitative study that post-school decisions of young people with VI can be negatively affected by narrowed expectations and aspirations. Three publications found the importance of students with VI having opportunities to develop resilience, agency, self-determination and self-advocacy. Feldmann and Messerli (1995) highlighted examples of self-advocacy skills needed such as knowing how to disclose their disability, articulate accommodation needs and coordinate support received. Getzel (2008) identified examples of self-determination skills required by students with VI for the transition into HE, including acceptance of disability and how it affects learning; understanding of support required; being about to explain their disability to others and determination to overcome challenges faced (p210). Similarly, Reed and Curtis (2012), Getzel (2008) and Brown et al. (2013) found that it is important for young people with VI to arrive in HE prepared with certain self-management skills to facilitate their independent learning. Getzel (2008) defines self-management skills to include time management, organisational and study skills (p211).

Five studies identified provide evidence to show how important it is for students with VI to be adequately prepared to access information. Dermody (2011), who investigated the experiences of students using screen-readers to access online databases, found that while there were some challenges with the accessibility of the online databases, some students also lacked the necessary training and knowledge to effectively use online databases using their screen readers. Getzel (2008) argued that students with VI need the opportunity to experiment with using different types of technology, in order to identify the most suitable method for them to use. They noted that this process needs to be coordinated by someone who can work with the student to encourage them to persist with the technology, even when faced with challenges. Ostrowski (2016) noted the importance of students with VI being given opportunities to use mainstream technology, arguing that this will help the student to feel less socially excluded. D'Andrea (2012) found that it is "critically important" for students with VI to be able to draw on as many tools and strategies as possible to be able to access information efficiently (p595). Reed and Curtis (2011), however, noted gaps in specialist support for students with VI during compulsory education and, therefore, limited opportunity for students to be able to develop these key skills.

The significance of preparation is observed within accounts given by Brazier et al. (2000) and Sapp and Hatlen (2010). Brazier et al. reflected upon the experiences of two blind students who were studying physics. One of the students was proficient in using Braille to solve algebra problems using a Perkins Brailler, while the other student relied on being able to perform the calculations in his head. Whilst this was sufficient for some problems, to solve more complex problems he had to receive help from an assistant. The authors note that intellectually both students were capable of performing the required calculations, but in the case of the first student, they were more prepared to work independently than the other. This example resonates with the story shared by Sapp and Hatlen (2010), who examined the experiences of two young men with VI who, despite having similar academic achievements, had very different levels of independence. They found that the more independent young man had received extensive ECC intervention during his time in school, whilst the support received by the less independent young man had tended to focus on facilitating him to access the curriculum, rather than on developing broader skills for working independently. These two accounts highlight the importance of ensuring that a young person with VI receives the required intervention for them to be able to establish the skills which they need, not just in their immediate school environment but also in settings beyond school. The findings of this literature review emphasise how important it is to investigate how well equipped the student is able to contribute to their learning experience in HE, and not just to focus on the role of the institution.

2.7.4. SUPPORTING STUDENTS WITH VISION IMPAIRMENT IN HIGHER EDUCATION

Specific challenges faced when supporting students with vision impairment

Baggett (1994) noted that HE staff often have limited experience to draw upon when working with students with disabilities, as well as often not being sufficiently familiar with disability laws to be able to understand the legal requirements placed upon them as HE educators. Gray and Morley Wilkins (2005a) and Reed and Curtis

(2012) expanded upon this by highlighting how only a small proportion of students with disabilities have VI, and that consequently HE staff often have extremely limited prior experience to draw upon for supporting students with VI. Furthermore, as noted by Gray and Morley Wilkins (2005b), it can be challenging for HE staff to anticipate the specific needs of a student with VI as an individual's level of vision can vary significantly. Because of these challenges Lewin-Jones and Hodgson (2004) and Harshman et al. (2013) suggested that HE providers should draw upon specialist support. Marson et al. (2013) noted particular challenges such as knowing how to appropriately produce alternative formats of visual material and Kugler and Andrews (1996) acknowledged that supporting students with VI will inevitably have resource implications.

Role of anticipatory and individual adjustments

As noted in Section 2.7.2, institutions have a legal responsibility to make anticipatory adjustments to ensure that students with disabilities are able to access their courses. A small number of the studies identified provide examples of ways in which institutions were achieving this through inclusive practice, or could aspire to do so. However, a more significant number of articles described ways in which students with VI were supported through individual adjustments. Focusing upon providing individualised support however can be seen as going against the principles of inclusive education. Therefore, this observed need for individual adjustments could lead to tensions in support models for students with VI and other disabilities, with clarity needed between knowing when adjustments may best be met through inclusive practice and when it is necessary to provide adjustments on an individual basis.

Quirke et al. (2018) argued that institutions should rethink their pedagogical approach towards creating an inclusive learning experience. Boyd-Kimball (2012) suggested that it is important for educators to think clearly about the learning objectives of the course and precisely what they want the student to learn, in order to identify what the most appropriate adjustments are. Gilson et al. (2007), following an investigation of the provision of accessible textbooks for students with VI, provided different examples of anticipatory adjustments which could be made. These include having systems in place to allow quicker access to textbooks, the provision of different formats of electronic text (e.g. Microsoft Word, PDF, and HTML), changes in how electronic texts are structured (such as tables of contents and page numbers), and improvements in assistance for accessing texts through staff training and better communication. Similarly, Henson (1997) advocated for anticipatory adjustments to be made to library facilities, through thinking ahead to address specific challenges which might be faced by a student with VI. Lewin-Jones and Hodgson (2014) and Gray and Wilkins (2005b) identified several ways in which a student with VI can benefit from anticipatory adjustments before teaching sessions. These include ensuring that students have access to accessible material, provision of tactile diagrams, arranging a support worker for practical work and considering alternative assessments.

Brazier (2013) argued that in addition to inclusive design and generic anticipatory adjustments, it is important to consider the situations where individual and specific adjustments are required to remove barriers. Similarly, Harshman et al. (2013) argued that while most literature discusses making accommodations in a broad sense, guidance is needed when making specific accommodations. They identified particular challenges for VI students who need to access Science, Technology, Engineering and Mathematics (STEM) content, arguing that lecturers need to see the potential in VI students and be willing to make the necessary accommodations for instruction and assessment. Cole (2013), Betts and Cross (2010), Marson et al. (2013) and Kugler and Andrews (1996) described specific adjustments which can be made to enable students with VI to access particularly visual parts of a curriculum, including tactile models and accessible lab equipment. Cole (2013) and Gorlewicz et al. (2014) noted that it is important that individual adjustments are chosen appropriately to enable a student to work as independently as possible, rather than causing the student to become more reliant on others.

Role of technology

Several of the articles identified focused on the role of technology in support strategies for students with VI in HE. Cole (2013) described ways in which a student was able to use specialist lab equipment to participate independently in laboratory sessions. Both Cole and Gorweitcz et al. (2014) stressed how important it is for STEM students with VI to be facilitated through technology to overcome access challenges. They noted that this should be conducted in a way which enables the student to undertake as much of the practical work on their own as possible.

Liakou and Manousou (2015) and Ostrowski (2016) both argued that having access to technology offers opportunities for students with VI. For example, Liakou and Manousou (2015) stated that specialist equipment can promote equal access to information. They argued that this is important to ensure equal opportunities in life, noting the importance of having specialist equipment available in learning spaces and readily available to individuals. Ostrowski (2016) particularly highlighted the opportunities provided by accessible mainstream technology and how students with VI are less likely to feel socially excluded when using them. The author also noted the importance of having appropriate training to be able to use this equipment. This again acknowledges the importance of the preparation of the learner.

2.7.5. PARTNERSHIP AND THE ROLE OF THE LEARNER

A final theme identified through the analysis of literature was how important it is for both institution and learner to work together in partnership. This included identifying ways in which it is necessary for the learner to play an active role of facilitator. This means the learner’s responsibilities going beyond drawing upon their skillset and being prepared with the necessary skills to be able to access the curriculum (as addressed in 2.7.4), to taking responsibility for their own learning.

Betts and Cross (2010) shared that they approached supporting a student with VI with the philosophy that all students should be supported to reach their potential. By taking this approach and by working *with* the student, they reflected on their experience by noting the importance of developing a good rapport with the student:

> “the first, and most crucial, aspect to underpin all […] subsequent support was the importance of developing a good working relationship and rapport with the student […] such a rapport was crucial to ensure that the student felt at ease to communicate her needs to fully engage in the course” (p58).

Pence et al. (2003) when outlining their approach towards supporting a student with VI in a laboratory, noted the importance of advanced preparation by allowing time for discussion with the student and ensuring that they were able to consult with the student before making any adjustments.

Erhardt and Shuman (2017) partnered with a blind student to ensure that the student would be able to access a second-year statistics course. The course leaders investigated the possible adjustments which could be made and then made appropriate adjustments such as producing all lecture material in a different format and producing tactile diagrams. In turn the student invested a significant amount of time in learning how to use a piece of software called LaTeX to allow her to access this material. Similarly, Cole and Slavin (2013) reflected on their experiences of ensuring that a student could access a laboratory course. Both student and institution committed to work together to identify technology solutions that would allow the student to “participate in a meaningful way” (p311). Whilst this was a time-consuming process, they noted how important this preparation was as it allowed the student to develop skills which would benefit him later on in his studies.

Brazier et al. (2000) argued for the need for a period of trial and error between student and institution to find appropriate adjustments for the student. They stated that these solutions should be individualised as each student will have “a unique set of talents and approaches to problem solving”, and it is, therefore, important to work with the student as an individual (p116).

Lewin-Jones and Hodgson (2006) described the challenges they faced when including a student with VI in group work, and subsequently the learning process that they and the student went through. They argued that it is not simply the role of the institution and support worker to facilitate group work and that the other students should also play a role in ensuring that students with disabilities are included.

Bishop and Rhind (2011), Feldmann and Messerli (1995) and Ostrowski (2016) provided a range of examples of partnership, concluding that it is important for the learner to play an active role in their learning and the development of support strategies. This includes taking responsibility for advocating for accommodations, seeking to be independent thinkers and problem solvers and having a willingness to engage with support.

These different examples of positive working relationships between institution and the student show that it is important to consider the contribution of the learner to their HE experience. This includes investigating whether their institution was prepared to let them contribute in such a way.

2.8. CONCLUSIONS AND RESEARCH QUESTIONS

The findings of the literature review have demonstrated why it is important to investigate the post-16 transition experiences of young people with VI. It has been highlighted that VI is a low incidence disability amongst children and young people with only 0.18% of people in the UK aged 16-25 identifying as being long-term disabled with a seeing difficulty. Analysis of UK labour statistics has also revealed poor employment outcomes for young people with VI – even in comparison to other disability groups. However, the research evidence presented identifies a range of factors which can improve employment outcomes for young people with vision impairment. Primarily these factors centre around specific skills the student may develop during their time in education, such as mobility skills, social skills, advocacy skills, assistive technology skills and braille skills, as well as having higher level qualifications and having work experience opportunities.

As research evidence shows the importance of young people with VI having opportunity to receive degree level qualifications, and the Longitudinal Transitions Study identified that HE is a popular option for young people with VI, this provided strong justification for a comprehensive investigation into the experiences of young people with VI in HE. Of particular relevance to this study, Bishop and Rhind (2013), in reflecting upon findings of their investigation into the experiences of students with VI in HE, concluded that a longitudinal study would be helpful to gain a broader understanding of the different factors which impact upon an individual’s time at university.

An analysis of legislation and policy show that there has been a shift in recent years towards promoting equal access for students with disabilities, and this is reflected in statistics which provide some evidence of increased participation by students with a range of disabilities. However, recent research literature still highlights many barriers for students with disabilities. Looking specifically at the research literature relating to the experiences of students with VI a number of key themes were identified, including:

- The ways in which external legislation and institutional policies can positively (and negatively) impact upon the student experience.
- The importance of students with VI being adequately prepared with the skills which they require for participation in HE.
- The role of professionals in supporting students with VI as they make the transition into HE, and the complexity of this network of support.
- The importance of partnership between the student and institution, and the responsibility of the student to take an active role in their learning.

Of note, very little of the identified literature investigated the complete transition journey of students with disabilities/VI. The literature instead looks at the students experience in HE in isolation, rather than taking into account prior life experiences of the student that may have impacted upon their outcomes. Similarly, the majority of the policy driven literature identified tended to focus primarily on the role of the institution and support agencies, and did not take into account the contribution that the learner might make.

To investigate these factors and identified gaps in literature further, I proposed three research questions that have been investigated through this doctoral study:

1. How well supported are students with vision impairment as they make the transition into Higher Education?
2. How inclusive is Higher Education for students with vision impairment?
3. How well prepared are vision impaired students for being independent learners in Higher Education?

3. THEORETICAL FRAMEWORK

3.1. INTRODUCTION AND OVERVIEW OF THE THEORETICAL FRAMEWORK

3.1.1. INTRODUCTION

In this chapter, I present three interconnected theories that have particular relevance to this doctoral study. Firstly, I examine literature on different interpretations of ‘disability’ to consider how understanding of disability has developed over time, including presenting recent guidance given by the World Health Organisation on how to interpret disability using the International Classification of Functioning Disability and Health (ICF) Framework. This responds to guidance from academics such as Duckett and Pratt (2001) who encourage researchers to state their interpretation of disability when they conduct research with people with disabilities, and to specifically disclose whether they have approached their research from the perspective of the medical model or the social model of disability. Secondly, I provide an overview of Bronfenbrenner’s Bioecological Model of Human Development and describe its potential contribution for conceptualising the development of young people with VI through education. Bronfenbrenner’s model takes a holistic view of human development, acknowledging the characteristics of the individual (for example their level of vision acuity) and the context in which the individual is situated (for example, how the society in which they live responds to disability). Thirdly, I present a dual ‘access to learning model’. This considers the role of education in finding an appropriate balance between a young person with VI being directly facilitated with their learning, but also being supported to develop the necessary skills required to learn independently. The position offered by this model is that it is the responsibility of the setting in which they are situated to facilitate access to learning for a child or young person with VI (for example, through provision of large print text), but that as part of their longer-term development, young people with VI should be supported to develop the skills and experiences that they will require to live and work as independently as possible (for example, through learning to use assistive technology).

3.1.2. MODELS OF DISABILITY

Medical model of disability

Until around the 1960s, the primary focus of academic and political work relating to disability centred about the constructs of what has been labelled as a ‘medical model of disability’. This is a view of disability which focusses on the individual and the perception that it is an individual’s illness or condition which leads to them being ‘disabled’. This position can arguably be reflected by the 1980 WHO framework, the “International Classification of Impairments, Disabilities and Handicaps” (ICIDH) in which disability was defined as:

> “a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being” (WHO 1980, p28).

A society that approaches disability from a medical model perspective focuses on the individual, therefore identifying solutions on an individualised basis, such as providing treatment and making one-off adaptations. For example, in the context of university students with VI this could include providing lecture materials in large print for a student who cannot read the standard sized print, or a reader for a student who is unable to access print.

Social model of disability

In response to the societal norm to apply a medical model interpretation of disability, in 1975 the organisation ‘Union of the Physically Impaired Against Segregation’ (UPIAS) sought to redefine societies understanding of disability. They offered an alternate position which argued that disability is something that is caused by society. In a document explaining this position, UPIAS wrote that:

> “In our view it is society which disables physically impaired people. Disability is something imposed on top of our impairments by the way we are unnecessarily isolated and excluded from full participation in society” (UPIAS, 1976, p4)

Shakespeare (2013) explains that the UPIAS originated as a disabled people’s organisation in the 1970s, particularly under the influence of political activists like Paul Hunt and Vic Finkelstein. The statement above was originally made from a political and campaigning angle, but over time an academic Michael Oliver took this definition of disability and used it to introduce the concept of a ‘social model of disability’ (Oliver, 1983). Shakespeare describes how the original statement by UPIAS was taken and developed by Oliver, who introduced for the first time what became to be known as the “British Social Model of Disability”, and in so doing, transformed the UPIAS’ statement from a political concept to an academic model. Over time proponents of this social model included Finkelstein (1980), Oliver (1990), Barnes (1991) and Thomas (1999, 2007) who further developed the concept of a ‘social model’.

As outlined, a society which approaches disability from the position of a social model of disability looks away from the individuals impairments, and instead focuses on creating a world designed in such a way that it prevents the existence of barriers that people with impairments (such as VI) would otherwise face. In the context of university students with VI this could include a general policy of making all lecture material available electronically on an accessible platform ahead of teaching sessions, so that it can be freely accessed and modified to the users requirements.

Movement away from a social model of disability

Shakespeare and Watson (2002) observed that a social model of disability approach was being used extensively in disability politics in Britain:

> “The social model has now become the ideological litmus test of disability politics in Britain, used by disabled people’s movement to distinguish

> between organisations, policies, laws and ideas which are progressive, and those which are inadequate.” (p9)

However, a number of shortcomings were identified with the construct of a social model of disability, with critics suggesting that to promote the inclusion of people with disabilities in society most appropriately, it had become necessary to move away from using this model. For example, Shakespeare and Watson (2002) identified three main shortcomings of the model. Their first criticism was how the social model ignores the presence of impairment in disabled people’s lives. Instead, they believed that it was important for a model of disability to recognise that people are disabled by both social barriers *and* by their bodies, with this being an important part of a disabled person’s life. Secondly, they identified concerns over the dichotomy presented by the social model between impairment and disability. Instead, they argued that it was necessary to take account of all aspects of a disabled person’s experience. This criticism of using a social model of disability notes that, by emphasising that society is responsible for disabling people with impairments, and by ignoring these impairments, it oversimplifies the problems that disabled people face. Finally, they suggested that proponents of a social model of disability failed to appreciate that many disabled people do not wish to be labelled as disabled.

Thomas (2004) evaluated these two differing views of disability, and argued that in reality there is more common ground between opposing groups of academics about what constitutes disability than had previously been acknowledged, suggesting that these groups should engage together. She also expressed some concern that the social model of disability approach has been misused over the years, and as such, its value diluted (something she noted had previously been argued by Shakespeare and Watson, 2001).

Thomas, by taking the work of leading academics in disability studies in order to identify common ground between them, identified agreement between writers such as Shakespeare and Watson (2001), Bury (1988, 1991, 1997 and 2000) and Williams (1999): that part of the restricted activity that is experienced by people with disabilities can be directly associated to their impairment. The main difference she identified was an unwillingness of medical sociologists to acknowledge disability being caused by some form or social oppression or “systematic social exclusion”. Thomas argued that this should form a core focus of future debate.

Shakespeare (2013), however, suggested that for disability theory to progress in the 21st Century it was necessary to look towards alternative models of disability. In his book which investigated social theories from outside of the UK, he particularly related to a ‘critical realist’ approach to disability. He argued that this approach took account of the interaction of a number of factors in that person’s life.

WHO International Classification of Functioning Disability and Health (ICF) Framework

In recent years, there has been global progress towards bridging the gap between those approaching disability research from the stance of a medical model or a social model of disability, through the development of a globally recognised framework for interpreting disability. This framework was introduced by the World Health Organisation who produced new guidance on classifying functioning, disability and health (WHO, 2001) and replaced the guidance given in the 1980 WHO framework.

The ‘International Classification of Functioning, Disability, and Health’ (ICF) provides a new model and language which can be used by academics researching disability. One example of such an academic study is Douglas et al. (2012) who used the ICF guidance as a framework when designing a survey of blind and partially sighted people in the United Kingdom. The writers described how their survey closely mirrored an earlier survey by the RNIB (Bruce et al., 1991) which had been informed by the previous 1980 WHO framework. The application of WHO 1980 had been criticised by academics such as Oliver (1992) for being too rooted in an individual model of disability. Conscious of this, Douglas and colleagues applied the ICF model, encouraged by WHOs claim that the classification “aims to integrate the two opposing models of disability – social and medical models” (p9). The main way in which they applied the ICF was by adopting some of the vocabulary used within it, through using terms such as ‘impairment’, ‘activity’, ‘participant’ and ‘barriers’ when designing the interview questions. Their paper, as well as presenting some of the results from their survey, provides an evaluation of the use of the ICF as a framework for research. They concluded that their use of the framework proved to be positive, particularly as it allowed participants a way of identifying both social and individual-based explanations and causes of the barriers and enablers they experienced.

3.1.3. BIOECOLOGICAL MODEL OF HUMAN DEVELOPMENT

Bronfronbrenner's Bioecological Model of Human Development

As discussed in Chapter 2, research evidence has identified the importance of equipping young people with VI with the specialist skills they require to live and work independently in adulthood. This highlights the importance of taking into the account the individual's development prior to entering adulthood. The Bioecological Model of Human Development was developed by Urie Bronfenbrenner over several decades (e.g. Bronfenbrenner 1979; 2005) to explore the development of the child. The theory originally intended to explore how human development is influenced by the environment in which that individual sits, but Bronfenbrenner expanded upon this in later versions by placing greater emphasis on the role that individuals play in their own development (Tudge et al. 2009).

Bronfenbrenner through his model defines development as:

> "the phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and as groups. The phenomenon extends over the life course, across successful generations, and through historical time, both past and future." (Bronfenbrenner and Morris, 2007, p793).

The later version of Bronfrenbrenner's theory consists of four key interrelated 'defining' elements: *process* (human development through interactions with the environment around them); *person* (personal characteristics that impact on human development ranging from age to skills to temperament); *context* (the environments in which the person sits); and *time* (the time in which this process occurs) (Bronfrenbrenner and Morris, 2007). The context in which the individual sits can be described through five systems: *micro-systems* (factors in the environment immediately around the individual); *meso-systems* (interactions between factors within the micro-systems); *exo-systems* (factors outside the individual's immediate environment which impact upon their development); *macro-systems* (factors and culture outside the physical environment) and *chrono-systems* (human development over time). I consider each of these in turn, in the context of this study of young people with VI.

Process

Process refers to the 'core' of the model (Bronfenbrenner and Morris, 1998) and relates to the "proximal processes" of human development, which can be described as the human development through interactions, or "a function of the characteristics of the developing *Person*, the immediate and more remote environmental *Contexts*, and the *Time* periods, in which the proximal processes take place" (p795). For example, the Longitudinal Transitions Study focuses on the transition experiences of young people with VI through to employment, and therefore in the context of this study the process could be defined as the interactions of Person, Context and Time which determines the human development of a young person with VI for participation in the labour market.

Person

The Bioecological Model of Human Development recognises biological, genetic and personal characteristics of the individual. Bronfenbrenner paid particular attention to personal characteristics, but recognised the role that an individual could have in changing their context (Tudge et al., 2009). Personal characteristics, according to Tudge et al. (2009) and Bronfenbrenner and Morris (2007) may be divided into:

(i) Demand characteristics – or ‘characteristics that act as an immediate stimulus to another person’, including age, gender, and appearance.

(ii) Resource characteristics – or characteristics relating to mental and emotional resources. This can include past experiences (for example past experiences of describing support needs), skills (for example skills for accessing information or getting around independently), intelligence, and social or material resources (including supportive families and encouragement to act independently).

(iii) Force characteristics – personal qualities such as confidence, motivation, resilience, and perseverance.

Context

Tudge et al. (2009) define Context as ‘four interrelated systems’ in which the person sits, which impact upon their development. The first system is the *Microsystem,* which is the immediate environment in which the individual is situated. Bronfenbrenner defines this as:

> “a pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit or inhibit, engagement in sustained, progressively more complex interaction with, and activity in, the immediate environment” (Bronfenbrenner, 1994, p39).

In the case of the student with VI in HE, this may include lecturers, disability support officers, support staff and peers. The *Mesosystem* recognises that there are interactions between these different factors within the Microsystem, and between the individual and the environment around them.

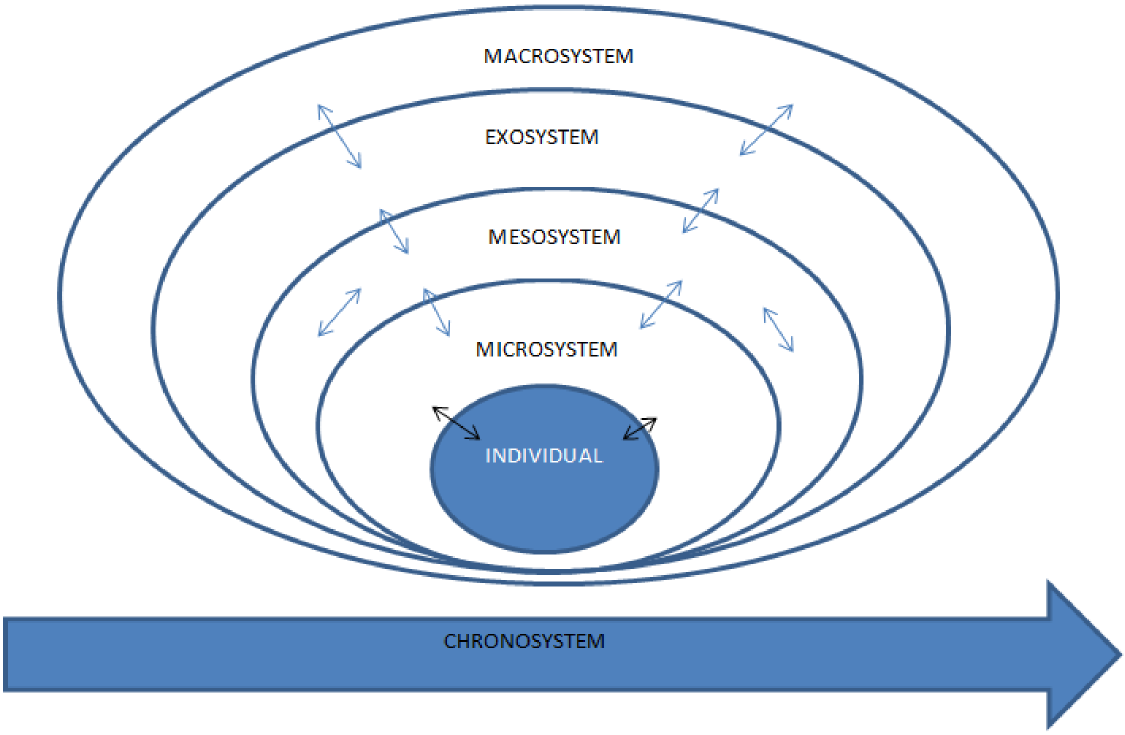
The *Exosystem* relates to the system directly outside of where the individual is situated and the factors which impact indirectly upon their experiences, due to interactions with the Microsystem. For example, in the context of this research this could include institution policies towards inclusive education, and the amount of investment made available to facilitate these policies.

In the *Macrosystem* sit factors external to the environment in which the individual sits which have an indirect impact upon their experience and development. Of particular note is the Equality Act 2010 which is the UK legislation which requires education providers to make reasonable adjustments for disabled students.

Time and progressive mutual accommodations

The final element of the bioecological model is time. Sitting outside of the four interconnected systems is the *Chronosystem,* which Tudge et al. (2009) referred to as 'macro-time'. The Chronosystem recognises the role of time in the development of an individual, and the significance of their historical experiences. There is also Micro-time (which relates to the time at which specific activities or interactions occur), and Meso-time (the consistency with which interactions occur which impact upon the individual's environment). Figure 3 provides a visual representation of these five systems, with the arrows representing the interactions between the systems.

Figure 3: Context in Bronfenbrenner's Bioecological Model of Human Development



As noted in Hewett et al. (2017) central to Bronfebrenner's later model is "the notion of accommodation within and between the different systems in which the individual is operating over a given timeframe", termed by Bronfenbrenner as progressive mutual accommodations. This concept recognises how "different factors within and between systems mutually accommodate one another to ensure successful inclusion and development of the individual" (p107).

3.1.4. DUAL MODEL OF ACCESS

Bronfenbrenner's model argues that the individual at the centre of the model develops over a period of time, and that their experiences are influenced by both their individual characteristics and also by the environment around them. A key question therefore is how the individual with VI may be best supported through education to ensure that upon leaving education they have the skills and experiences they require to live and work independently in adulthood, meeting the need for a "broad and balanced curriculum" (Department for Education, 2015b, p94).

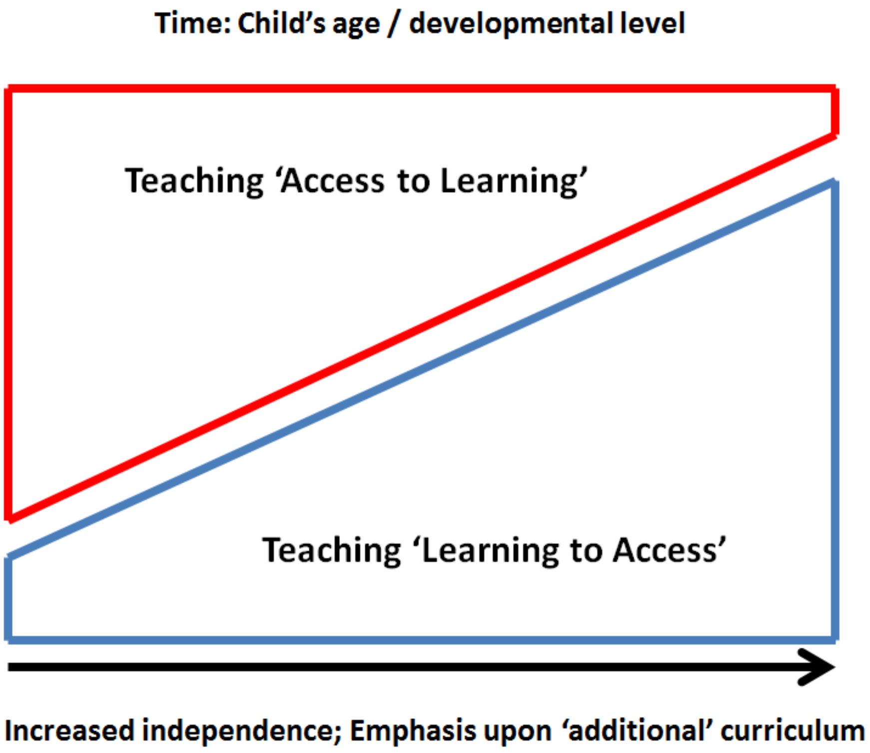
To explore this further, a third theoretical position adopted for this research study is outlined, which can best be illustrated through the "Access to Learning-Learning to Access model", as termed by McLinden et al. (2013). This model explores the role of education for preparing young people with VI for adulthood. It argues for the need for a dual model of access in which (i) the child/young person's learning environment is such that it facilitates their education ('access to learning') and (ii) the child/young person is supported to develop skills to become independent learners (‘learning to access’) (McLinden et al., 2016, p. 177). For example, initially educators may focus on ensuring that a child is able to participate in their lessons by providing enlarged material. However, over time the model asserts that the young person should be taught the skills they need to be able adapt material, to ensure they are as independent in lessons as possible. Table 14 provides further examples of a dual model of access.

Table 14: Examples of a Dual Model of Access

Access to learning	**Learning to Access**
Enlarged learning material provided so that young person can participate in lessons	Young person equipped with skills to make their own adaptations to be able to access learning material independently
Taxi provided to and from school	Young person given mobility training to enable them to get to and from school independently
QTVI explains to teachers the adaptations which are needed for the young person in lessons	Young person equipped to be able to self-advocate for the adaptations they need

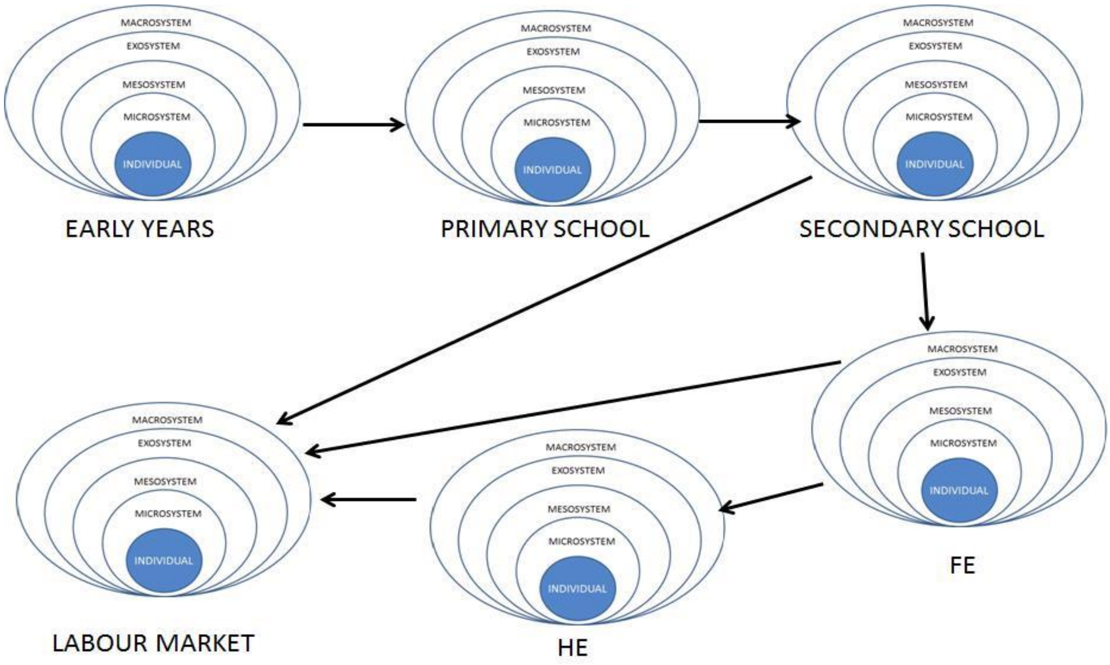
The “Access to Learning-Learning to Access” model argues that as a child/young person develops, the provision of ‘Access to Learning’ should decrease and facilitation for ‘Learning to Access’ should increase, as illustrated in Figure 4 (adapted from McLinden et al., 2016).

Figure 4: Dual access 'Access to Learning – Learning to Access' Model



When considering the skills which a young person with VI requires, it is important to consider the different settings in which they will be situated, and the skills which will be required for each setting. Bronfenbrenner (1979) referred to transitions from one setting to the next as 'ecological transitions'. He defined these as occurring "whenever a person's position in the ecological environment is altered as a result of a change in role, setting, or both" (Bronfenbrenner, 1979, p26) and applied his bioecological model by describing how the developing person makes transitions from one system to another, as illustrated in Figure 5.

Figure 5: Ecological Transitions in Education for Young People in the United Kingdom



In the UK, children typically progress from early year's settings (such as nurseries) into primary school and then secondary school before deciding whether to continue into FE and HE, or to go straight into the labour market. When considering how best to support children and young people in education, the dual access model argues that it is important not to just consider the support and skills required in that specific setting, it is also important to consider what preparation is required for them to move into these new settings. Therefore, when researching the experiences of young people with VI in HE, this means it is important to take a broad perspective looking beyond the young people's experiences once they enter HE, and instead also to take into account the preparation they received prior to HE, and whether they were equipped with the skills they required to live and work independently.

3.1.5. CONCLUSIONS

As suggested by Duckett and Pratt (2001), it is important for researchers to state their ideological position when approaching research with people with disabilities, including outlining the way in which they understand disability. For example, individual researchers may have different interpretations of what access arrangements students with VI should be entitled to in HE, which will in turn have an impact upon the way in which they design survey instruments and analyse and interpret resulting data. Should it be society (for example HE providers) that employ policies which create an inclusive environment for all (in tune with a social model of disability), or instead should the focus be on the individual and their need to overcome their barriers to learning (in keeping with a medical model of disability)?

I have approached this research with the view that HE providers and other key organisations (for example publishers of course text) should aspire and have responsibility for offering an inclusive learning experience in such a way that their standard practice removes barriers that students with disabilities may face. I however also recognise that there are very specific challenges faced by individual students with disabilities, which can only be appropriately addressed through HEIs making individualised adjustments. I also acknowledge that there are specific interventions which can improve the experiences of young people with VI, such as LVAs and assistive technology which rely on the individual.

In drawing upon Bronfenbrenner's bioecological model, I also acknowledge the significance of the individual's personal attributes, as well as the individual's responsibility to draw upon their personal agency in the environment in which they are situated. This interpretation of disability is in keeping with WHOs integration of the social and medical models of disability in the ICF, by acknowledging that solutions to social barriers can be both socially and individually focussed.

The research questions chosen were informed by this ideological position by taking a holistic view of the experiences of the young people through investigating the specialist support they received, the inclusiveness of the institutions attended and the level of preparation of the individual.

In recognition of this broader perspective of disability I sought to adopt the language suggested by the WHO ICF when collecting data and analysing reporting the findings, as well as using Bronfenbrenner’s bioecological model as a lens through which to interpret the findings (as explored further in Chapter 5).

4. METHODOLOGY: THE LONGITUDINAL TRANSITIONS STUDY

4.1. INTRODUCTION

The research presented in this thesis centres round the data collected through a Longitudinal Qualitative Study (LQS). This chapter provides a detailed description of the broader project, and the data collected that has particular relevance to the 39 participants who transitioned into HE.

Section 4.2 looks in detail at LQ studies, the research methodology used in the Longitudinal Transitions Study. It discusses the strengths and weaknesses of LQS as a research method, including paying particular attention to the challenges of retention and engagement of participants and ways to overcome these challenges, and presents key ethical concerns when conducting LQS. Section 4.3 also gives a short description of the use of case studies to provide explanation for their use to supplement the longitudinal interviews.

Section 4.4 gives an introduction to the Longitudinal Transitions Study and an overview of the research design used, and discusses how the challenges associated with LQS have been addressed in the research study. This section considers the management of the project, the recruitment engagement and retention of participants, ethical decisions made, the procedures used to ensure participant confidentiality.

Section 4.5 describes recommendations made by disability researchers for ensuring that research is ‘participatory ' when working with people with VI, and provides details of how the work presented in this thesis has adhered to those guidelines.

Sections 4.6 and 4.7 provide an overview of the participants who went into HE as well as a description of the approach used for collecting data from the participants, and a summary of the type of data that has been collected. I also describe the case study work which was conducted with a small number of the participants.

Finally, in Section 4.8 I outline and provide justification of the methods used for analysing the data presented in this thesis.

Some of the content of this chapter has been previously published as part of a Sage Case Study into LQS: Hewett, R. (2017) Recruiting and Retaining Participants in a Longitudinal Qualitative Study. Sage Research Methods Cases. Sage Open.

4.2. LONGTUDINAL QUALITATIVE STUDIES

4.2.1. WHAT ARE LONGITUDINAL QUALITATIVE STUDIES?

In 2004 the Economic and Social Research Council commissioned researchers to conduct an investigation into LQS, in order to ascertain how beneficial a research methodology this could be within the Social Sciences (Holland et al. 2006). The reviewers conducted an audit of existing LQS and surveyed researchers who had previously used LQS as a research methodology. They concluded that whilst LQS were being used extensively by some researchers, there was limited guidance available on what exactly LQS were, and of best practice when conducting them.

Farrall (2006) defined LQ research by saying that it “embodies a range of mainly in-depth interview-based studies which involve returning to interviewees to measure and explore changes which occur over time and the processes associated with these changes” (p2). Likewise, Holland et al. (2006) stated that LQS is “predicated on the investigation and interpretation of change over time and process in social contexts” (p1). Epstein (2002) identified three different types of LQS when discussing what she termed as ‘long-term microstudies’ (p64). These were (i) continuous research in the same small society over a number of years (in keeping with this study); (ii) periodic restudies at regular or irregular intervals (such as the Millennium Cohort Survey, e.g. Harris et al., 2012); and (iii) studies which recommence after a long period of time has elapsed since the original research.

Holland et al. (2006) stated that many of the researchers they consulted as part of the ESRC investigation observed that there was a limited guidance of how long LQS should last for. This, however, was not seen as problematic, and rather there was a consensus that each individual study should set its own parameters. They instead referred to the foundational principles outlined by Saldana (2003) of duration, time and change arguing that when deciding how long a LQS should last, one should consider the length of time needed to observe the intended ‘change’, and how frequently it would be necessary to engage with the participants to observe that change.

As the majority of the participants remained in some form of education meaning they were following an academic calendar year of Autumn-Summer, the decision was made for this study to have on average two waves of data collection per year – once in the summer to recap on the previous year and establish what their plans were for the year ahead, and once in the winter to establish how successful the transitions they made had been.

4.2.2. LONGITUDINAL QUALITATIVE STUDIES AND TRANSITION

Holland et al. (2006) highlighted several examples of LQS which investigate transition, noting that as a methodology LQS is particularly suited to investigating transition experiences. Henwood and Lang (2003) observed that LQS "are highly sensitive to contextual issues, and can illuminate important micro-social processes, such as the ways in which people subjectively negotiate the changes that occur in their lives at times of personal life transition" (p49). This is illustrated well in a study by Brooks (2003) which investigated how friendships in school and college can influence young people when making decisions about which HE courses to apply for. Brooks identified that previous quantitative studies had found that young people had chosen to speak with friends when making decisions about HE, which had led to researchers concluding that having conversations with peers formed an important part of the decision making process. In contrast Brooks found through her LQS that whilst the young people did have some conversations together about HE options, these were often limited, and with some reluctance. She concluded that ‘it would be difficult for a quantitative study to provide this level of detail’ (p30).

4.2.3. STRENGTHS AND WEAKNESSES OF LQS

Table 15 summarises the main strengths and weaknesses identified by researchers who have previously conducted LQS.

Table 15: Strengths and Weaknesses of Longitudinal Qualitative Studies

Strengths/Opportunities	Weaknesses/Challenges
Studies are prospective rather than retrospective, reducing barriers of participants not recalling events accurately. The design also allows participants to reflect upon their experiences. Not limited to a contextualised snapshot. (Farrall, 2006).	Studies are resource intensive, and due to the length there can be challenges in securing ongoing funding (Farrall, 2006; Holland et al., 2006)
Can offer a more in-depth picture to help understand how and why things happen as they do (Molloy and Ritchie, 2000; Thomson et al., 2003). This makes it possible to explore how social problems became individual troubles (Farrall, 2006). More time is available for ideas to ‘come about’, develop and emerge. (Hermanowicz, 2013)	Change can take time to emerge which means that some studies will need to be conducted over a long period of time. Challenge of knowing when it is appropriate to start making interpretations of the data. (Farrall, 2006; Holland et al., 2004; Thomson et al., 2003)
Studies generate a lot of data – can analyse data cross-sectionally, longitudinally, and cross-sectionally over time. Allows for innovative methods of data analysis. Can make comparison across a range of factors. (Yates, 2003; Holland et al., 2006, Thomson et al., 2003))	Studies generate a lot of data as data is collected over multiple waves. This can prove overwhelming and complex to analyse. Cross-sectional analysis can compromise the integrity of individual narratives. (Yates, 2003, Thomson et al., 2003)
A flexible approach which allows for changes to be made to the questions being investigated as the study progresses. (Holland et al., 2006)	Challenge of maintaining the commitment of participants (Thomson et al., 2003). Sullivan et al. (1996) identify this as one of the most daunting challenges of conducting a longitudinal study.
Working with the same participants over a period of time can establish a	By having the same research team, there can be a loss of objectivity and

trusting relationship with them, leading to more thorough and honest accounts of the participants experiences (Holland et al., 2006)	accumulation of a partial perspective. (Farrall, 2006)
	Researcher effect on outcomes through working with the participants over a long period of time (Yates and McLeod, 1996; Thomson et al., 2003)
	Confidentiality challenges when reporting findings (Holland, 2006)
	Possibility of respondent fatigue when asking them to respond to similar questions over multiple waves and multiple years (Farrall, 2006)

Strengths and weakness of LQS for Transition Studies

One of the main strengths of LQS, particularly with regards to transition, is the ability to be able to follow the participants experience as it happens, rather than asking them to recall events from the past. Additionally, it also allows the researcher to have a more complete picture of the participant's transition experience, and to understand how their previous experiences may have impacted upon eventual outcomes. For example, in the case of young people with VI, it could be expected that their educational experiences (particularly with regards to an additional curriculum) will affect how prepared they are for participating in HE. Asking the participants questions about their educational experiences over the duration of the longitudinal study gives more comprehensive data to draw upon.

There are also some challenges in conducting LQS. In the case of this study the main challenge has been maintaining funding to continue the research. This is of particular importance when following the transition experience of young people as their lives are changing so rapidly that a gap in funding can mean important events are missed.

A further challenge has been the volume of data which has been collected (something which literature indicates is a challenge for many researchers conducting LQS), having sufficient resources and time to be able to explore the data both cross-sectionally and longitudinally, and the time to be able to disseminate key findings in the most appropriate way.

When tracking the experiences of the participants into HE, it quickly became apparent that this transition was going to be particularly challenging for many of the young people and that this was an important transition to investigate in detail. Therefore, one of the main advantages of this doctoral study has been the opportunity to focus on their transition journeys in more depth, whilst also being able to draw on contextual data collected during their time in school.

Despite the inevitable challenge of maintaining funding for the research, the Longitudinal Transitions Study has benefited from having a consistent research team throughout the project. This has been particularly beneficial as the young people have became far more comfortable in expressing their opinions over time, especially when recounting challenging experiences. However, as Farrall (2006) observed, while there are significant benefits in maintaining the same research team, this can also result in the loss of objectivity and the focus of the investigation becoming too narrows. In the case of the Longitudinal Transitions Study, having a large and dynamic steering group has been particularly helpful in broadening the perspective of the research team. Similarly, whilst it has been challenging attracting funding to continue the study, the study has undoubtedly benefited from the rigorous process of applying for competitive funding.

4.2.4. RETENTION AND ENGAGEMENT OF PARTICIPANTS

Central to the success of a LQS is the retention and engagement of its participants. High levels of attrition can lead to bias in the study's findings (Sullivan et al., 1996; Davis et al., 2002), particularly as qualitative studies tend to be based around smaller sample sizes (Hermanowicz, 2013). Hermanowicz also argued that whilst LQS can elicit more detailed accounts of the participant's experiences as the participant-researcher relationship has a chance to develop over time; such benefits are lost in the event of participant attrition. Maintaining contact with participants was identified as one of the 'most intimidating and difficult obstacles' in conducting LQS by Sullivan et al. (1996) who suggested that there is a gap in literature in which researchers share the strategies that they have used successfully or otherwise in retaining research participants. Taylor (2009) who conducted a LQS with young people noted that it is inevitable that there will be challenges to retaining youths in longitudinal studies due to the vast changes happening at that stage in their lives. To overcome these challenges she outlined a comprehensive strategy for engaging and retaining teenage participants in a LQS. Below I present some strategies suggested by Taylor and other researchers who have conducted LQS. These strategies can be divided into two categories – (i) practical steps which can be taken by the research team to help engage and maintain contact with participants and (ii) establishing an underlying approach to the research which enhances participant engagement.

Practical steps to engage and retain participants

Several researchers (e.g. Taylor, 2009; Sullivan et al., 1996) found that it is important to establish multiple ways of communicating with the participant at the time of recruitment, such as a telephone number, home address and the contact details of their wider network. It was also suggested that participants should be contacted regularly to remind them of the research and to keep an up to date record of where they are and the best time at which to contact the participant.

As well as communicating with participants prior to new periods of data collection researchers found that it is helpful to maintain regular contact by keeping participants updated on the research through other forms of communication such as Christmas cards, newsletters and a project website (Sullivan et al., 1996; Thomson et al., 2003). In the event of a participant being difficult to reach, Sullivan et al. (1996) emphasised that it is important to make multiple attempts to re-establish communication with that participant and found that this sometimes requires multiple attempts. Thomson and Holland (2003) expressed how important it is to value each individual’s contribution to the research, and to use different strategies to reconnect with that individual. They also recognised that this requires commitment from the research team and found that whilst participants may have declined to participate in one wave of data collection, they may take the opportunity to re-join the longitudinal study at a later date.

Another important strategy identified was providing compensation for time, for example by giving participants a voucher (Taylor, 2009; Sullivan et al., 1996), although Hermanowicz (2013) stressed the importance of participants being informed that accepting compensation does not affect their ability to later withdraw from the study. Finally, Sullivan et al. (1996) recommended that the procedures used for retaining participants should be written down in a Retention Plan which should then be evaluated over the course of the study, and the necessary resources should be put in place to fulfil the content of this plan.

Establishing an underlying approach which engages the participants

As well as identifying practical ways in which to maintain contact with participants in a LQS, researchers have also identified ways in which the underlying approach of the study can help engage the participants, and ensure they remain committed to the research. Firstly, it was found important to establish the trust of the participant, and maintain their confidence (Taylor, 2009; Sullivan et al., 1996). An important starting place for this is by being clear to participants what the study is about and what you require of them if they participate. Once working with the participant it is also important to build a rapport with them. Example strategies include taking an interest in the participants as individuals (Hermanowicz, 2013) and maintaining the same research team so that the participant and researcher have the opportunity to get to know one another (Thomson and Holland, 2003; Holland et al., 2006). As identified by Denzin (2001), it is important to always recognise the contribution of the individual and not take their participation for granted. In qualitative social research it is common for participants to share stories of difficult experiences which they have faced which can make them vulnerable and Taylor (2009) reminded researchers that it is important to treat such stories with sensitivity. Taylor also found that participants in longitudinal research will engage more if the interview schedules are less structured giving them more opportunity to share what is important to them, while Holland et al. (2006) suggested it is beneficial to use personalised interview schedules which build upon previous conversations. Finally, Thomson and Holland (2003) found that it was helpful to allow the participant to talk about the impact that the research had had upon them.

4.2.5. ETHICAL CONSIDERSATIONS

Research literature has highlighted a number of ethical considerations to give when conducting LQS, and in particular studies with younger people. Farrall (2006) suggested that the ethical concerns are the same with other qualitative research studies, but in the case of LQS these concerns become more substantial due to the level of engagement between researcher and respondent over a longer period of time.

Holland et al. (2006) through their literature review identified several major concerns including: continued participant consent; maintaining confidentiality and anonymity; the potential impact of the research on the participant and the researcher; the impacts of intervention and distortion of life experience; and problems of closure at the end of the study. These issues are discussed in more detail below.

Informed consent

When conducting qualitative research it is always important to establish the consent of those participating and to ensure that they understand fully what they are consenting to take part in. However, with a LQS this consent process becomes a continuous one, rather than a single act at the start of the study, by continuing to ensure that the participant is still happy to participate in the study (Holland et al., 2006; Saldana, 2003; France et al. (2000). Saldana 2003 stated that when working with young people it is important to establish the consent of both the young person and their parents. Holland et al., 2006 also suggested that it is important to have ongoing communication with research participants to keep them informed of any changes to the research studies aims, and also to establish their consent in the event of secondary data analysis of data collected about them.

Confidentiality

Holland et al. (2006) in their review of LQS highlighted potential problems when reporting the findings of longitudinal studies over a period of time, as this could lead to a ‘finger print’ in the participants story which could compromise the confidentiality of the study. Practically, Saldana (2003) advised that when keeping data records, effort such be made to keep the information confidential, for example by assigning ID numbers , removing full names, and by not using participant names outside of the research team. He also noted that participants require assurance that the information that they share to the researcher will not be shared, and suggested that ideally a LQS should ensure continuity of the same researcher talking to the participant. He also suggested that if this is not possible, then a period of transition and introduction is required.

Researcher effect

In their review, Holland et al. (2006) identified that with LQS there is a strong possibility of the researcher having an effect upon the participant's experience, as even the way in which questions are addressed can become a form of intervention. They described this as 'a distortion of real life processes' (p26). For example, I asked the participants when they were preparing to go into HE whether they had applied for DSA, in order to ascertain whether it appropriate to ask further questions about their experience of this. In some cases the participants were unaware that DSA existed, and in a small number of cases this led to them applying for DSA.

Holland et al. also noted that over time the participant may remain in the study as they feel obligated to the researcher. They encouraged researchers to ensure that the researcher-participant relationship does not become exploitive as the study progresses.

Saldana (2003) argued, however, that it is important for the researcher be aware of situations where it is appropriate to make some form of deliberate intervention, noting that whilst this would be a 'distortion' of real life (as also identified by Holland et al., 2006), sometimes this is the ethical thing to do. Because of the anticipated likelihood of the research relationship impacting upon the participants' experiences, Thomson and Holland (2003) suggested this research relationship should become a subject of focus when studying the research findings.

Practical considerations

On a practical level, Saldana (2003) suggested that researchers apply for an official criminal check prior to working with young or vulnerable participants. In the UK this is known as a Disclosure and Barring Service check. He also suggested that when conducting a LQS it is important to continue to apply for ethical approval throughout the duration of the study.

The approach taken to addressing all of these points within the design of the Longitudinal Transitions Study is outlined in Section 4.4.

4.3. CASE STUDIES

Berg (2009) identified several different interpretations amongst social scientists of what exactly a case study is. Thomas (2011a) compared various definitions of ‘case study’ to hone in on its most important features, from which he derived his own definition:

> Case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or other methods. The case that is the subject of the inquiry will be an instance of a case of phenomena that provides an analytical frame – an object – within which the study is conducted and which the case illuminates and explicates. (p513)

Thomas emphasised that case studies should not be viewed as a methodological choice - rather it acts as a focus. Therefore, if we choose to study the ‘case’ this acts as a design frame to which we may apply different research methods (and often multiple methods). For example in the case of this research study, this involved applying a case study as a design frame, whilst using repeated semi-structured interviews and shadowing as the research method as part of a longitudinal qualitative study. Robson (2011) also adhered to this understanding of case study, but described it as a ‘strategy’.

Thomas (2011b) also argued that a case study should be viewed as consisting of two components: the subject (the unit being observed) and the analytical frame or object (what exactly is being investigated through the subject). Therefore, in the case of this research study the ‘subjects’ were 7 young people with VI who took part in the case study work, and the analytical frame under investigation was their transition experience into HE.

Citing Ragin (1992), Thomas also highlighted how a case study approach allows the researcher to observe a ‘complex interaction of many factors in a few cases’. Similarly Berg (2009) stated that by applying a case study design the researcher may ‘uncover the manifest interaction of significant factors characteristic of this phenomenon, individual, community or institution’ (p318). This is in keeping with Bronfenbrenner’s Bioecological Model of Human Development, the theoretical framework which I have introduced in the previous chapter. Bronfenbrenner argued that when studying human development we should do so holistically, and not look at an individual's experiences in isolation (e.g. Bronfenbrenner, 2005). By introducing case studies into the research design I have been able to investigate the transition experience of the participants from multiple angles, or as Thomas (2011a) described it, taken 'a three-dimensional view'. In particular, it has allowed me to understand the complex interactions which take place between factors in the learner's immediate environment, in what Bronfenbrenner refers to as the 'Mesosystem'.

There are many different types of case study (Thomas, 2011a; Thomas, 2011b; Berg, 2009; Robson, 2011). Robson (2011) identifies some of the main types. Of most relevance to this study is what he defines as 'individual case study'- a 'detailed account of one person' which can be used to explore, for example, factors and process which contribute to outcomes, and building upon this a 'set of individual case studies' where 'a small number of individuals with some features in common are studied' (p138). However, as Thomas (2011a) and Robson (2011) cautioned, case studies are not appropriate for generalising research findings across a population.

4.4. OVERVIEW OF RESEARCH DESIGN AND THE LONGITUDINAL TRANSITIONS STUDY

4.4.1. BACKGROUND TO THE LONGITUDINAL TRANSITIONS STUDY

This section takes the principles outlined in Sections 4.2 and 4.3 and explains how they were applied to this research study. The Longitudinal Transitions Study was instigated by UK charity 'Royal National Institute of Blind People' (RNIB) who put out an invitation to tender. The tender requested that the sponsored study take the form of a longitudinal study, tracking the experiences of a number of VI young people through their post-16 transition experience. Researchers from Vision Impairment Centre for Teaching and Research (VICTAR), University of Birmingham took RNIB's research brief and proposed three key objectives of the project:

1. To track the process of transition for blind and partially sighted young people from age 14 for five years.
2. To identify the roles of professionals involved.
3. To identify the factors that improve or reduce a young person's chance of gaining employment.

This work was to be conducted in the following three key stages:

1. Recruit and survey VI services (Autumn 2009).
2. Through these services, recruit and survey a sample of Year 9 and Year 11 students with VI (Summer 2010).
3. Through conducting follow-up surveys of the sample of students with VI (Autumn 2010 onwards).

As noted in the introduction, the overall direction of the research was overseen by a steering group made up of professionals within the field (including representatives from the voluntary sector, careers advisors, heads of local authority sensory support services) and young people with VI. This group met twice a year to listen to findings and outcomes of the project, and to discuss the implications of these, before making suggestions of appropriate ways in which to respond.

The project also benefited from a project team, made up of myself (full time researcher on the study), the principal investigator (Professor Graeme Douglas) and a research officer from RNIB (Sue Keil). This project team was responsible for making shorter term plans and decisions.

4.4.2. RESEARCH DESIGN

Figure 6: Research Design of the Longitudinal Transitions Study

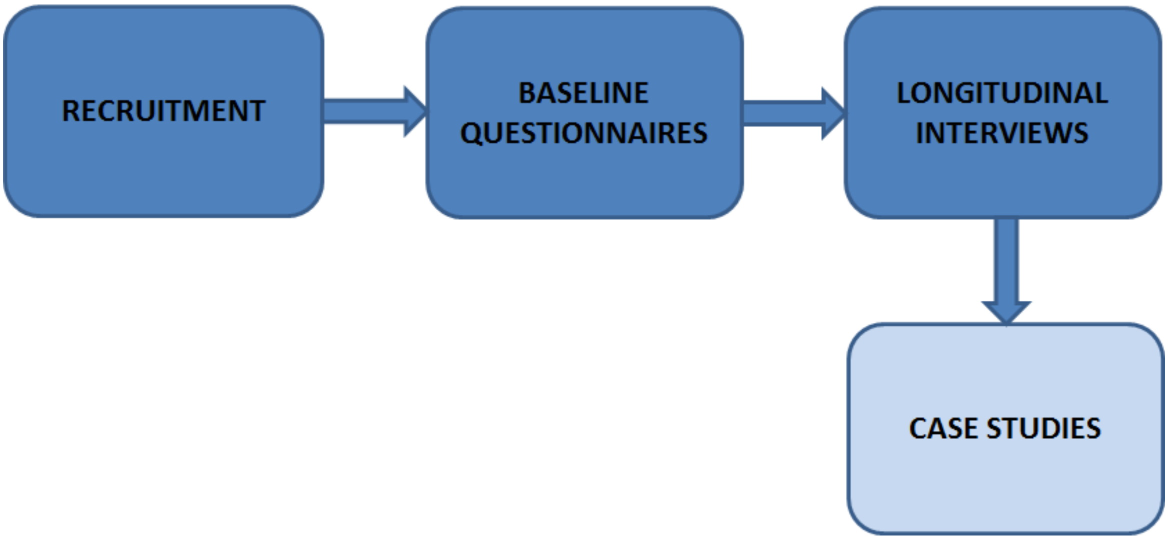


Figure 6 provides an overview of the research design used in the Longitudinal Transitions Study. Participants after being recruited into the study were requested to provide baseline data through self-completion questionnaires. After the initial baseline survey the participants were surveyed regularly through semi-structured interviews as part of the longitudinal design.

Longitudinal interviews

The original intention was to recruit in excess of 100 participants and adopt a *quantitative* approach by collecting data through a series of surveys which could be analysed using basic summary statistics. However, as fewer participants were recruited than originally anticipated, this led to the study adopting a mixed methods approach, with data being collected through semi-structured interviews consisting of a combination of open and closed questions.

Case studies

While the longitudinal surveys have collected valuable data which has broadened understanding of the young people’s transition journeys, the research evidence has also highlighted the complexity of the young people’s experiences. This is particularly true for participants transitioning into HE where support comes from many different sources. Although the semi-structured interviews led to a comprehensive understanding of the challenges faced, guidance from the project steering group led to a decision to introduce case study work, embedded within the longitudinal study. The objective of these case studies was to complement the broader study by taking a holistic perspective of the participant’s experiences, with a particular focus on how well prepared the young people were for the transition into HE, and the roles of those supporting them.

4.4.3. RECRUITMENT, ENGAGEMENT, RETENTION AND ATTRITION OF THE PARTICIPANTS

Recruitment and an introduction to the participants

The Longitudinal Transition Study commenced in 2009 with the recruitment of 15 Local Authority Sensory Support services, 2 resource bases attached to mainstream schools and 2 specialist schools from the England Midlands and Wales, who completed a questionnaire about their service, and their role in providing transition support to young people with VI (findings presented in Hewett et al. 2010). In 2010 these project partners (the Local Authority services, specialist schools and resource bases) provided researchers at VICTAR anonymised details of the young people in school years 9 and 11 who were receiving specialist support in school for their VI. These project partners provided the research team with the student's initials, ethnic origin, details of additional special educational needs, preferred reading format, and any other information that they thought relevant to the participant's potential contribution. Partners were also requested to judge whether the young person could meet the entry criteria of being able to complete a questionnaire independently. This entry criteria was used as an indicator of whether longer term an individual could aspire to work independently. This is important because, as explained in Section 2.3, a large proportion of children and young people with VI have additional, complex needs.

Recruitment packs were prepared for 262 participants who met the project inclusion criteria. The packs contained a letter, information sheet, consent form and a pre-paid envelope for both the young person and a parent/guardian. Both consent forms needed to be returned for participant to be recruited into the project. A number of steps were taken to try to engage with as many potential participants as possible. Firstly, the recruitment packs were prepared in the participants’ preferred format, including Braille copies. Participants who used Braille or large print above font size pt20 were also supplied with a CD-Rom which contained an electronic and audio version of the recruitment pack. In a small number of cases the Local Authority services identified that the participants parents/guardians would require a recruitment pack in a different language, and therefore arrangements were made for the materials to be translated into Polish and Urdu.

The recruitment packs were designed to help the participants understand the purpose of the research and the way in which it was hoped they would be able to contribute. The information sheets explained to the potential participants how they had been identified and reassured them that their Local Authority/school had not shared any confidential information. The information sheets also advised that any data collected would be kept confidential and no participants would be named in project reports.

The completed recruitment packs were sent to the Local Authorities and schools to distribute to the potential participants (initials and font size written on the front of the envelope aided them in matching the correct student with the correct pack). Follow-up letters were also sent to the students who did not respond to the first invitation.

In summer 2012 the decision was made by the research team to go back to the original services to look to “top-up” the sample of participants. This was because several of the Year 11 participants had decided to take their Sixth Form/College courses over three years instead of two, and therefore had moved back a school year, which meant that the project had naturally transitioned into three cohorts. Further invitations were sent to young people who had been in Year 10 at the time of initial recruitment, using the same recruitment method outlined above. This led to six further participants consenting to taking part in the study. Table 16 provides an overview of the key characteristics of the 82 young people who have taken part in the Longitudinal Transitions Study. A further four participants consented to take part in the study, but never took part in any data collection, and therefore have not been included.

Table 16: Overview of the 82 participants who were recruited and completed baseline questionnaires

Characteristic	Total (N)	Total (%)
Gender		
Male	37	45%
Female	45	55%
Ethnic group		
White	70	85%
Black or Black British	3	4%
Asian or British Asian	4	5%
Mixed	2	2%
Unknown	3	4%
Preferred reading format		
Standard to large print (pt 14 and under)	36	44%
Large print (pt 16+)	32	39%
Braille/Electronic	14	17%
Registration type		
Blind (severely sight impaired)	22	27%
Partially sighted (sight impaired)	23	28%
Registered but type unknown	2	2%
Unknown	23	28%
Not registered	12	15%
Additional Special Educational Needs		
Yes	13	16%
No	58	71%
Unknown	11	13%

It is important to note the vast range of VI of the young people who participated in this study. RNIB (2018) provides an explanation of the different criteria for registration as having a VI, including an explanation of how an individual might experience VI through both their level of visual acuity (their central vision and the vision they use to see detail) and their level of visual field (how much they can see around the edge of their vision, while looking straight ahead). The two categories of VI in the UK are ‘severely sight impaired’ (blind) and ‘sight impaired’ (partially sighted). Eligibility for these categories depends upon an individual’s visual acuity and visual field. When interpreting the experiences of the participants it is important to be mindful of the level of VI that individual has, as this will be an important factor when considering the challenges that they face and the types of adjustments that they require. For example some of the participants, although they received specialist support in school due to their VI, were not eligible for registration and they required very minimal adjustments outside of school. Other participants met the necessary criteria to be registered as partially sighted, often requiring enlarged written material or magnification software on a computer. Finally, some participants met the criteria for registering as severely sight impaired or blind, and required electronic material (that they could read using a screen-reader) or braille. This is a rather simplistic but nevertheless important overview of what can be viewed as a spectrum of VI. Each person’s circumstance are unique, particularly as some individuals have more than one eye condition causing their VI or have fluctuating conditions.

In the overview of findings in chapters 6-9, context is given through a description of the registration type of the participant being discussed and, where relevant, an overview of the adjustments they require.

Retention and Engagement

At the start of the study, participants were advised that they would be compensated with a £10 gift voucher after completion of an introductory questionnaire, and for each additional wave of data collection. The purpose for this voucher was both to provide an incentive for participation, and also to compensate for the time the young people would be investing to the research, in line with guidance given by other researchers who have conducted longitudinal qualitative studies (e.g. Taylor, 2009; Sullivan et al., 1996). Over time, the gift vouchers were sent out along with project newsletters which were designed to inform the participants of recent developments in the study, such as news on funding, what the project team had been doing with the research findings, and what the future plans for the study were. The newsletter was also used as an opportunity to address important topics which had been identified through the previous wave of interviews. For example, during one wave of data collection it was found that some of the participants were unaware of some important changes to a benefit which they were entitled to, and in the following newsletter they were provided with further information about it. The newsletters were personally addressed to the participants, and made available to them in their preferred format. The objective of this was to communicate to them the value of their individual contribution.

Whilst no formal Retention Plan was written (as is suggested by Sullivan et al. 1996), a consistent process was used to re-establish contact with the participants. Firstly, I used the given telephone numbers (usually a landline number and a parent/guardians mobile number) to try and make contact with the participant. If successful I then reminded them of the study, and asked whether they would be happy to take part and if they were available to conduct another interview. Often the young person was willing to speak to me at that time, otherwise a mutually convenient time was arranged. Frequently I spoke with a family member who then advised me of a suitable time to phone the participant. Where it was not possible to contact the participant by their given telephone number, I then used a given email addresses to contact them to advise that I had been seeking to make contact, and to request an alternative telephone number to contact them on. If no response was made to this email (or an email address was not available), a final attempt to contact the participant was made by sending a letter in their preferred format to their given address, along with a form to provide their updated contact details and a pre-paid envelope to return the completed form.

During the interviews which took place in summer 2012 and focused on the participant's use of social networking websites and mobile phones, it was established that almost all of the participants were using the popular social networking website Facebook. As a result, I decided to set up a Facebook group for the project, to see whether this would be a helpful way of maintaining contact with the participants and keeping them engaged in the study. I set up a project-specific profile on Facebook, and created a private group for the study. During the next round of interviews I asked the participants if they were interested in joining this group, and whether they would be happy if I sent an electronic invite. I later reminded the participants of the Facebook group in a project newsletter, and advised them of how to connect with the group if they were interested in doing so. The Facebook group has since been used as a method for alerting the participants to developments in the project, sharing reports, linking them to dissemination work that they may have interest in, and generally keeping them engaged in the study and its findings. Facebook has also proved an extremely valuable tool for making contact with the participants. For example, prior to each data collection period I have sent the participants a private message reminding them of the study, establishing whether they were still willing to take part, and asking when would be a convenient time to speak with them. This has generally resulted in very prompt replies and enabled myself and the participant to go back and forth to establish a suitable time for interview. Additionally some participants used this as a means for updating me, for example if they had a new phone number or email address, and even on some occasions to explain to me what had happened when their phone had run out of battery in the middle of an interview! Not all participants agreed to connect with the project via Facebook, but nevertheless this has proved an excellent way of supplementing the existing methods of communication.

The methods I have used to contact the participants also evolved as the participants have got older and left compulsory education. For example, after sixth form/college many participants moved away to university, at which point it became necessary to communicate with them directly, rather than through their parents/guardians. I therefore asked the participants if they would be willing to share their mobile phone number and university email address, to which all but one participant agreed. By also considering the setting of a participant, this helped determine the time and day of the week I sought to make contact with an individual. As an example, I have prioritised contacting students in HE during their holiday periods and participants who went into employment during weekends and evenings. This strategy has helped maximise the number of participants I have been able to speak with at each wave of data collection.

Extensive consideration was given to how best to communicate to the participants the value of their individual contribution, and reassure that their unique story was of interest to us. As well as thanking the participant at the end of each interview, and encouraging them that what they had shared was interesting and valuable to the research, I also started the next interview by summarising what they had shared at the last time at interview, and prepared individualised interview schedules which drew upon their previous responses. Whilst it has been more time consuming to prepare these individual interview schedules, it has communicated to the participants that I have taken note of what they previously shared, as well as avoiding awkward repetition. I also found that by starting the interview by recapping to the participant what they had been doing at the time of previous interview, and asking them for an update, it helped to re-establish rapport between the participant and myself. I chose to use this time to have more casual conversation with the participants which helped ease them into the interview and to feel more comfortable before the interview moved onto more personal (and sometimes difficult) discussions.

Finally, a further significant feature of the research design was adopting a ‘participatory approach’ to the study, by following the principles outlined by Duckett and Pratt (2001). This is outlined extensively in the next section.

Attrition

By spring 2016 (the time of last data collection for inclusion in this thesis), 16 of the 86 participants who had consented to take part in the study were considered to have withdrawn from the project. Here I consider the time point of withdrawal, the reason they gave for withdrawal, and whether there are any noticeable similarities between those participants who withdrew.

Table 17: Reasons for participant withdraw from the Longitudinal Transitions Study

Reason given for withdrawal	**No. of participants**
Research team unable to establish contact at the start of the study for the participant to complete baseline questionnaire	4
Research team unable to make contact with participant despite using all strategies described	5
Participant requested to withdraw – no longer interested in participating	5
Participant requested to withdraw – did not have the time to continue participating	2

Table 17 outlines the various reasons why 16 participants were considered to have withdrawn from the Longitudinal Study. Only seven of the 16 participants specifically requested to withdraw – five because they were no longer interested in participating and two because they felt they no longer had the time to participate. Of the further nine participants, four participants did not complete the initial baseline questionnaire (three because they did not provide their contact details when returning the consent form thus making it impossible to contact them, and one who did not respond to multiple invitations to do so), and seven participants were considered to have withdrawn, as it was not possible to make contact with them, despite using all the methods described earlier in this section.

Table 18: Date that participant was considered to have withdrawn from Longitudinal Study

Date	**Total (N)**
Summer 2010	1
Autumn 2010	2
Easter 2012	6
Autumn 2012	4
Summer 2012	1
Summer 2013	1
Autumn 2013	1
Total	**16**

Table 18 outlines the dates at which the participants either last participated in, or specifically asked to withdraw, from the longitudinal study. It is interesting to note the larger proportion of participants who withdrew from the study in 2012. This coincides with a funding gap in the study when the research team had limited resources to maintain contact with the participants.

Table 19: Overview of participants who requested to withdraw from Longitudinal Study (N=16)

Characteristic	Total (N)	Total (%)	Total (%) All participants
Reading medium			
Standard to large print (pt 14 and under)	6	38%	19%
Large print (pt 16+)	9	56%	64%
Braille/Electronic	1	6%	17%
Gender			
Male	9	56%	47%
Female	7	44%	53%
Ethnic group			
White	12	75%	84%
Black or Black British	0	0%	3%
Asian or British Asian	2	19%	7%
Mixed	0	0%	2%
Unknown	1	6%	3%
Additional Special Educational Needs			
Yes	3	19%	19%
No	12	75%	76%
Unknown	1	6%	5%
Achieved 5 GCSE A*-C including Maths and English?			
Yes	3	38%	63%
No	5	63%	37%
Unknown	8	-	-
What participant was doing at time of withdrawal			
GCSEs – wanting to go to college	4	-	-
Sixth form – wanting to go into Higher Education	3	-	-
Sixth form – wanting to go into Employment	2	-	-
In Higher Education	2	-	-
In Employment	1	-	-
Unknown	4	-	-

Table 19 provides an overview of some key characteristics of the participants who had withdrawn from the longitudinal study by March 2016, and makes comparisons to the characteristics of the overall sample. Registration type is excluded from this table as this information was not collected before the majority of these participants withdrew from the study. Whilst it is very important to remember the small sample sizes being used for comparison, there are two findings of particular note. Firstly, when compared to the overall sample, proportionally more who use standard to large print had withdrawn from the study and proportionally less who use braille/electronic format. Secondly, when compared with the overall sample and also national averages, a relatively low proportion of the participants who requested to withdraw from the study achieved 5 A*-C GCSE grades, including Maths and English. It is very important to note here, however, that this information was only available for half of the participants who withdrew.

4.4.4. ETHICS AND CONFIDENTIALITY

Ethical approval

Ethical approval was received from University of Birmingham Ethics Committee prior to the commencement of the study. This ethical approval covered the overall design of the study and recruitment. Due to the fact that there would be multiple periods of data collection during the course of the study (and in keeping with suggestions by Saldana, 2003), it was agreed that the Ethics Committee would be updated on any further interviews or questionnaires proposed. In these instances, minor amendment forms were completed which described the new data capture, and provided supporting documentation (e.g. interview schedules).

Informed consent

At the time of recruitment, participants were sent information packs containing a covering letter, information sheet and consent form. The information sheet made it clear that they were consenting to take part in a longitudinal study (of at the time 5 years) and that they were free to withdraw from the project at any point. The recruitment packs were reviewed as part of the ethical approval process and amendments were made in accordance to the reviewer's comments. Consent forms were requested from both parents and the young person, asking both parties to confirm that they had read the accompanying project information sheet. Prior to each interview, I established whether the participants were still happy to take part in the research and gave them an opportunity to withdraw, as is suggested in research literature (Holland et al., 2006; Saldana, 2003; France et al., 2000).

Due to the case studies centring on interviews with key people (associates) involved in supporting the participants through their transition pathways, additional consent was obtained from the young people prior to their recruitment into the case study work. New information packs were prepared which explained what the case study work would involve, and made it clear that I would not speak to any of their associates unless they were happy for me to do so.

Confidentiality

All participant data has been stored on the University of Birmingham secure network, the contents of which are regularly backed up to ensure that files are protected, within a folder only accessible by the research team. All findings have been reported anonymously. One particular concern that I have had when writing up this thesis (and the Longitudinal Transitions Study findings more broadly) is that due to the relatively low incidence of VI in young people and the uniqueness of their experiences, there were strong possibilities of the identification of individual participants (Holland et al., 2006). To reduce the possibility of this happening, I have presented findings as collectively as possible, whilst striving not to lose the individual narrative.

Researcher effect

As identified by Holland et al. (2006), working closely with the same research participants over a long period of time can lead to a researcher effect. The research team made the conscious decision to intervene in situations where the participants were judged to be in unfavourable positions, and likely to benefit from specialist support or guidance. For example, a small number of the participants in HE were unaware of Disabled Students' Allowance, so I provided information to them on what the fund was and how to apply for it. In some circumstances the participants were asked whether they would like to be referred for specialist support, and given the option of whether to accept this or not. Details of referrals were recorded, and then followed up on during the next interview. Whilst this undoubtedly means that some participants' 'true' experiences have been distorted, it also gave the opportunity to observe the participant's experiences once they received intervention from specialist services.

4.5. PARTICIPATORY RESEARCH

4.5.1. WHAT IS PARTICIPATORY RESEARCH?

Duckett and Pratt (2001) shared six principles for conducting disability research, and offered several points of reflection following their own study. These principles emphasised the importance of undertaking ‘participatory research’, or “research that includes the active involvement of those who are the subject of the research” (Government of Canada, 2014). When discussing the guidelines provided by Duckett and Pratt (2001), Douglas et al. (2012) suggested that one way in which researchers who conduct research with participants with disabilities could meet these principles, was through applying the WHO ICF Framework, by using it as a means for removing barriers to participation.

4.5.2. PARTICIPATORY RESEARCH AND THE LONGITUDINAL TRANSITIONS STUDY

Each of the six principles identified by Duckett and Pratt (2001) are outlined below, along with an explanation of how each principle has been applied in the Longitudinal Transitions Study.

1. Take into account those who might not naturally want to discuss issues relating to their VI. It should be acknowledged that some people will be less willing to participate in research studies, including not wishing to discuss their VI or to be grouped amongst other VI people. Similarly, individuals may be reluctant to share any problems that they have faced as a result of their disability. The strength of drawing upon the participants of a LQS is that I have been able to work with the same group of young people for several years, as part of the broader project. This has enabled me to establish a good relationship, and gain their trust to share with me their personal experiences – something they may be less willing to do with a less familiar person.

2. Make research findings more accessible for vision impaired people. One potential disadvantage of academic research is that the reporting of findings tends to be focused to an academic audience. Duckett and Pratt reminded researchers that it is important to share any findings to the community they have been researching. Throughout the Longitudinal Transitions Study I have ensured that participants have been updated with any key findings and activity of the study through newsletters and project updates. On a practical note, these were made available to the participants in their preferred format. Providing regular communication can help the participants feel more engaged in the research, and give confidence that their contribution has significance. The research findings have also informed the content of guidance material which has been developed for young people with VI as part of the broader study.

3. Avoid a sense of "power dynamics" by keeping the work informal. Duckett and colleagues observed a need for equal relationships between researcher and participant in studies of individuals with VI. However, an equal relationship between researcher and participant can be hard to establish when the researcher is primarily responsible for directing the course of the interview, through needing to ensure that the necessary information is obtained, and that the participant's time is not being wasted by an unfocussed interview. To keep the researcher-participant relationship as informal as possible, interviews in the Longitudinal Transitions Study have always been semi-structured, with opportunity at the end of each interview for the participant to share anything that they think is important in the context of the study. I have also sought to demonstrate an interest in them as individual people, for example, by asking how their holidays had been and how their training with their sports team was progressing.

4. Recognise the individuality of the participants. There is a danger of grouping together VI participants without recognising them as individuals, who have differing strengths and face different challenges. Individuality has been acknowledged in the Longitudinal Transitions Study through the decision to conduct detailed case studies with several of the participants. This has enabled a focus investigation of the individual's experience of the world around them.

5. Ensure that the research is practical and relevant to the research subjects. Duckett and Pratt noted that the participants in their study wanted to be involved in research that would have an immediate impact upon their lives, including expressing a preference for 'action research'. One difficulty with this approach is where there is limited evidence to base interventions upon. Whilst this research study has not been able to offer any immediate benefits to VI participants, where possible, some minor interventions have been made. Examples include referring young people to support services and providing information about funding options.

6. Make use of the expertise of vision impaired people. A final guideline was to be mindful that VI people are the experts in what it is like to live as a VI person, and that researchers should draw upon their expertise. Throughout this research, the opinions of other VI students have been sought in a variety of ways, including: on the steering group committee; piloting questionnaires and attending a student group established and independently run by VI students which served as a forum to share and discuss amongst themselves any issues that they were facing as disabled students.

4.6. OVERVIEW OF PARTICIPANTS WHO TRANSITIONED INTO HIGHER EDUCATION

Table 20: Characteristics of the participants who took part in the HE interviews (N=39)

Characteristics	**Total (N)**
Gender	
Male	20
Female	19
Cohort participants recruited into	
Year 11	26
Year 10	7
Year 9	6
Registration type	
Blind	14
Partially sighted	12
Not registered	5
Participant does not know	4
Information not available	4
Reading format	
Standard to large print (pt 14 and under)	9
Large print (pt 16+)	19
Braille/Electronic	11
Academic year they planned to transition into HE	
2012	21
2013	8
2014	10

Thirty-nine participants who intended to transition into HE were interviewed about their experiences, with their experiences being reflected in this thesis. Table 20 provides an overview of some key characteristics of these participants. Of particular note is the range of severity of VI within the cohort, ranging from participants who were able to read standard print, to participants who were reliant on braille/electronic mediums.

It is also important to note that the participants transitioned into HE at different times. Whilst the same interview schedules were used with the participants when monitoring their transition into HE, this has particular relevance to the follow-up interviews which were conducted with *all participants* in summer 2015. At this time some of the participants who started in HE in 2012 had just graduated and therefore had three years of study to reflect back upon, whereas participants who started in HE in 2014 only had one years' experience in HE.

4.7. DATA COLLECTED ON THE PARTICIPANTS' EXPERIENCES OF HIGHER EDUCATION

4.7.1. LONGITUDINAL DATA COLLECTION

The initial data collection at the start of the broader Longitudinal Transitions Study took the form of a questionnaire, which was made available to them in their preferred format including, large print, electronic, and telephone interview if they preferred. Subsequent data collections took the form of structured and semi-structured telephone interviews. A rough pattern was followed during the course of the research which involved a short 'catch-up' interview, which typically included questions relating to the longitudinal/tracking aspect of the study, followed by a longer interview later in the year which tended to focus on the specific themes of interest (as informed by research literature), such as attitudes independence, technology and use of assistive aids. In keeping with LQS, the participants were regularly interviewed about their future plans, and the preparations that they had made for pursuing these plans.

The content of all of the interviews for the Longitudinal Transitions Study have been informed through a variety means, including:

- Investigation of factors identified by existing research literature as having a significant impact on successful transitions for young people with VI. These factors aligned strongly with the expanded core curriculum.
- Identification of issues by the participants who were the first to transition into HE, which were later investigated with the whole cohort. This contributed to the participatory nature of the study.
- Topics identified by the project team and steering group, drawing on professional experience and anecdotal evidence.

When developing the interview schedules, I drew on key principles from the WHO ICF Framework by focusing on the themes of ‘activities’, ‘participation’, ‘impairment’, ‘environmental factors’, ‘barriers’ and ‘facilitators’. Before each interview schedule was finalised, it was reviewed by the project team and steering group, and then refined prior to submission to University of Birmingham Ethics committee.

4.7.2. USE OF SEMI-STRUCTURED INTERVIEWS

Berg (2009) defines interviews as “a conversation with a purpose (p101), while Robson (2011) describes the process of interviewing as ‘asking questions and, hopefully receiving answers from the people you are interviewing’ (p279). For the purpose of this research I decided to adopt semi-structured interviews. Robson (2011) defines semi-structured interviews as follows:

> “The interviewer has an interview guide that serves as a check list of topics to be covered and a default wording and order for the questions, but the wording and order are often substantially modified based on the flow of the interview, and additional unplanned questions are asked to follow up on what the interviewee says” (p280).

Personalised interview schedules were prepared in advance of the interviews with the participants, to incorporate relevant information from previous data collections. This aided the conversation to progress more naturally, and also communicated to the participants that I had taken note of the information they had previously shared. By working with the same group of young people over an extended period of time, good working relationships were developed. As time progressed the interviews became more conversational in nature as the young people engaged with the research and anticipated the type of information I was seeking to obtain. Consequently semi-structured interviews were considered to be most appropriate as it ensured that the information being collected remained consistent from interview to interview for reporting purposes, but also allowed the interviews to remain suitably natural. It also allowed for scope to explore individual experiences in more depth which in turn fed into future interview schedules for the whole cohort.

4.7.3. HE DATA

The interviews with 39 participants who made the transition into HE covered the following topics.

Initial application to HE

Interviews with participants intending to transition into HE the next academic year covered the following topics:

- Intended destination for the next academic year
- Proposed HEI and course
- Reasons for applying for the course and institution
- Accessibility of the application process
- Support received in applying for HE
- Applications made for Disabled Students' Allowance
- Communication made with HEI regarding support needs

End of first-year interviews

Extensive interviews were held at the end of the participants first academic year in HE. These interviews covered the following topics:

- Disabled Students' Allowance
- Development of support plans and interaction with the Disability Support Office

- Accessing lectures and learning materials
- Accessing examinations and other assessed work
- Independent living
- General life in HE

Follow-up interviews

Follow-up interviews were conducted with all of the participants who had been in HE, to investigate some of the emerging findings from the research. All of these interviews took place in 2015, regardless of the stage of courses that the participant was at. These interviews covered the following topics:

- Disabled Students’ Allowance
- Support provided by HEI
- Mobility support, independent living and adult services

The interview schedules used may be found in the Appendix. Table 21 provides a summary of the number and type of interviews which were conducted which relate to the transition into HE.

Table 21: Overview of interviews conducted

Type of interview	**Total (N)**
Initial application	39
End of first academic year	31
Follow-up interview	24
Total	**94**

4.7.4. CASE STUDIES: PARTICIPANTS IN HIGHER EDUCATION

Case study work (as introduced in 4.4.2) commenced in autumn 2013 with the recruitment of a small number of the participants across four different pathways: (i) HE; (ii) Employment/Apprenticeships; (iii) Not in employment, education or training (NEET), and (iv) Preparing for transition from sixth form/FE college. Potential HE case study participants were identified through earlier interviews, designed to reflect a range of characteristics (degree of VI, type of school previously attended, type of course chosen in HE and type of HEI chosen). I also chose to approach participants who had been particularly engaged at earlier stages of the research study. Whilst this had potential to cause some bias in the findings, I believed this important as I was conscious of potential interviewee fatigue. All but one of the participants I approached consented to take part in the case study work. In this sub section I focus on the case studies of the participants already in HE.

Table 22: Overview of case study interviews/data collected: participants in Higher Education

Type of interview/data collection	**Total (N)**
Participant in-depth interview	5
Participant shadowing record	5
Participant shadowing follow up interview	5
Parents/Carers	4
Tutor/Department representative	5
Disability Support Office	5
Mobility officer	1
Total	30

Participant shadowing record

An important part of the case study work involved ‘shadowing’ the participants around a typical day in HE. Bartkowiak-Theron and Sappey (2012) have defined shadowing as “a particular observation technique used in qualitative research which allows researchers to gain first-hand insight into how functions are fulfilled in a given group in society or perhaps at the level of the day-to-day operations and logistics of a particular role" (p7).

This mirrored the approach used by Hall and Tinklin (1998) in their study into the experiences of students with disabilities in Scotland. In reflecting on their experience of shadowing, Hall and Tinklin concluded that it had been an extremely helpful process, allowing them to make observations of events which the young person might not necessarily have shared themselves, due to it being their everyday experience, allowing them to observe first-hand the barriers their participants faced.

It was incredibly valuable to be able to make first-hand observations that the participant themselves might not have been able to make due to their VI. For example, I observed a class register being passed around, but unbeknown to the participant, they were missed out by other classmates who made the assumption that she would not be able to complete it, but did not offer to help find her name on the list. Since completing the case study work I have also found that some of my most fruitful and honest interviews have been with the participants who took part in the case study work.

McDonald (2005) published what she identified to be the first paper which outlined shadowing as a qualitative research method. She noted several important principles that should be followed by researchers when shadowing an individual; all of which were adopted during my own research visits. These were:

(i) To ask questions to the individual being shadowed to ensure an ongoing commentary
(ii) To write a continuous set of field notes
(iii) To end the shadowing period with a ‘rich, dense and comprehensive data set’
(iv) To treat the data set as any other qualitative data

McDonald noted that shadowing data tends to be more detailed than other qualitative approaches and has the advantage of enabling the researcher to make observations first-hand, overcoming any challenges that the participant may have in describing their experience. McDonald also noted some challenges of using shadowing as a research method, which proved relevant to my experience. Firstly, there are potential challenges of ‘access-negotiation’ – i.e. obtaining approval from all relevant bodies. In the case of this study, this meant obtaining consent from the participant, the participant’s head of department and the various staff leading teaching sessions that the participants were attending. This was a time-consuming process, particularly as consent forms needed to be completed by all parties. Secondly, McDonald identified the potential of an observer effect, whereby the researchers presence influences the interactions that they are seeking to observe. Hall and Tinklin (1998) noted that their presence at times felt unnatural, leading to concerns that this would have impacted upon the observations. The participants I shadowed commented that because I was a similar age to their note-takers, their peers seemed to made the assumption that I was there in the same or similar capacity. One lecturer did speak with me after their lecture to express her frustration at the difficulties that the participant was experiencing (but the participant later shared that she did not feel she was treated any differently in that lecture than they were in the average lecture). A further lecturer who had been informed of the purpose of my visit still handed the participant a worksheet in an inaccessible format, despite her having an agreed format noted on a student support agreement!

As explained above, permission was obtained in advance from participants and lecturers to attend teaching sessions. In one case where this was not possible due to limited space in the lecture room, the participant was requested to complete a diary to record key events that had taken place that day. This corresponded with the template diary I used when taking observations during shadowing visits. Figure 7 below shows the different headings used.

Figure 7: Headings used for participant diary

Time	**Details of activity**	**Any equipment used (specialist or otherwise)**	**Any assistance received**	**Detailed notes (including relevant background information)**

It was possible to shadow four of the five case study participants during a typical day on their course. This data collection took place between November 2013 and February 2014. Following each day of shadowing, a short interview was conducted with each participant to clarify any matters of confusion, and also to request further relevant background information.

Participant interviews

Interviews took place with all participants following the shadowing work. These covered the following topics:

- Preparedness for the transition into HE (academically, socially, living independently)
- Expectations and actualities of support (support provided by disability support office, support provided by department, access to exams)
- Details of specific support (Disabled Students' Allowance (DSA), use of specialist equipment, accessing the library and other resources)
- Long term expectations (career ambitions, Access to Work, specialist advice through the careers service)

Interviews with associates

Participants were asked to identify key people (or 'associates') who had had an influence on their transition experience into HE. Upon agreement from the participants, associates were sent recruitment packs to give them further information about the study and to ask whether they would be happy to take part in telephone interviews. The recruited associates were asked a series of questions which largely mirrored interviews with the participants, and covered the following topics:

Parents/carers

- Background family information (composition of household, household occupations, whether others in family have a VI, background of son/daughters condition).

- Preparedness of young person before going into HE (support received through school/college, support through sensory support service, statutory transition planning, careers education and guidance, independent living, support provided to young person by themselves and other family members).
- Expectations and actualities of support received (initial contact with the HEI and discussion of support, support received through disability support office, support received through department, support available in accommodation).
- Specific issues relating to HE (researching and visiting universities/HEIs, application process through UCAS, application process to Student Finance and Disabled Students' Allowance, support and information available to parents).
- Future plans of son/daughter (career ambitions, Access to Work and where they see their son/daughter in ten years' time).

Tutor/department representative

- Background information (their role and experience, knowledge of Special Educational Needs and Disability Act (2001) and the Equality Act, whether the department has supported anyone with a VI in recent years, department's experience in providing support for students with disabilities).
- Preparedness (notice received that the young person would be on the course, preparedness of the young person for life in HE, preparedness of the department, evaluation of young persons' transition into HE).
- Expectations and actualities of support received by young person (expectations of support from young person and the disability support office,

negotiation of support agreements, procedures that the department follows in terms of providing support, reality of support received, exam arrangements).

Disability Support Officer (DS Officer)

- Background information (role and experience in the field, departmental written policies, structure of the service, services that they provide as a DS Officer, staffing, evaluation of the general accessibility of the HEI)
- Preparedness of the young person before going into HE (academic transition, skills and knowledge of assistive technology and other low vision aids, independent living, self-advocacy, their broader experience of VI students coming to HE)
- Expectations and actualities of support received (expectations of the young person, agreed support, working relationship between disability support office and the participant's department, exam arrangements)
- Disabled Students' Allowance (professional experience of DSA, participant's experience of DSA)

Mobility officer

- Background information (role and experience in the field, training received)
- Mobility training and DSA
- Mobility training and Social Services
- General accessibility of HEI
- Mobility skills of students with VI

4.7.5. CASE STUDIES: PARTICIPANTS AT SIXTH FORM/COLLEGE AND PREPARING TO TRANSITION INTO HIGHER EDUCATION

Interviews with participants in sixth form/college

Additional case studies were conducted with two students who were in their last year of sixth form/college. These case studies provided an opportunity to obtain a more comprehensive overview of the support that they received when applying for HE, and the preparations that were made prior to them starting HE, specifically in relation to their VI.

Table 23: Overview of case study interviews/data collected: participants preparing for HE

Type of interview	Total (N)
Participant interview 1	2
Participant interview 2	2
Participant interview 3	2
Participant interview 4	1
Parent/carer	2
Tutor	2
Specialist VI teacher (QTVI)	1

Participants were interviewed at regular interviews throughout their final year in Sixth Form/FE. These interviews corresponded with the following key times:

- Completion of their course application forms.
- After receipt of offers from HE providers.
- After receipt of exam results and immediately prior to starting in HE.

Only one of the participants was still receiving support from their Local Authority VI service, and therefore it was only possible to speak with one QTVI. Interviews with associates covered a range of topics, as summarised below.

Interviews with parents/carers

- Background information (relationship to participant, history of VI in family, background of son/daughters VI (e.g. initial diagnosis, experiences whilst in school)).
- Preparedness of young person to make the next transition (support received and provided, transition planning, independent living skills).
- Specific issues relating to HE (researching universities, application process, Student Finance and DSA, support and information available to parents).
- Son/daughters future plans (career ambitions, where see son/daughter in ten years' time).

Interviews with specialist teachers (QTVI)

- Background information (background to Local Authority and support offered).
- Preparedness of young person for next transition (academic transition, skills and knowledge of assistive technology and aids, independent living, self-advocacy).
- Expectations and actualities of support in preparation for transition (role of the QTVI in transition planning, engagement by young person of services, performance and outcomes of various transition services).

- Specific issues relating to HE (self-advocacy, researching universities, DSA, support negotiation).

Interviews with school tutor

- Background information (role, relationship to participant, experience of support students with VI or other disabilities).
- Preparedness of young person for next transition (academic transition, working independently, skills and knowledge of assistive technology and aids).
- Support in preparation for transition (researching and applying for HE, DSA, negotiating support at university).

4.8. DATA ANALYSIS

4.8.1. THEMATIC ANALYSIS

In this section I provide an outline of ‘thematic analysis’; the primary approach for data analysis used in this thesis. I provide justifications for using thematic analysis, consider some of its advantages over other methods, and outline the criticisms which are made about it. Braun and Clarke (2006) defined thematic analysis as “a method for identifying, analysing, and reporting patterns (themes) within data” (p79). King (1998) alternatively referred to this approach as ‘template analysis’; a title which reflects how this approach involves producing a template of codes which represent themes that are identifiable in the data. Robson (2011) viewed thematic analysis as a “flexible” and “generic approach to the analysis of qualitative data” (p467).

Justifications for using thematic analysis

It is important when considering which qualitative data analysis approach to use, to look at the type of data that has been collected, as well as any ideas that may already been generated by the researcher during the data collection process. For example, an alternative qualitative data analysis approach commonly used in social research is ‘grounded theory’. In grounded theory themes are seen to emerge from the data as the researcher studies it, rather than being drawn from literature that the researcher may have previously read or ideas that the researcher may already have formed. However, this approach seemed inappropriate in this study as some of the data presented within the thesis had already been analysed as part of the broader study. This meant that I already had strong ideas of what were likely to be important themes within the data, which in turn had influenced the development of the semi-structured interview schedules I used.

It was important, therefore, to choose a data analysis approach compatible with this prior-formation of ideas. Thematic analysis, as described by King (1998), is a technique which takes advantage of such an approach to qualitative research, as it allows the researcher to commence the initial coding of data with an existing template of codes. This template will be pre-determined and can be based on, for example, initial research questions or previously identified themes.

Advantages over other methods

Braun and Clarke (2006) observed that one of the main benefits of thematic analysis is its flexibility, and the fact that it is not “tied to…a particular theoretical or epistemological position” (p78), unlike other qualitative analysis techniques such as grounded theory or discourse analysis. They concluded that “through its theoretical freedom, thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data” (p78). This is echoed by King (1998) who saw the flexibility of the approach as being its primary advantage. He also identified benefits of the researcher utilising a structured approach when handling data which in turn is beneficial when communicating the themes identified, due the transparent process. King also suggested that a thematic approach to analysis may be used for *any type* of textual data. This is particularly beneficial in the case of this research which has collected information through semi-structured interviews, shadowing and observational diaries.

Guidance for conducting thematic analysis

Several authors have provided guidance of how to conduct thematic analysis, in the form of ‘step-by-step guides’ and specific advice for individual steps. Whilst each guide differs slightly, drawing upon various sources (King 1998, Basit 2003, Braun and Clarke 2006, and Robson 2011) the generally recommended approach can be summarised as follows:

1. Become familiar with the data – this includes reading through the data collected multiple times, and starting to make notes about possible patterns and potential codes.

2. Start producing a list of initial codes.
3. Taking these initial codes, start looking for themes within these codes. Consider hierarchies, in terms of broader themes and sub themes. Start developing a thematic map.
4. Review the themes, ensuring that they are representative of the data, refining where necessary.
5. Give the themes that have been derived formal definitions, ensuring that you are clear what each theme represents.
6. Write up the final analysis.

Whilst the approach described by King (1998) largely follows the same guidelines, he gives more focus to the development of a template. Instead he recommends starting the analysis by developing an initial template of codes. These codes form the basis of the initial research questions and existing theory. The template should then be verified by an expert in the field, before commencing the coding of data. Just as with the approach described above, the researcher should then ‘test out’ this template, modifying and developing it accordingly, to ensure that it is as representative of the data and the research questions as possible.

Tools for data analysis

Basit (2003) examined different practical methods for carrying out qualitative data analysis, by comparing and contrasting manual and electronic approaches, and provided guidance for how to undertake qualitative analysis (as discussed above). Throughout the paper, Basit emphasised what a demanding process qualitative analysis can be, saying: “it is, indeed, an all-encompassing activity that continues throughout the life of the project” (p145). It is not surprising, therefore, that Basit recommends that if a researcher has large quantities of qualitative data to manage (as was true of this study) that specialist electronic analysis tools such as NVivo are used to facilitate the process.

Criticisms of thematic analysis

A number of criticisms have been made of thematic analysis, although with acknowledgement that many of the perceived limitations relate to researchers not applying the method appropriately, rather than specific limitations of the approach itself. For example, King (1998) suggested that one weaknesses of this approach is the limited use of literature to help direct the researcher. He also identified a potential danger in the researcher either making the analysis too simplistic or too complex to be manageable.

Braun and Clarke (2006) provided a list of five potential ‘pitfalls’ that a researcher may make when carrying out thematic analysis.

1. Not actually analysing the data – rather than just grouping the data, it is important to also have made sense of it.
2. Using data collection questions as the ‘themes’ that are reported – instead it is important to look for patterns across the data set as a whole.
3. Producing a weak analysis with indistinct themes – instead it is important to ensure that the themes do not overlap and are definable.

4. Data not matching the final analysis – essential to ensure that any themes are substantiated by the data that has been collected.
5. A mismatch between theory and analytical claims, or between research questions and the form of thematic analysis used.

King (1998) also suggested that by making the analysis too complex, there is a possibility of making it too ‘over-descriptive and of ‘losing’ individual participants’ voices in the analysis of aggregated themes’ (p133).

4.8.2. OVERVIEW OF APPROACH TO DATA ANALYSIS

In this section I outline the approach I took to analysing the data presented in this thesis, discussing each stage identified in the ‘step-by-step’ guide in turn.

1) *Ensure that you are familiar with the data – this includes reading through the data collected multiple times, and starting to make notes about possible patterns and potential codes.*

Due to the large number of interviews which were conducted with the participants over an extended period of time, it was essential that I was as familiar with the data as possible to be able to manage the vast amount of data collected, and not to become overwhelmed by it. This was facilitated through me personally conducting all of the interviews with the participants, and also by me transcribing the interview recordings. This process allowed me to reflect on the content of the interviews with the participants and to start considering emerging themes in the data, informed through both previous analysis of data in the Longitudinal Transitions Study and through themes that had emerged during the literature review. For example, this includes themes such as self-advocacy, independence skills, technology skills and contribution of the individual. Following the summer 2015 follow up interviews with the participants, the data collected on the participants HE experiences was amalgamated into individual files for each participant, which allowed a further opportunity to review the interview transcripts.

2) *Once familiar with the data start producing a list of initial codes.*

The individual files for each participant were then imported into an NVivo 10 file. At this point I commenced reading through the interview transcripts and made handwritten notes of initial codes. The language that was used during this process was informed by the WHO ICF Framework, drawing upon central themes and vocabulary such as ‘impairment’, ‘enablers’, ‘barriers’, and ‘participation’. As the structure of these initial codes developed I then started making more firm decisions by creating nodes in NVivo, before proceeding to code the interview transcripts.

3) *Taking these initial codes, start looking for themes within these codes. Consider hierarchies, in terms of broader themes and sub themes. Start developing a thematic map.*

Having conducted the initial coding of the transcripts, I then revisited these codes to consider the emerging themes and commenced the development of a thematic map. As discussed earlier, this thematic map drew upon the themes identified as significant in earlier analysis of the longitudinal study and through literature (including the themes of the expanded core curriculum). The thematic map also applied language taken from the WHO ICF Framework. All of the interview transcripts were then analysed according to this thematic map.

4) *Review the themes, ensuring that they are representative of the data, refining where necessary.*

Having developed the initial thematic map these themes were reviewed by investigating each individual node in turn to ensure that the content of these nodes was consistent. The themes identified were also discussed within the research team and presentations were made of the initial findings at a project steering group and feedback received.

5) *Give the themes that have been derived formal definitions, ensuring that you are clear what each theme represents.*

Drawing upon the feedback received, I then proceeded tofinalise the hierarchy of the thematic map. This included giving, each theme a written description in the NVivo database, defining what was represented within that theme. These definitions were later drawn upon when the writing up the findings.

6) *Write up of the first draft of the analysis.*

Having completed the analysis, the findings were summarised in a technical report: Hewett, R., Keil, S., and Douglas, G. (2015b) Experiences of blind and partially sighted young people as they make the transition into Higher Education, *Vision Impairment Centre for Teaching and Research, University of Birmingham*. The findings were presented in a chronological format, which aimed to take the reader through the complex transition journey which the young people had made.

7) *Development of the Bioecological Model of Inclusive Higher Education*

In Stage 7 I built upon the stage 6 analyses by applying a conceptual model developed by Anderson et al. (2014) to develop the Bioecological Model of Inclusive Higher Education. This process involved mapping the different factors identified during stage 6 within the different systems proposed by Bronfenbrenner (e.g. Bronfenbrenner, 2005). This model is outlined in detail in chapter 5.

8) *Re-analysis of the data through the lens of the Bioecological Model of Inclusive Higher Education*

Finally, using the Bioecological Model of Inclusive Higher Education, I revisited the themes previously identified through steps 1-6 (and presented in Hewett, Keil, and Douglas., 2015b) and restructured the thematic map according to the system to which each theme related - thus creating a new hierarchy of themes. For example, themes relating to policy were positioned in the Macrosystem (the system outside of the HEI), whereas themes relating to delivery of teaching were positioned in the Microsystem (the system surrounding the individual). The outcome of this analysis is presented in Chapters 6 to 8, and organised by the three research questions. This is discussed further in the next sub-section.

4.8.3. REPORTING OF FINDINGS

Chapter 5 presents an overview of the Bioecological Model of Inclusive Higher Education, which I developed using the findings of Stages 1 to 6 of the analysis. Chapters 6 to 8 apply this model to answer the three research questions which were identified following the literature presented in Chapter 2. The findings presented are illustrated through quotes from the young people and the ‘associates’ who took part in case study interviews. For each quotation, contextual information is given about the individual who made the statement, such as their level of VI and their chosen method(s) for accessing information. The aim of the results chapters is to give a comprehensive overview of the themes which emerged through the research, illustrating the complexity of the experiences of students with VI as they transition into HE. As the interviews were semi-structured, not all participants were asked the same questions, meaning that it is not appropriate to quantify the number of participants who provided a similar response. Instead an indication of the level of response is given through a description of quantity, for example ‘a small number’ or ‘the majority’. The exception is chapter 8 which includes responses from the ‘Reflection’ interviews which took part in 2015/16. Here, where consistent (and often closed) questions were asked to the participants, a count is provided of the responses the participants provided. When reporting upon the findings, care has been taken to draw upon the language and themes proposed in the WHO ICF Framework.

5. DEVELOPING A BIOECOLOGICAL MODEL OF INCLUSIVE HIGHER EDUCATION

5.1. INTRODUCTION

When analysing the data collected relating to the experiences of the participants in HE, I decided to explore the possibility of applying Bronfenbrenner's model as a lens through which to view these experiences. There were several advantages identified for taking such an approach, reflecting evidence identified through the literature review and the conclusions of the proposed theoretical framework. These include being able to take into account:

- The complexity of the environment in which a HE student with VI sits, including the ways in which legislation and government policy can indirectly impact upon the learner.
- The interactions between the different factors which exist within the learners environment.
- The contribution which is made by the learner themselves, including their ability to draw upon the skills and experiences which they have developed earlier in life.
- The partnership between the learner and institution, as is reflected by Bronfenbrenner through *progressive mutual accommodations*.

This chapter therefore outlines how I applied Bronfenbrenner's bioecological model in order to develop the Bioecological Model of Inclusive Higher Education. Section 5.3 describes chronologically the process that students with disabilities typically follow when making the transition into HE. This outline includes an overview of the systems the student has to navigate and the different professionals that contribute to this process. In essence, this was the starting point of the analysis of the data collected on the experiences of students with VI in HE. This process allowed me to undertake a structured analysis to identify the key factors which impacted on the experiences of the students of VI in HE. This analysis drew upon key terms from the WHO ICF Framework, as noted by Douglas et al (2012), such as impairment, activity, participation, environmental factors, barriers and enablers.

The next stage of the process involved the application of Bronfenbrenner's bioecological model as a template, by plotting the various factors identified as having a significant impact on the experiences of the participants within this model. This included specifying which system each factor sits in within the bioecological model.

This process led to me developing the conceptual model which is used throughout the rest of this thesis: the 'Bioecological Model of Inclusive Higher Education'.
In Section 5.4 I have provided a detailed description of the different factors found in the Bioecological Model of Inclusive Higher Education, presented through the different systems within the bioecological model. I go on in Section 5.5.to explain how this model can be used as a lens with which to interpret the participants'

experiences, by not just taking account of their immediate environment, but also their previous life experiences.

This chapter draws upon the previously published paper Hewett, R., Douglas, G., McLinden, M. & Keil, S. (2017) Developing an inclusive learning environment for students with visual impairment in higher education: progressive mutual accommodation and learner experiences in the United Kingdom. European Journal of Special Needs Education, 32, 1, pp89-109.

5.2. JUSTIFICATION FOR THE DEVELOPMENT OF A BIOECOLOGICAL MODEL OF INCLUSIVE HIGHER EDUCATION

At the end of Stage 6 of the analysis (as described in Section 4.8.2), I started to search for a possible conceptual model through which to interpret the findings of the research. In particular, I sought a model which would allow me to take a holistic perspective, and through which I could not only evaluate how inclusive an experience HE was for the participants, but also taking into account both how policy and legislation can impact upon the student’s experience, and how the student themselves plays an active role in their learning experience.

As described in Chapter 3, through the application of Bronfenbrenner’s bioecological model it is possible to view and interpret multi-faceted influences which impact upon the experiences of an individual. After reviewing other literature that had applied

Bronfenbrenner’s model, I chose to build upon a conceptual model developed by Anderson et al. (2014) who applied Bronfenbrenner’s work in order to develop a ‘Bioecological Model of Inclusive Education”. This model was designed by Anderson and colleagues to act as a framework to assist researchers to unpick the “complicated, messy and changeable” (p31) environments in which learners sit, by assisting the researcher to investigate factors in inclusive education (and the relationships and connections between these factors) and thereby assess three determinants of inclusive education: participation, achievement and value. Anderson and colleagues viewed the use of the Bronfenbrenner’s model to be a highly appropriate means through which to investigate the social construct that is inclusive education.

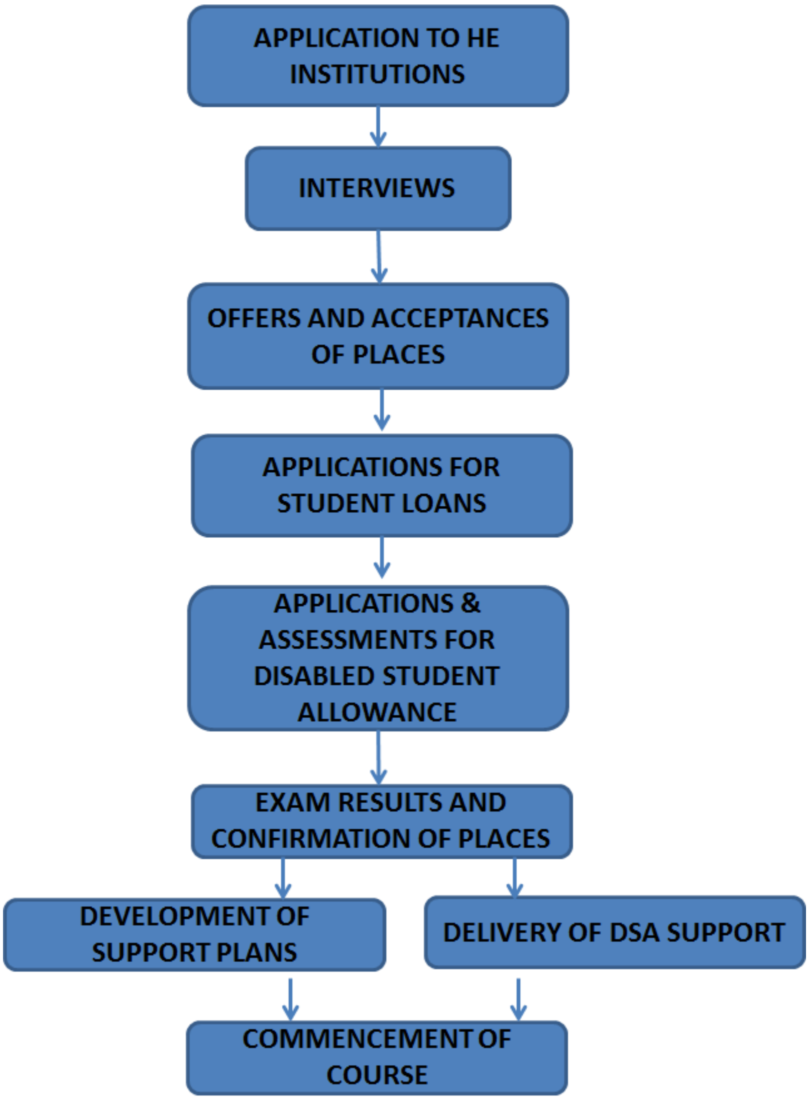
After concluding that a Bioecological Model of Inclusive Education would be a suitable fit for this research problem, I proceeded to re-analyse the data by identifying factors reported as having an impact upon the participants experience in HE, before physically mapping these into the different systems into the Bioecological Model of Inclusive Higher Education.

Tudge et al. (2009) in a review of academic’s use of Bronfenbrenner’s bioecological model concluded that the theory had often been misused. For example, they identified papers where researchers had either not applied the full model, or had used an earlier version of the model. Consequently they advised that anyone wishing to apply the model should make this apparent to the reader. In the case of this thesis I have adapted Bronfenbrenner’s later PPCT model (Process-Person-Context-Time) to consider the development of a young person with VI from birth through to adulthood (this is explained in more detail in Chapter 3). I focus on a specific time period in the individual's development (their transition from compulsory education through to HE), but also recognise the importance of the learner's earlier life experiences within the model.

5.3. CHRONOLOGY OF THE TRANSITION INTO HIGHER EDUCATION FOR A STUDENT WITH DISABILITIES IN THE UK: KEY FACTORS

An important part of the investigation into the experiences of the young people with VI in HE was obtaining a full understanding of the different processes which young people with VI have to navigate when making the transition from Sixth Form/FE college into HE, and the role of the different professionals who facilitated this. This is important in order to understand the range of factors which contribute to the broader experiences of students at a UK HEI. Derived from the research findings, the figure below summarises the process which UK students with disabilities typically follow.

Figure 8: Chronology of the Transition into Higher Education in the UK for students with disabilities



Whilst individual institutions systems and policies will vary, the process outlined was typical of all the participants attending a university. Three of the participants attended smaller specialist HEIs which were not large enough to have dedicated disability support departments and therefore their experiences slightly differed, and arrangements were more ad-hoc.

Applications for HE courses open in the autumn prior to a course commencing. The majority of institutions receive applications through a centralised system, the Universities and Colleges Admissions Service (UCAS). Applicants select a maximum of five courses they would like to apply for, and provide previous qualifications, a personal statement and where relevant a declaration of disability/learning difficulty. HE providers offer open days which can be attended by prospective students to learn more about courses they are interested in, visit the university campus/environment and meet academic staff.

Central admission teams manage course applications. On receipt of an application they review it to ensure the applicant meets the basic course entry requirements, before sending the application, minus disability/learning difficulty declarations, to the relevant course admissions tutor. Declarations of disability/learning difficulties are forwarded to disability support offices who have responsibility for managing the support services and establishing contact with students who may need support to access their courses and live independently. Therefore, it is likely that the applicants department will be unaware of their disability at this stage of the application process, unless they have declared it in their personal statement or made contact separately.

From the February before autumn entry, Student Finance accepts applications for financial support. Again, applicants have an opportunity to declare that they have a disability, which leads to Student Finance (the organisation with responsibility for funding in HE in the UK) providing the student with information on how to apply for Disabled Students’ Allowance (DSA). DSA is a non-means tested allowance given to students going into HE, in the event that they have a disability, health condition or specific learning difficulty which will affect them in accessing their chosen course. UK-based HE students living in England are eligible to apply for DSA if they have a:

- disability,
- long-term health condition,
- mental health condition, or,
- specific learning difficulty such as dyslexia.

They must also:

- be an undergraduate or postgraduate student,
- have a condition that affects their ability to study,
- qualify for Student Finance,
- be studying on a course that lasts at least a year.

As an example, for full time students in the academic year 2017-18 the following funding restrictions applied:

Figure 9: Categories of support for Disabled Student Allowance in 2017-18

Category of support	**Examples of what each support category covers for students with VI**	**Maximum allowance**
Specialist equipment	Laptops with screen readers, low vision aids, electronic refreshable braille devices	£5,358 for the whole course
Non-medical helper	Note-takers, mobility training, assistance in practical sessions	£21,305 a year
General allowance	Photocopying allowance, printer cartridges, printer paper	£1,790 a year

Source: Student Loans Company (2017)

In order to apply for DSA, students must complete an application form, and provide proof of their entitlement (e.g. in the case of students with VI, they must provide a report or letter from their doctor/consultant). Once eligibility has been established, the student will be invited to attend an assessment centre where an assessor establishes the type of support the student will need. Following this assessment the young person receives a written report detailing the agreed support. This report is also forwarded to the student’s intended university as it provides guidance on the support that the institution should be providing and provides important contextual information to help the institution understand how the student is affected by their disability.

In the majority of cases, prospective students will receive exam results in the summer at which point, assuming they achieved the required grades, their place will be confirmed at the institution. If they do not achieve the required grades, alternative options include being accepted at a reserve choice university or applying for remaining course places at HEIs across the UK through the ‘clearing’ system.

Students who have identified as disabled are normally invited by the institutions disability support office to meet to develop a support plan. This will incorporate both the content of the student’s DSA assessment, and also the support which the institution intends to provide as part of their legal responsibilities to make reasonable adjustments (Equality Act, 2010). Examples of content included in these plans include descriptions of proposed adjustments in lectures, modifications to learning material, adjustments to exams and an outline of specific support the student will receive such as library assistance and a sighted guide. The plan may also outline the responsibilities which are given to the student, such as notifying staff if they experience problems. The student is usually given an opportunity to respond to the report (which should remain a working document throughout the duration of their course) before giving their agreement for the report to be passed onto relevant people across the university, including a representative from their department.

In the majority of cases in this study, the participants shared that an academic member of staff took responsibility at departmental level for reviewing the document and sharing it amongst academic and support staff. However, in some cases, for example when working with students with more severe VI or courses with high visual content, this report was supplemented by a meeting between the disability support office, department, and student. Other relevant parties at HEIs can include library and transcription staff and accommodation officers who may need to make adjustments to the student's living environment.

Advanced action is also required for the provision of support through DSA. This may include the delivery of equipment through external suppliers, training to use equipment, the arrangement of mobility training/orientation and the arrangement of other non-medical support, such as the recruitment of note-takers and research assistants (normally provided by an external agency).

5.4. OUTLINING THE BIOECOLOGICAL MODEL OF INCLUSIVE HIGHER EDUCATION

This extensive description of the chronology of transition into HE demonstrates how complex the process can be for students with disabilities, who face several additional stages when compared to their non-disabled peers. The Bioecological Model of Inclusive Higher Education provides a lens through which to view this process, as well as a means to incorporate the student’s previous life experiences and to consider the role of partnership and progressive mutual accommodations between student and institution. As previously stated, this model draws upon Bronfenbrenner’s Bioecological Model of Human Development and the applied model by Anderson et al. (2014).

5.4.1. MACROSYSTEM

External to the HEI is the Macrosystem. Firstly, here sits the UK Equality Act (2010) which outlines legal responsibilities of education providers to make reasonable adjustments. Box 1 summarises these responsibilities:

Box 1: An overview of the legal responsibility of HE providers to make reasonable adjustments (adapted from the UK Equality Act 2010)

The responsible body in relation to a course to which this section applies must not discriminate against a person:
(a) In the arrangements it makes for deciding who is enrolled on the course.
(b) As to the terms on which it offers to enrol the person on the course.
(c) By not accepting the person's application for enrolment.

The responsible body, the HE provider, must not discriminate against a person who is enrolled on the course in the services it provides, or offers to provide.

The duty comprises the following three requirements.

1) The first requirement is a requirement, where a provision, criterion or practice puts a disabled person at a substantial disadvantage in relation, in comparison with persons who are not disabled, to take reasonable steps to avoid the disadvantage.
2) The second requirement is a requirement, where a physical feature puts a disabled person at a substantial disadvantage in comparison with persons who are not disabled, to take reasonable steps to avoid the disadvantage. Avoiding a substantial disadvantage includes a reference to: (a) removing the physical feature in question, (b) altering it, or (c) providing a reasonable means of avoiding it.
3) The third requirement is a requirement, where a disabled person would, but for the provision of an auxiliary aid, be put at a substantial disadvantage in relation to a relevant matter in comparison with persons who are not disabled, to take such steps as it is reasonable to have to take to provide the auxiliary aid.

Secondly, within the Macrosystem sit policies which affect the funding available within HE. For example, government policy determines the nature of support available through DSA. Of particular relevance, in July 2015 the UK government's Department for Business, Innovation and Skills (BIS) launched a consultation regarding the future of DSA, proposing a new system where HE providers take greater responsibility (both practically and financially) for the non-medical support disabled students receive (BIS, 2015). The rationale provided for this proposal was: (1) that HE providers should take more responsibility for creating inclusive learning environments by making anticipatory adjustments for students with disabilities, and

(2) that students with disabilities can and should make greater use of assistive technology to access their courses.

Thirdly, are societal perceptions towards VI and disability in general which impact upon the experiences of students with disabilities in HE. Research evidence demonstrates that members of society can demonstrate unfavourable attitudes towards people with disabilities. For example, the British Social Attitudes Survey (Stanlland, 2011) identified ‘benevolent prejudice’ towards people with disabilities (p9) and a recent survey by RNIB found that ‘public awareness and attitudes towards sight loss [were] poor’ (Slade and Edwards, 2015 p10).

5.4.2. EXOSYSTEM

In the Exosystem are the factors which sit outside of the learner’s immediate environment, but still indirectly impact upon their overall experience. These include institutional policies towards inclusive education and supporting students with disabilities and the funding allocated to facilitate this. For example, University of Manchester publish a statement of equality and diversity on their website which expresses that they are committed to supporting diversity within the institution, beyond that required by legislation, and they also describe how these values are incorporated within the strategic plan (Manchester, 2016). The importance of a strategic outlook in the inclusion of students with disabilities has been supported by Equality Challenge Unit who have published a guide on strategic approaches towards engaging disabled students (May and Felsinger, 2010). ECU stated that these strategies need to be resourced sufficiently in order for them to be effective, hence in the Exosystem also sits the investment institutions make available to facilitate inclusive educational experiences.

5.4.3. MICROSYSTEM

In the Microsystem are the factors which directly impact the learner. For example, students apply for HE through the central application system, UCAS. Once accepted onto a course, the disability support office should coordinate support and advocate on behalf of students with disabilities. They do this on an individual basis, often by following guidance provided by a DSA assessor if the student has applied to this scheme. Welfare tutors have departmental responsibility for students with disabilities, whilst individual lecturers take responsibility for specific modules, including delivery of the curriculum and assessments. In lectures and seminars, students encounter other students and often engage in joint projects and learning activities. Teaching will be delivered through an institutions infrastructure, which may include a virtual learning environment and usually an institution library. Support may be provided by a wide range of staff from both inside and outside the institution. This could include transcription staff, specialist note-takers, equipment trainers, examination officers and mobility officers.

5.4.4. MESOSYSTEM

One strength of the Bioecological Model of Inclusive Higher Education is that it allows for the interactions between factors, within the Mesosystem. Due to the range of people and services involved in the transition of students with disabilities into HE, the interactions which occur between these groups and individuals are highly significant. Examples may include the interactions between disability support staff and lecturers and the students department and library services.

5.4.5. CHRONOSYSTEM

Finally, the Chronosystem represents time and the development of the individual, by taking into account the experiences that the young person has had prior to transitioning into HE. As discussed in the literature review in Section 2.7, several enablers have been identified as significant for improving the transition outcomes of students with VI. These include self-advocacy skills, mobility skills and skills to access information independently. These skills are ones which are expected to be developed by an individual during their time in school, and therefore it could be expected that the student arrives in HE with these key skills already in place.

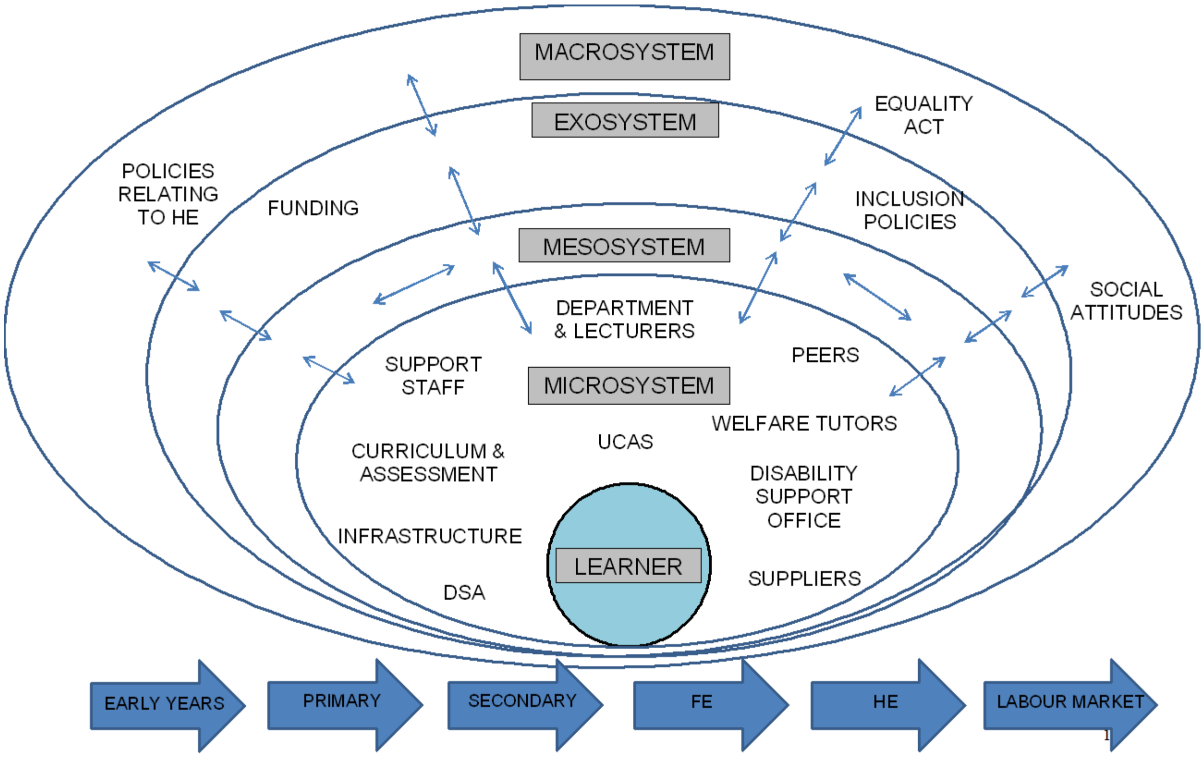
5.4.6. THE LEARNER

At the centre of the model sits the individual, the student with VI, who has their own unique personal characteristics which can impact upon their experiences in HE (Tudge et al., 2009; Darling et al., 2007). Each learner will have a unique experience, influenced by their personal characteristics, with some of these characteristics being specific to learners with a VI, as will be discussed throughout the rest of this thesis. Bronfenbrenner and Morris (2007) identify three types of personal characteristics: demand characteristics; resource characteristics and force characteristics. As an example, this could include the nature of the students VI (whether they are able to read print, or if they require some alternative format), whether they have any additional special educational needs, and whether their condition impacts them beyond just their vision (for example, if they are also affected by fatigue). The learner's experience may be influenced by the type of school setting they previously attended (whether they were in mainstream education where they were used to being around people who do not have a broad understanding of VI, or in a specialist setting where they may not have had much opportunity to interact with sighted peers). Finally, their experience may be affected by their underlying confidence (e.g. confidence to self-advocate when learning materials are not provided in an accessible format) and resilience (ability to persevere in spite of problems in accessing course material).

5.5. APPLYING THE MODEL

Figure 10 gives visual representation of the context in which learners with VI in HE sit. Having drawn upon the findings from the longitudinal interviews to develop the Bioecological Model of Inclusive Higher Education, this provides a tool to examine the relationship between the learner and proximal (direct) and distal (indirect) influences on their development in HE.

Figure 10: The Bioecological Model of Inclusive Higher Education, applied to the UK context



Over the next four chapters, this model is applied as a lens through which to answer the three research questions identified in Chapter 2. Each chapter is structured around the five different systems, as originally proposed by Bronfenbrenner, and draws upon key principles from the WHO ICF Framework, presenting the research using the themes of impairment, participation, environmental factors, barriers and enablers.

6. FINDINGS: HOW WELL SUPPORTED ARE STUDENTS WITH VISION IMPAIRMENT INTO HIGHER EDUCATION?

6.1. INTRODUCTION

This chapter focuses on the support which the participants received when they were preparing to transition into HE, covering the time period from their initial research into course providers, course applications, course offers, acceptances of place, and initial entry into HE. Drawing upon the Bioecological Model of Inclusive Higher Education developed in Chapter 5, the chapter works through each system in turn by identifying the different factors which had an influence upon the participants' transition into HE. When considering this transition I take a broad perspective of HE by looking beyond simply their educational experiences, also taking into account their experiences of socialising and living independently. For each system I provide examples of ways in which the participants were well supported through the transition into HE, and discuss ways in which support could have been improved. I also consider the interactions between the learner and the different factors which exist both within and between these systems.

As noted in '4.8.3. Reporting of Findings', as the interviews were semi-structured and not all participants entered HE at the time, this means that there was some variation in what was discussed with each participant. Further clarity is given in to the responses to specific questions by stating how many participants responded in a certain way, and how many participants were asked that particular question.

6.2. MACROSYSTEM

In the Macrosystem sit factors outside of the physical environment of the HEI. These include UK legislation such as the Equality Act, government policies regarding support for students with disabilities in HE (in particular DSA) and national and local policies regarding the support of young people with disabilities, particularly relating to transition support from compulsory education.

6.2.1. LEGISLATION: UK EQUALITY ACT

The UK Equality Act (2010) states that:

> The responsible body of an institution to which this section applies must not discriminate against a person -
>
> (a) in the arrangements it makes for deciding who is offered admission as a student;
>
> (b) as to the terms on which it offers to admit the person as a student;
>
> (c) by not admitting the person as a student. (Equality Act, 2010. Chapter 15, p91)

This legislation means that, providing standard admissions criteria are met, HE providers are not able to discriminate against prospective students based on a range of factors including race, gender, sexual orientation and disability. Positively, none of the participants in the study reported that they felt unable to apply for HE, apparently viewing study in HE as something which they could aspire as a student with a disability. However, a small number of participants identified other barriers towards going to HE, such as the financial implications of increases to student tuition fees introduced by the UK government in 2012.

Having visited and communicated with HEIs, three participants reported that they felt that some institutions were more willing to accommodate their disability during the application process than others. This was also expressed by the parent of one of the case study participants who explained how as a family they had discounted some HEIs because of the way in which staff had interacted with her son:

> “I thought ‘no, that’s not the university’, because of things that had happened on the day we had gone on the open day. You know how they sort of answered his questions and how they were towards him if you like.” (Parent of student with severe VI)

The Equality Act also requires institutions to make ‘reasonable adjustments’ (Equality Act, Chapter 15, p92) to enable students to participate on their chosen course. Despite the participants overriding confidence that they would be able to participate in HE, there was still some hesitation from almost half of the participants regarding how well HEIs would be able to cater for their VI. Fourteen of the participants who applied for HE identified factors specifically relating to their VI as a factor in their final decision between institution and course. This included their confidence in whether a particular institution would be able to support a student with VI, their perceptions of the accessibility of a particular course, and the accessibility of the HEI environment. For example one participant chose her institution partly due to the reputation of its disability centre.

> "It had a good reputation, and the disability centre is supposed to be good."
> (Sight impaired student making the transition from a mainstream setting)

Positively, when choosing which course and institution to attend, over half of the participants were able to make their decision based on factors not relating to their VI. Other factors included course content, the location of the institution, course reputation and future prospects.

6.2.2. TRANSITION PLANNING FOR YOUNG PEOPLE WITH DISABILITIES

During the time period at which the study participants were in compulsory education, transition support for participants with a special educational need was statutory only until the age of 16. Up until age 16, young people with special educational needs should have received specialist support to help them prepare for any transition they intended to make. However, due to statutory transition support ending at age 16, only a small number of the participants received specialist guidance as they prepared for HE. Those who did receive specialist support tended to be based in specialist schools and taught daily by QTVIs. One participant questioned the lack of specialist support she received, having found that the transition into HE was the most complex so far.

> "…actually the time at which a meeting probably would have been most helpful would have been in Sixth Form, the transition to university which I don't think I had, or if I did I don't think it was focused on transition" (Sight impaired student making the transition from a mainstream setting)

Twelve participants recalled receiving specific support for the transition into HE whilst 14 did not. Very few of the participants who attended mainstream school (and therefore did not have QTVIs as their class teachers) received specific support in relation to their VI before making this transition. In contrast, participants in specialist settings tended to receive advice on completion of their DSA applications and guidance on the type of support available in HE. None of the participants who took gap years before going into HE received any specialist guidance when preparing to go into HE, as by this point they did not have any contact with specialist staff at their Local Authority.

6.2.3. FUNDING POLICIES

As introduced earlier, the main source of funding of support for students with disabilities in HE is DSA. This is a non-means tested grant available to UK-based students and provided by the government (Gov.UK, 2017). Whilst each student is individually assessed, the process and allocation of support is largely dependent upon government stipulations. For example, whilst DSA funds various type of support including equipment, non-medical support and consumables, the amount of funding available for each category of support is defined by the government. Additionally, the government places some restrictions on what exactly can be funded in each category of support.

BUDGET RESTRICTIONS

Hewett et al. (2017) observed that government policies towards DSA pre-2016 (the time at which the participants in this study entered HE) were framed around a medical model of disability, with an emphasis upon making compensation for an individual's disability through non-medical support. This is illustrated by the fact that, for a student with disabilities entering HE in 2015-16, over a three-year course over £60,000 was available to fund non-medical assistance (such as note-takers and research assistants), but only £5,212 to fund specialist equipment (such as accessibility software, scanners and refreshable braille devices).

These funding restrictions had direct implications for a number of participants with severe VI who were reliant on specialist equipment to participate on their courses. Ten participants stated that they reached the maximum amount of available funding for equipment, with consequences such as having to fund additional equipment themselves, compromising on the *range* of equipment they received and compromising on the *quality* of equipment they were allocated.

> "I got everything I needed, minus my braille display, because there wasn't really enough money to cover that. I think financially there could have been more money. I think apart from that it was good." (Student with severe VI, uses screen-reader and braille display)

The support allocation received by a student with disabilities is determined through a formal needs assessment with a needs assessor. Following this assessment, a report is drafted by the needs assessor to outline the support package they believe is required. Subject to approval by Student Finance, the provision of this support is sent out to tender. One participant cynically suggested this process is based round the funding body identifying the cheapest possible provider:

> “I had an assessment to see what I needed and wanted. And then they send it off to the council with what you need, and it goes to different people, and they give it to the best one. I think they give it to the cheapest one really!” (Sight impaired, uses magnification)

Regardless of whether this perception is accurate, the responses of the ten participants who found themselves restricted by the budget limitations of DSA indicate that there were compromises made to the quality and specification of computers they were provided.

> “On paper probably what DSA do is they get the minimum specs required to support ZoomText [magnification software]. But in practice that does not work, it is very unreliable, it keeps crashing, and you can’t use that… it’s just impossible, it’s not practical, you can’t use that for university.” (Sight impaired, uses magnification)

For students reliant on specific assistive technology to follow lectures, access reading material and complete assignments, such challenges can have a detrimental effect on their learning experience. For example, one participant’s two-year old laptop repeatedly failed during the second year of his degree, leaving him struggling to keep up with his peers:

> “It had ups and downs. Most of the downs you could link very directly to technical issues, I had laptop failure…I had technical issues in all three terms. The first term it was concerning and worrying…I think the second term was the more problematic one as it left me days where I didn’t have a laptop…I ended up significantly, a week or so behind the rest of my class. I was absolutely going full pelt just to keep up…” (Severely sight impaired, uses a screen-reader and braille display)

One participant felt restricted by having to identify all the equipment and software that they might require before starting their course. They did not consider this realistic having not been in HE before:

> “…your needs change through the course, especially with the equipment budget…with everything else the budget is ongoing, but the equipment budget is a one-time big pay out. It might be useful to have that, and then a smaller budget for the next two years in case something comes up” (Severely sight impaired, uses a screen-reader and braille display)

Having to make decisions about their equipment allocation for all three years of their course, before even having started in HE, caused problems for this particular participant who later found she required an alternative version of her screen reader to be able to use some specialist statistical software in her second and third years.

> "…to run [statistical software] for example, later versions of Jaws [a screen-reader] deal with it slightly better, and if I were to update my SMA [license], I could get slightly more usage out of the software" (Severely sight impaired, uses a screen-reader and braille display)

POLICIES ON MOBILITY SUPPORT

Several participants who received funding for mobility support to be able to learn routes to get around independently in their new environment also identified problems due to the restrictions of what DSA was allowed fund. For example, six participants reported being told that DSA funding was only for routes specific to their course and therefore they were not taught routes to the recreational and service parts of the institution:

> "I would have liked to have been down to the bus stop, the train station, if I knew where they were if I needed them, but I wasn't. There's a laundrette on the campus, but I don't know where it is. I wasn't shown where any of the recreational areas are or anything like that." (Sight impaired, does not use any mobility aids)

Similarly, eight participants shared their frustration at not being able to access mobility support for routes outside of their university environment such as their local high street.

> Researcher: “What kind of things did your mobility training cover?”
>
> Participant: “Just campus. Which is kind of annoying as it means I have been in [city] a year and don’t know any of [city]” (Severely sight impaired student, uses a long-cane)

Whilst not specific to their transition into HE, it is interesting to note that participants who did not have the support to learn to get around independently outside of their university campus were then reluctant to move into private accommodation for subsequent years of their course. Speaking about their decision to stay in private accommodation one participant responded:

> “It’s just easier in my opinion. Having a house would have been too stressful, and I would have had to have learned all the layout again, my house in relation to everything else, in relation to a familiar point of reference.” (Severely sight impaired, uses a long-cane)

Mobility and orientation support away from the university environment should have been funded by the Local Authority rather than through DSA. However, interviews with the participants revealed very few of them were aware of this, and the one participant who had tried to access this support found that the Local Authority were very unwilling to provide this support.

POLICIES TOWARDS MAINSTREAM EQUIPMENT

Under the legislation at the time, DSA was only intended to fund specialist equipment, such as screen-readers or magnification software, and could not fund software and equipment that was considered to be ‘mainstream’. Despite this, 17 of the participants identified ways in which they had benefited from using mainstream devices with inbuilt accessibility options. A small number of participants (2) were able to obtain Apple Mac computers having made a clear case to the assessor that this was their usual means of working. Several participants who believed that they would benefit from having a tablet computer were unable to obtain one through DSA.

> “…when I was first going into DSA and all that, they were saying that maybe we could get you a laptop, we wouldn’t be able to get you an iPad or anything like that. But if it was an on balance thing, the iPad in terms of my vision impairment and accessing uni, the iPad has made a bigger impact to me, and made it easier to access things. Although obviously my laptop has been very useful, if I was to have to choose between the two, the iPad would be a bigger deal.” (Sight impaired, uses magnification)

Hewett (2015) identifies various ways in which the participants in the Longitudinal Transitions Study used mainstream devices as assistive tools and as an important means for accessing information. This is particularly true of the participants who have used tablet computers in HE. One benefit noted by the participants was how portable tablet computers are. They observed that it could be difficult to transport a laptop, books and equipment to university, and therefore they benefited from having the tablet as a lighter device instead of a laptop:

> “So yeah, the iPad was very much a big help. I would have loved to have taken my laptop, but I had books to take as well, so taking my books and my laptop would have just been too heavy, and the fact that I have got stitches in my eye would have affected that as well”. (Sight impaired, uses magnification)

A second benefit identified was how helpful tablet computers could be for lectures, particularly when used to follow lecture slides:

> “…with the iPad I could zoom in, zoom out, save it and put it on drop box and all that kind of stuff” (Sight impaired, uses magnification)

Other benefits identified included being able to use apps on tablet computers to read accessible e-books, and being able to access mobile websites which were generally considered more accessible:

> “You can get things like Kindle books, to read things on my iPad rather than having the physical books in front of me. And it’s a lot quicker than waiting

> for the publisher, because they can take months” (Sight impaired, uses magnification)

Interestingly, despite their reluctance to fund mainstream technology, BIS (2015) identified the benefits of mainstream devices for students with disabilities in HE, but noted that these devices are common to all students, referencing their legislative position that it should not be the responsibility of the government to fund such equipment. This fails to note, however, the ways in which students with VI can use mainstream devices as assistive tools to access information they could not obtain otherwise, in much the same way they might use their specialist equipment. This argument was made by one participant who expressed their frustration at not being able to purchase a tablet computer through DSA:

> “I know a lot of people who have tried to get them through DSA and DSA haven’t allowed them, because they think that an iPad is used for leisure, but it’s so not the case.” (Severely sight impaired, uses magnification)

A further participant argued that whilst she had been provided with a laptop as part of her DSA support allocation, she had actually found the tablet computer she had purchased more helpful in overcoming barriers she faced in participating on her course:

> “I think it’s just the standard thing that everyone through DSA gets a laptop, but actually if it was a question of what is more helpful in terms of accessing

> education, an iPad is actually the answer” (Sight impaired, uses magnification)

Whilst not necessarily all young people with a VI will respond so positively to tablet computers, this student who reads using large print found that she struggled with reading small texts and diagrams on lecture presentations, and therefore benefited from being able to make simple adjustments to magnify the relevant parts on the PowerPoint slides during lectures.

EVALUATION OF THE APPROPRIATENESS OF DSA

The participants were asked how appropriate they thought the underlying DSA policies were for a student with a VI. One participant shared her frustrations at feeling that the assessment process failed to keep the student at the centre.

> “The only thing I would change about DSA is the student having a bit more of a role in what is going on. Sometimes you have the assessor talking to Student Finance about the person and the student has no idea. It should be a three way conversation, not a two way conversation.” (Sight impaired, uses magnification)

Another participant questioned why the financial support allocated towards mobility around the HEI was grouped together with the practical support she needed for accessing her course. She viewed mobility as having such significance to her independence that it should be allocated separately, to reflect its importance:

> "I think there should be a separate pot specifically for mobility so that it makes it easier. I think it comes out of the non-medical help doesn't it. And then you know, because it has to be shared with something else if you use note-takers or research assistants or whatever else. There is a limit of how much you can have for your mobility, and then that limits the amount of mobility that you can have, which in my case has limited everything, my uni experience as a whole" (Severely sight impaired, uses a long cane)

VALUE OF DSA

Despite having identified many ways in which DSA could be improved for students with VI, five of the participants (who were concerned of proposed changes to DSA) highlighted how essential DSA was for them to be able to participate in HE.

> "It's been very, very useful in terms of my equipment and my non-medical help, because without those things I couldn't go to university really. I wouldn't be able to access my course without this equipment that I got through DSA because I didn't have it otherwise. I couldn't have just bought it off my own back." (Severely sight impaired, uses a screen-reader and braille display)

This sentiment was echoed by another participant when reflecting back on his experiences, and those of his friends:

> "I would say just keep it as it is, because I haven't found any issues with it. It has helped me a lot, so I would say it was important. I know that a lot of people I have met here, a lot of people are in worse situations with their disabilities, and they have found it just as helpful." (Sight impaired, uses magnification)

Despite all the challenges which were faced by the participants in accessing the support that they needed through DSA, these reflections emphasise what an important scheme it is for students with VI to be able to participate in HE. As one participant stated, she simply would not have been able to go to university without it.

6.3. EXOSYSTEM

In the Exosystem sit factors situated within the institution, but outside of the learner's immediate environment. The study identified a range of factors including: admissions procedures for students with disabilities; policies towards helping students with disabilities integrate into university life; and policies towards the provision of additional funding. These are discussed in turn.

6.3.1. ADMISSIONS PROCESS FOR STUDENTS WITH DISABILITIES

APPLICATIONS THROUGH UCAS

When applying for HE in the UK through the 'University and Colleges Admissions Service' the applicant has the opportunity to identify themselves as having a disability, and specifically as having a VI. All but three of the participants confidently recalled having made this declaration, having ticked a box on the UCAS application form.

> “Basically on my application I ticked the box to say you know, I require a certain amount of disability support” (Sight impaired)

However, one participant who applied after receiving his results through the ‘Clearing’ system could not recall having had the opportunity to declare his VI and consequently his HEI were unaware of his disability when he started on the course.

PROVISIONS MADE BY HEIs

The experiences of the participants, along with accounts from disability support officers, demonstrate that often the student’s declaration of disability through UCAS is a catalyst for the HEI making provisions during the admissions process. This includes making contact with the student to find out more about their disability and their support needs. Several participants received accommodations from the university during the admission process, including receiving promotional material in an alternative format and having special arrangements made for them for open days.

> “Yeah, they did, they did offer sort of advice on how and when to visit them. Particularly [chosen university], because they contacted me about the disability thing that they had, and they also told me how to get to the university, which according to them was by train, and then once I got to [city] I could take a taxi.” (Sight impaired, uses a long-cane)

A more common approach, however, was for the HEI, through the disability support office, to make initial contact with the student to give them more information about the support available for disabled students, to advise them to apply for DSA, and to obtain more information from the student.

> “I had contact with them before I started the university, that was to talk about support agreements, and got that set up before I went to university.” (Sight impaired, uses magnification)

Six participants recalled receiving a form which they were asked to complete to give more information about their disability, the type of support they had received in previous settings, and the type of support they hoped to receive through DSA.

> “When I applied, they sent me a questionnaire and said what would I need. What support have I received at school, and would that be appropriate for uni, and what have I had from disabled student allowance. Following that they recommended support which was like a scribe in the lecture which I didn’t really want, and in the end, what we had during Freshers week, they had a meeting with everybody and then just outlined what they could do.” (Sight impaired, uses magnification)

One of the DSO officers emphasised how reliant their systems are on the student responding to the HEIs initial communication, whilst another DSO expressed his frustration at not having received a response from some students:

> “I mean we have a lot of students who don’t respond to our contacts, we have a system where we contact them three times […] We do a lot of pushing to get them to engage with us, well in time. The ones that don’t actually respond and engage with us until the end of August when the results come out, are the ones we really, really struggle to support, because it doesn’t give us another time. Particularly with visually impaired students.” (Disability Support Officer)

All of the DSO officers interviewed stated just how important it is that students with disabilities apply promptly for DSA, demonstrating how HE support systems are built around the assumption that student with disabilities will arrive with the necessary equipment and support in place.

> “We highlight the importance of applying for a fund called, DSA which is a key part of the support at any university for a student with a disability” (Disability Support Officer)

Two of the DSO officers identified how the DSA needs assessment report forms a basis of the support plan which is put into place for students with disabilities:

> “When any student that has a disability arrives we provide them with an inclusive learning and support plan, which is basically the information that is on the DSA assessment report”. (Disability Support Officer)

These findings demonstrate that the practice of HEIs is to make early contact with students with disabilities, to allow them to have a better understanding of the support required for the student and to start to put support plans into place. Early contact also provides opportunities for the student to get a better understanding of the support structure used, and how this might differ to their Sixth Form or FE college. One of the DS officers illustrated how important it is for students with disabilities to be prepared in advance for this change in working practice:

> “Critically the role of the student is being at the heart of the support, which is a big transition issue for a lot of students, especially young students come from an FE or school background where their support will have been delivered without their involvement. It tends to be in FE colleges […] more of a caring pastoral package, rather than a functional care package by in large for a lot of students. And they get used to that, and expect that when they get here, and then don’t get it, and then are basically told that they are responsible for organising their support in terms of contacting the staff that work with them, letting them know what their timetables are, that sort of stuff. And it’s a big ask for a lot of students, and takes them some time to settle into that.” (Disability Support Officer)

Nine participants spoke positively about receiving early communication from the DSO:

> "Yeah, the disability department really made [the university] seem attractive, because they are very, very, very good. Especially compared to other universities that I saw. Some of them weren't particularly brilliant, but they really do seem to know what they are doing, so that's good." (Severely sight impaired, uses magnification)

The amount of time that the DSOs were prepared to invest into the development of student support plans during the admissions process appeared to vary between HEIs. For example, one participant explained how the DSO talked extensively with him about the provisions they could put in place, whilst another participant felt frustrated that the DSO would only speak with him in hypothetical terms:

> "I was just sitting there thinking "you aren't actually telling me anything that I couldn't already have guessed". They gave very broad statements, and I was like "you don't seem to understand that I need details". Even when I said I was a firm in going to university, they were still a bit…I am pretty sure that if I call them up in August saying I am coming in September, they would have given me a lot more information. But because it was working in a hypothetical situation, they weren't really giving much away." (Sight impaired, uses magnification)

In the case of another student, there appeared to be tensions between the DSO and the student's department. The DSO were keen to start making early preparations for the student as someone who they had identified as needing a detailed support plan due to the complexities of the course that they were taking. The department welfare tutor, however, was more reluctant due to limited resource:

> "I think, it's one of those things you were so busy, you tend to do things nearer the time, and actually, frankly I wouldn't want to put any resources into something unless I knew someone was coming, you know. Because time is so precious, even a half hour chat/conversation if it's redundant because they are not going to come. I would much rather wait until we know that they are coming." (Welfare tutor)

Unfortunately, the student in question had a very challenging transition into HE which resulted in them having to apply for extensions on coursework and take some module exams during the summer retake period, as anticipatory adjustments had not been put into place.

Four participants reported that no provisions were made at all for their disability during the admissions process. For example, one participant shared that despite her declaring her VI, the DSO were unaware of this upon her arrival at the HEI, and that consequently the necessary support had not been put in place. This led to a very difficult initial transition during which she described feeling very overwhelmed. This was resolved once she was put in contact with the DSO:

> “Yeah, I kind of went to pieces when I went to the accommodation […] I had a really bad morning, I got lost, and I kind of broke down” (Sight impaired student, does not use mobility aids)

6.3.2. INTEGRATING STUDENTS WITH DISABILITIES INTO HE

INDUCTION EVENTS

Seven of the participants reported that they were invited to special events aimed at students with disabilities to help them transition into their new institution. These were arranged prior to the academic year starting and allowed attendees to find out more about the support available and meet with other students with disabilities. The participants shared mixed experiences of these events. Examples of positive experiences included opportunities to meet new people and make friends, opportunities to meet support staff at the HEI; and opportunities to discuss available support in more depth:

> “A bit like an open day, except it was over the weekend, and the talks were more specifically aimed at disabled students […] I found it helpful, especially in terms of getting to know people.” (Sight impaired student)

A more negative account came from one participant who felt that the event focused too heavily on other disabilities rather than a generic overview of how the institution hoped to support them:

> “The only thing I would say about that, I went with someone else, one of my friends who also has a visual impairment, and we kind of sat there for most of the day and thought they have not said one thing about how they can offer for students with visual disability. It was kind of, I understand there is a lot of people there who didn’t have visual impairments, but there are also some which kind of makes it important as well.” (Sight impaired)

Another participant attended a multi-day event which was designed to help students with disabilities settle into the institution before other students arrived. In reality the experience left her feeling very isolated as her accommodation block was largely empty:

> “…I arrived here I was on my own in the building, and that wasn’t particularly useful. Then also I had limited access to the outside, so if I did need any help with anything, I wasn’t sure what to do.” (Sight impaired, uses a symbol cane)

An interview with a DS officer at a different institution highlighted how highly they valued such events, but that he was also aware that appropriately catering for the student’s needs could be challenging:

> “For a number of years, we have a programme in place called ‘Start Up’ which I always had mixed feelings about. As far as I possibly can, I don’t like to make disabled students have to do more than non-disabled students, but

> sometimes that’s necessary to level the playing field, if you like. We have worked through lots of issues, settled them into university, we’ve got them settled into their accommodation before all the rowdy parties start in the first week, that kind of thing. So a mixed response really. We have reviewed it every year, and we have taken account of what the students have said about their experiences through it, and this year we decided to change it completely.” (Disability Support Officer)

ACCOMMODATION

Three participants said that their HEI allowed them to move into their accommodation before the arrival of other students. In some cases this was to allow them to take part in the special events put on by the DSO, whilst in others it was to allow the young person the opportunity to settle into their accommodation and new environment and to receive mobility training. One participant expressed her frustration at not being able to move into her accommodation early due to building works, as would have been the normal policy of the institution. This had consequences for her mobility support as she was not able to start mobility training until several weeks into the start of term as the campus was judged to be too busy during Fresher’s week.

> “Well, I wasn’t able to move into my accommodation early to get some orientation and mobility and stuff, because of construction work in the campus happening. I didn’t start getting mobility until a month after I started” (Severely sight impaired, uses a long cane)

One participant who benefited from being able to move into his accommodation early said that he would advise other disabled students to do the same:

> "I would say moving in early and start familiarising yourself, make sure the room is big enough and that you have got enough space at a desk" (Severely sight impaired, uses a screen-reader and braille display)

Four participants were allocated rooms in specific halls of residence that had been judged by the institutions DSO as particularly suitable for students with disabilities. Opinions of this were mixed; with two participants in particular being disappointed by the accommodation they were allocated. One participant was put in a halls of residence normally used by postgraduate international students which left her feeling isolated as they were older and not of the same stage of their academic career as her. Another participant, despite wishing to go into self-catering accommodation, was allocated catered halls. This left her frustrated as she enjoyed the independence of being able to cook her own meals.

> "I put my first choice as self-catering, and then I got put in catered, and I got a phone call from someone in disability saying we think it will be easier for you if you go to catered because it's right next to the halls" (Severely sight impaired, uses a long cane)

FUNDING POLICIES

It could be argued that it should be the HEI provider's responsibility to meet the additional cost involved in providing suitable accommodation for the student, if other cheaper options are not judged appropriate to their needs. However, three participants shared that they had been directed by the HEI to most expensive accommodation (typically en-suite or studio accommodation so that they would not have to share a bathroom or kitchen), but they had been responsible for the full cost of that accommodation. A further student was unable to afford the more expensive accommodation closer to campus suggested to her, and therefore she had moved into cheaper accommodation less well situated:

> "I had to pick based on money. The ones that were closest were so expensive, it was out of my price range. I found it a bit silly, because to me, surely if the reason that you need to be close is because of a disability, you shouldn't have to pay the difference […] to me that's how it should be…" (Sight impaired, occasional long cane user)

Similarly, several of the participants felt unable to move into cheaper private accommodation in subsequent years of their course due to restrictions in their mobility support, and instead it was not uncommon for them to spend all years of their degree living in expensive university run accommodation. This in conjunction with the participants being allocated more expensive accommodation suggests that students with VI can be put at a financial disadvantage.

Whilst ten participants reached the maximum amount of funding available through DSA, in most cases the HEI helped by providing additional funding to ensure that the student had the non-medical support they required. This was not always a straightforward process, however, as at least two of the participants were required to complete additional paperwork to request the funding. One DS officer explained how it was the HEIs policy to provide the full level of support the student required, although there was not an official budget allocated to this support:

> "Probably getting on for £20,000 exceptional funding actually, it's massive! And this is a budget that doesn't exist. When I managed to get it set up originally, it all had to be agreed. But it's become now that you can't actually say, because if we say no we are denying a student access to their studies. But we have to be sure we have gone down every other avenue with their DSA, and their DSA is completely used up." (Disability Support Officer talking about support for severely sight impaired student)

A further DS officer highlighted that whilst they were providing additional support for the participant in question, if there were a large number of students requiring a similar level of support needs, it would be unrealistic for the HEI to do so:

> "That is something. I guess if we had a couple of hundred blind students, needing that amount of support, that would have a significant impact." (Disability Support Officer talking about support for severely sight impaired student)

6.4. MICROSYSTEM AND MESOSYSTEM

In the Microsystem sit factors in HE that directly impact the learner, such as the institutions DSO, welfare tutors, lecturers, support staff, Student Finance, DSA needs assessors, mobility officers, specialist teachers and families. The Mesosystem represents the interactions taking place between these factors.

6.4.1. APPLICATIONS FOR HE COURSES AND FINANCIAL SUPPORT

Prospective HE students submit applications to HEIs on the ‘Universities and Colleges Admissions Service’ (UCAS) website. Whilst 17 participants were able to complete this process without any challenge (often aided by assistive technology), 13 participants experienced difficulties with the accessibility of the website and in some cases were unable to complete their applications independently. Similarly, three participants experienced barriers when applying for DSA, having been sent paper copies of the application form which they could not complete without sighted assistance:

> “It’s not very accessible. All the forms and stuff we get sent out in print. That was a bit frustrating. We didn’t get email copies of anything, and I wasn’t able to fill it out myself, so I had to have someone else do it for me or with me, so that was frustrating.” (Severely sight impaired, uses a screen-reader and braille display talking about their experience of applying for DSA)

These sentiments were echoed by a further participant who highlighted the irony of being able to complete generic forms for Student Finance online in an accessible format, but forms specific to their disability were only available in printed form.

> “I find it really pathetic that they allow you to do the online form for all the bits that you don’t need to be blind for, but the second you actually need to have any form of disability you need to print out the form. That’s just beyond ridiculous and it shows how out of touch they are as a company” (Severely sight impaired, uses a screen-reader)

Whilst this caused inevitable frustration for some participants and also led to delays in processing, the inaccessibility of these application forms could potentially have had other implications. For example, as previously discussed in this chapter, students are identified by HEIs as having a disability through their declaration on the UCAS form, with this declaration acting as a trigger for developing support packages, and for invitations to apply for DSA.

6.4.2. DISABLED STUDENTS’ ALLOWANCE (DSA)

UNDERSTANDING OF DSA

The majority of the participants reporting having completed the application form for DSA, and all who did were deemed eligible to receive support through the scheme. They had first been informed of DSA through a variety of means, including Student Finance, prospective HEIs, and their school/FE college. Four participants decided against applying for DSA having concluded that the scheme would not offer anything that could benefit them. In at least one case it appears that this was to the detriment of the student. Reflecting back on that decision he stated:

> “I tried to just get along without it, I felt that it wasn’t something that I needed necessarily a lot, it just didn’t feel like I needed it enough to really apply for it.” (Sight impaired, uses basic adjustments)

This participant encountered several barriers in on his course which could potentially have been overcome through DSA support. For example, he found it difficult following the PowerPoint in lectures and therefore paid to print off lecture slides – something which DSA could have funded. In the final year he also had problems with the amount of reading required, which caused him to experience eye strain.

> “It took me longer to do the work because I would normally have to break it into intervals because it would start to hurt my eyes reading the books….When I was writing essays as well I found it a bit difficult because I would be writing and having to take breaks or go and do something else, so not to strain my eyes continually reading” (Sight impaired, uses basic adjustments)

It is possible that this participant could have benefited from some form of assistive technology to reduce the fatigue that he was experiencing. However, the participant appeared to be unaware of the potential benefits of DSA and also unaware of equipment that could be of benefit to him, which could have been identified through the DSA needs assessment.

DSA ASSESSMENT OF NEEDS MEETING

Many of the participants reflected back to their experiences of the DSA needs assessment meeting. At this meeting they met with a qualified assessor who had responsibility for putting together a needs assessment report to outline the support the young person would require in order to participate on their HE course. The participants had mixed opinions with regards to how well equipped their assessor was to put together a report for a student with a VI. Thirteen participants who spoke positively of their assessor gave various explanations for this such as their assessor being able to suggest equipment that they would not have considered independently, being provided with a range of support options to choose from, the assessor having a specialist knowledge of VI, and generally having a positive experience.

> “I think it was really, really good. It was literally asking questions about everything, and I found that everything was tailored to what I needed, there wasn’t anything that I am not really happy about, because everything I needed was taken into account and it really helped.” (Sight impaired, uses magnification)

In contrast, eight of the participants expressed a negative opinion of their assessor. Reasons provided for this included feeling that the assessor did not have sufficient knowledge of the support needs of people with VI, feeling as though the assessor was simply ‘going through the motions’, feeling as though they were allocated inappropriate support, and identifying mistakes on the final report.

> “It was clear she hadn’t worked with a blind person before, and it was clear that, because she said it herself, basically ‘I don’t know what I am doing, you have got to tell me what you need’. I was like ‘actually, I think that’s your job!” (Severely sighted impaired, uses a screen-reader and braille display)

This sentiment was shared by a DS officer supporting a student at a different institution, who argued that due to the complexity of the support sometimes received by students with VI, DSA needs assessment reports should be conducted by an assessor with a specialist knowledge:

> “I was quite disappointed with that report, I have seen far better reports. So yeah, the allocation wasn’t great, and I basically rewrote the human support, with [participant’s] input, kind of thing, so we could get something better. For me, I think that study needs assessments for VI and blind students should be done by somebody who absolutely understands that and knows the technology that is out there, because I don’t think that’s happening, I think we are getting assessors who have seen the odd VI student, and perhaps aren’t as up to date as they should be on equipment. I think that’s an issue.” (Disability Support Officer talking about severely sight impaired student’s assessment)

Several of the participants questioned the support allocations that they received following their DSA needs assessment meeting, and identified alternative equipment that they would have preferred to have received:

> "I got the wrong Dictaphone to start with, and I got a laptop which was smaller, so cheaper, because I didn't need the screen. But it didn't have a CD drive in it as a consequence, so I have had to have an external CD drive, which in my case where I get all my textbooks on CD, is quite inconvenient. And, my scanner as well, I am aware that there are scanners out there that are lot more portable, and a lot smaller, so that, if I did get to a lecture and they gave out a handout that I had no warning of beforehand […] if I had one of these little portable scanners, I could have taken a picture of it, and it would be on the my computer screen straight away, whereas I have this big, bulky thing!" (Severely sight impaired, uses a screen-reader and braille display)

This combination of equipment which the participant received proved particularly problematic in seminars where they tended to be sat in a small room, without access to tables.

DELAYS IN PROCESSING DSA

Five participants experienced delays with the processing of their applications for DSA. In four cases they were unsure why these delays had occurred, while in the fifth case they had been informed that it was due to Student Finance losing their medical evidence.

> “I filled the form out and sent it off, but it took them like four months to process it” (Sight impaired, uses magnification)

Delays in the processing of DSA applications can potentially have significant consequences for students who are reliant on support packages to enable them to participate on HE courses. This is particularly true for students with severe VI where they are reliant on assistive technology to be able to access information and mobility support to learn to get around independently. One DS officer highlighted particular problems with the policies of Student Finance in Wales which did not allow sufficient time for the delivery of equipment prior to a course starting:

> “The other thing that, with the Welsh Local Authorities as well, they need to know that the student is actually started their course before they can order the equipment, so that’s another system that is different to England, so you have that as well!” (Disability Support Officer)

DELIVERY OF DSA SUPPORT

External suppliers and agencies are often responsible for delivery of the support package identified through the DSA assessment of needs. For example this could include equipment suppliers who provide assistive technology and training, and agencies who supply staff such as note-takers and research assistants. The majority of students spoke positively of the external suppliers and agencies that provided their non-medical support, equipment and training, although there were also some problems as discussed below.

Once the student has their DSA support allocation approved, it is the responsibility of suppliers to source and deliver this equipment, and where allocated, provide training to use it. When interpreting the participant's experiences with equipment suppliers, the most common theme identified was the communication between the two parties. This varied with some participants feeling that there was strong communication throughout the whole process, whilst others had problems at various stages including when initially arranging delivery of the equipment and later during their course when trying to resolve problems.

> "The only thing I would change is sometimes the communication between you and the supplier is really difficult. At one point they charged me again for the redelivery of my DSA because the driver completely messed up and delivered it at a time I wasn't there, and it got into a whole bit of a mess."
> (Sight impaired, uses magnification)

In contrast, another participant described having an extremely positive experience. This discrepancy could be explained by the fact that multiple agencies are used to deliver DSA, with agencies being awarded individual contracts by tender.

> “I contacted them, they were very efficient, very helpful. When I arranged a date with them they were flexible because I was going on holiday.” (Sight impaired, uses magnification)

Having a smooth process and timely receipt of equipment was extremely important for many of the participants who were reliant on their equipment to be able to participate in HE. One participant had a delay in receiving his talking calculator – a vital piece of equipment for his course, which was highly mathematical.

> “The [talking] calculator though, we kept being told, the date kept being rescheduled for delivery, until eventually I received it about two weeks, no getting on for a month into my course starting. It being something that I really did need.” (Severely sight impaired, uses a screen-reader and braille display)

Similarly, one participant expressed his disappointment that there was a delay in him receiving training in his assistive technology until during Fresher’s week. This meant he was unable to attend some events being run by his department, leaving him feeling isolated from his peers:

> “…my only regret was when [supplier] delivered my stuff because I had to miss bits of Fresher’s week to avoid interrupting my education, and I felt a bit left out because I really wanted to embrace Fresher’s week, but I couldn’t because I had IT training. It would have been handy to do that earlier, because they could have done it earlier. It got delivered on the 13th August,

> and I had to do my training in September. I felt a bit like ‘I am kind of waiting here’” (Severely sight impaired, uses a screen-reader and braille display)

Participants tended to speak positively about the quality of the training they received although, as noted above, the majority of the young people who received training experienced problems when arranging it. This was particularly the case for one participant who had been allocated training from a different company to those who had supplied her equipment.

> “…the man came, he didn’t seem to really know what he was doing, he went through things quickly. He couldn’t get the braille-ex working. He also did not know equipment I had been supplied with before he came, he said he didn’t get a list they just get told to go and train.” (Severely sight impaired, uses a screen-reader and braille display)

Part of the service provided by some of the equipment suppliers was to help set up the student’s equipment upon delivery. Those participants who received this type of support spoke positively.

> “When they first came and delivered it the guy who came, that’s when I was in halls, he set everything up for me, he installed all the things for me. So he did it all and that was all fine, and he told me how to use everything.” (Sight impaired, uses magnification)

Two of the participants also shared how the person who delivered the equipment used the time to advise them on what to do in the event of any problems:

> "They are really good if I have got any issues or anything, I just ring them up and they are really helpful […]. It was the trainer who came out to give me the training, they gave me their contact details and told me to contact them directly if I had any issues." (Severely sight impaired, uses a screen-reader and braille display)

A particularly common theme which emerged during the interviews, having been highlighted by 18 of the participants, was the reliability of the equipment provided. As previously identified, some participants spoke of receiving laptops which did not have a high enough specification to reliably run their assistive technology. In addition to this, nine (of 21 participants who discussed the reliability of equipment) had equipment which malfunctioned at some point during their course. One participant who reads using either braille or a screen reader explained that this left her without a laptop for a large period of time, and instead she was reliant on the tablet computer she had purchased herself:

> "My laptop kept on getting taken back to DSA to get fixed, and then I was left with nothing, so fortunately I had my iPad. For like six weeks I would have been able to do absolutely nothing. When I asked if they had a back-up

> they said ‘oh yes, but we haven’t got [screen reader]. I was like oh yay!’” (Severely sight impaired, uses a screen-reader)

Almost all participants who required mobility support to learn routes around the HE environment had difficulties with accessing this support:

> “And then last summer I rang up, and I then got blamed for apparently leaving it until the last minute, which I felt really upset and really patronised about because I had done the opposite. It impacted on my studies, rather than it being nice and relaxed, and it was awful.” (Severely sight impaired, uses a long cane)

The most positive mobility stories came from participants who received their mobility training prior to the start of their first year, enabling them to start their course feeling as independent as possible as they did not need to rely on others to get to lectures:

> “I learned how to get to […] uni, how to get around uni, how to get into town, how to get to Sainsbury’s, a few places in the first week. [...] I am glad I did that, because it meant that when everyone else arrived I was able to move around, and I think the worst thing you can do is leave it and not get training until after everyone arrives, because otherwise it relies on other people.” (Severely sight impaired, uses a guide dog and long cane)

One young person who experienced a delay before receiving her mobility training shared how this left her extremely isolated at the start of her time in HE. She was reliant on sighted guides to take her to and from lecture rooms and the university canteen. She described one situation where she was invited to go to dinner with some people from her halls of residence, but had to decline as she had already arranged mobility support to the canteen later that evening, and did not have the sighted guides contact details to cancel the support.

6.4.3. DISABILITY SUPPORT OFFICE

Core to the support received by the majority of participants was a central office with responsibility for overseeing the support received by students with disabilities. One common name for this (as used in this thesis) is the ‘Disability Support Office’ (DSO), but other names include the ‘Enabling Service’ and ‘Student Support’. The DSO takes overall responsibility for drafting the student’s support plan. Again these were given a variety of names by the different HEIs such as ‘Inclusion Plan’ and ‘Student Support Agreement’

WORKING WITH THE STUDENT

As discussed earlier in this chapter, the majority of participants were identified by the HEI as having a disability through a declaration on their UCAS application forms. This in turn acted as a catalyst for the HEIs making contact with the participants to find out more about their support needs. In each case the young person was invited by the HEI to meet with them to develop a support plan. This tended to happen either shortly before the student started in HE, or shortly after the start of the academic year.

> "Yeah, I went for a meeting at the beginning of the year and sort of talked to them about my needs, etc." (Sight impaired, uses magnification)

Many of the participants who attended meetings with the DSO at the start of the academic year described this as being a discussion between themselves and the DS officer, as they considered the range of support available and made decisions togther. Five participants in particular reflected positively at being given a choice. For example, one participant viewed it positively that the DS officer who developed his support plan respected his wishes that any support provided should be done so discretely. However, a negative account came from a participant who found themselves excluded while their support plan was being developed.

> "They had meetings which they invited me to that I couldn't attend, and they said that they would reschedule them, but then they had them anyway to discuss my needs" (Sight impaired, uses magnification)

Three of the DS officers highlighted the importance of ensuring that the student remains at the centre of any support discussions. One DSO, however, described resistance from some departments in doing so:

> "Having us there together, which again we always try to do, some of the schools would rather not have the student there, we just don't adhere to that at all […] because the student is the best person to know what they want." (Disability Support Officer)

WORKING WITH STUDENT FINANCE

A further role of DS officers is to liaise with Student Finance about the support that the participant receives through DSA, and where necessary, assist with coordinating that support. A lot of this communication takes place during the young person's initial transition into HE. For example, one DS officer shared that they would expect to receive a copy of the student's needs assessment once it was available, to enable them to make preparations:

> "The assessment centres will generally send them to us, and then as soon as we get them we pick them up and offer an appointment to the student, so that's done quite efficiently." (Disability Support Officer)

One DS officer reported having difficulties when the participant's needs assessor did not provide the report as it prevented them from preparing the student's support plan. A further DS officer shared that they sometimes have problems with the contents of needs reports when the student uses a needs assessor who is unfamiliar with the support available at the institution:

> “…there are disadvantages with that, with the fact that the needs assessment may be done by a person who doesn’t have an idea of the type of support that is available in the university” (Disability Support Officer)

Consequently, two DSOs shared that they normally signpost students towards assessment centres that the university had worked with closely before. A final DS officer highlighted the importance of their good working relationship with Student Finance as a means to resolve problems more effectively:

> “There is a team of advisors for DSA, there is about eight of them, so obviously we get familiar with then and obviously we are on the phone to them a lot each day, it works really well. And they seem to be very quick at responding to our emails if there are any issues that we need looking at quickly.” (Disability Support Officer)

WORKING WITH DEPARTMENTS

The DSO also has responsibility for working with the student’s department to communicate the adjustments which the young person requires. Interviews with DS officers as part of the case studies revealed that normally this involves sending the student’s support plan to the department via an assigned member of staff who then has responsibility for disseminating information as necessary. However, in the case of students requiring higher levels of support, such as vision and hearing impairment, DS officers advised that they prefer to work closer with the department.

> “In April we met with the School [teaching area], because that’s one other thing we always try and do with the students who are likely to have a high level of need, we meet together with the school, so it will be the admissions tutor, the welfare tutor, people who will be very much involved in working with her” (Disability Support Officer)

This approach was echoed by two other DS officers. In one case they explained how they worked alongside the department to help staff understand better the equipment the young person used and how it can be used to make the course accessible to them:

> “So it’s just getting people to think in a different way. So for example, I told this tutor about [a piece of technology] that completely turned him around […] the enthusiasm was just amazing. It’s changing people’s ideas […] getting people to think about teaching differently was a big thing, but they were really, really up for it”. (Disability Support Officer)

As can be illustrated by this example, DSO staff viewed a positive working relationship between themselves and the student’s department to be extremely important:

> “Some department systems are more efficient than others, we are aware of that. But it’s really important that we keep linking with the link tutors.” (Disability Support Officer)

In contrast, as previously discussed in this chapter, one welfare tutor was unprepared to discuss the participants support needs until the student had officially enrolled on the course because she did not feel she had the necessary time to devote to preparing for the participants arrival on hypothetical terms. However, once the student started their course, not all the necessary arrangements had been put into place. This included not having core texts available in an accessible format and the School not having established how to make core content accessible to the student.

6.4.4. FAMILY SUPPORT

The case study work highlighted the depth of support which some of the participants received from their family when preparing to transition into HE. Examples of support identified by the family members included: accompanying the young person to visit HEIs; conducting research on the young person’s behalf; providing transport where necessary; providing support at open days; and contacting HEIs on the young person’s behalf.

> “It wasn’t until perhaps a year before the actual applications was going to go in, that we started, [son] and I started looking at the different universities, the different courses, and then we started visiting the universities. I would say we pretty much did it between us. We went to visit quite a lot. We didn’t do this with my first son, I seem like a really pushy parent! But he went to visit a lot because we worked out very quickly that you have to see the university, and you have to meet the support department, and you have to meet the academic department.” (Parent of student with severe VI)

All of the parents who were interviewed highlighted that the young person still made their own independent decision about where they would prefer to study, and they simply facilitated them:

> “I very much let [son] take the lead and ask the questions, but I was there to ask about other things, and to sort of get information for him and get his information across, if you see what I mean. It was a big task, but it was well worth it.” (Parent of student with severe VI)

There were mixed responses from the parents with regards to the availability of information to enable them to support their son or daughter through the transition into HE. Generally the parents interviewed seemed positive about the support which was available for parents to assist them navigate the application process for HE. One parent whose son attended a specialist school found the advice and guidance available to be excellent:

> “That was actually quite excellent because they start with that quite early. As soon as they go into the sixth form they organise a meeting with the parents and inform them as to how to go about doing and what’s available there through the DSA, and how and when to apply for DSA, what sort of things to look out for and ask for. Things like that. That was excellent what they did there, because it gives you an insight of what’s coming to you sooner rather

> than later and then you are aware of the deadline dates, and stuff like that." (Parent of student with severe VI)

However, once the young people had their places confirmed at an HEI and the focus changed to the specific support which they would receive in relation to their VI, two parents expressed their frustration at the lack of information available:

> "But there isn't anywhere centrally, there are bits and bobs, all the universities have webpages for students with disabilities. On an individual basis that is very helpful, but I don't recall in anyway UCAS having anything that is centralised. It's all quite bitty" (Parent of student with severe VI)

Therefore, whilst all parents who took part in the case study interviews were keen to support their son or daughter into HE, they did not always find the information available to facilitate this.

6.4.5. SOCIAL OPPORTUNITIES

Another important aspect of HE is the opportunity for the student to join in societies and other activities, giving opportunities to develop broader experiences and to interact with other students. Some of the participants decided to get involved with societies, whilst others preferred not to do so. Two participants identified challenges relating to their VI when engaging with societies. One participant had hoped to join a sport society, but the society organisers, who said they were unsure how to cater for her with her VI, failed to follow up on her initial enquiry.

Another participant who did not have mobility support at the start of her time in HE did not feel confident enough to get to society meetings independently. Conversely, two of the participants benefited from using befriending services which helped them to take part in activities on their campus:

> "They have set up a new scheme, like a peer mentoring scheme, so I have got a buddy to come with me to one of the societies." (Severely sight impaired, uses a long cane)

Some participants also noted specific challenges in getting to meet other people. Four of the participants found that it was difficult to develop relationships with people in their lectures as the groups were so large. One participant in particular found this hard as they then had to spend time talking to their note-taker after lectures:

> "I haven't really got to know anyone on my course. We are into the lectures straight away and we have to stay to sign the note-takers log sheet to prove that they have been there, so everyone kind of gets up and walks off" (Severely sight impaired, uses a long cane)

A further barrier for two of the participants was not being able to get around independently off campus. As discussed earlier in this chapter, DSA policies dictate that mobility support is specifically for the purpose of that student being able to get to places which relate directly to their studies, while Local Authorities should provide mobility support for non-academic activities.

> “It’s been isolating, it’s quite difficult to know your way around yourself. I am ok around campus, but you know, you want to go off campus. The first few weeks things are going on, but after that I want to get out and move around a bit more, but I just couldn’t. I got the bus with people I met from uni but it was a bit awkward because I was, you know, they could just walk off. I struggled a bit.” (Severely sight impaired, uses a long cane)

6.5. CHRONOSYSTEM AND THE LEARNERS DEVELOPMENT

Implicit in this discussion into how well students with VI are supported into HE is the underlying assumption that the young people also have the necessary skills to be able to benefit from the support which is available to them. As introduced in Chapter 3 and 5, through the Chronosystem Bronfenbrenner (2005) acknowledges the significance of the personal resources an individual possesses to be able to move from one environment to another.

This chapter has described several situations where the young people have benefited from different sources of support. For example, support through the DSA needs assessor, the DSO, the student’s department and family members. However, it is also important to recognise the role of the student for making their own adjustments to be able to benefit from the support available to them. For example, when attending DSA assessment of needs meetings the student benefits from being able to advocate for the support package that they would prefer. When receiving mobility training the student draws from the mobility skills which they have developed in their childhood, and when meeting with DSO staff to develop their support plan, the student benefits from being able to explain how they prefer to approach their studies, and the adjustments they require to facilitate this. These ideas are explored further in chapter 8, whilst chapter 7 continues with an investigation of how inclusive HE is for students with VI.

7. FINDINGS: HOW INCLUSIVE IS HIGHER EDUCATION OF STUDENTS WITH VISION IMPAIRMENT?

7.1. INTRODUCTION

This chapter applies the Bioecological Model of Inclusive HE outlined in chapter 5 to evaluate how inclusive HE is for students with VI. Stepping through each system in turn, the chapter considers the different factors which impact upon the learner's experience, having made the initial transition into HE and commenced on their course. The chapter provides examples of good practice by institutions for developing inclusive learning environments and discusses ways in which practice could have been improved. In particular it considers the interactions between the learners and the different factors which exist both within and between these systems.

The findings in this chapter were originally published in Hewett, R., Douglas, G., McLinden, M. & Keil, S. (2017) Developing an inclusive learning environment for students with visual impairment in higher education: progressive mutual accommodation and learner experiences in the United Kingdom. European Journal of Special Needs Education, 32, 1, pp89-109.

7.2. MACROSYSTEM

In the Macrosystem sit factors and culture outside of the physical HE environment. Within the Bioecological Model of Inclusive Higher Education, the research identified factors within the Macrosystem to include UK legislation, government policies and societal attitudes.

7.2.1. UK LEGISLATION

Central to the support received by students with disabilities in HE are the UK Equality Act (2010) and the Special Education Needs and Disability Act 2001 (Department for Education and Skills, 2001), which provide a legal obligation to education providers to make ‘reasonable adjustments’ to ensure no student is put at a disadvantage. The Equality Act and Human Rights Commission provides an overview of the Equality Act and explains what this means for disabled students, and what reasonable adjustments they can expect a provider to make. They state:

> If you are disabled, your further and higher education institution:
>
> - Must not treat you unfavourably because of something connected to your disability where they cannot show that what they are doing is objectively justified.
> - Must make reasonable adjustments to ensure that you can use the education and other benefits, facilities and services provided as far as is reasonable to the same standard as non-disabled students.
>
> (Equality and Human Rights Commission, 2012, p6)

The Equality and Human Rights Commission highlight the requirement of the education provider to make ‘anticipatory adjustments’ for a student’s disability:

> “If you are a disabled student, the duty requires further and higher education institutions to take positive steps to ensure that you and disabled students generally can fully participate in the education and other benefits, facilities and services provided for students. This includes taking advance action where it is reasonable to anticipate disabled students’ requirements so that it is then not difficult or too late to make adjustments when disabled students ask for them.” (Equality and Human Rights Commission, 2012, p14)

The guide also provides an outline of what the duty of ‘reasonable adjustments’ applies to:

> Further and higher education institutions are required to take reasonable steps to:
>
> - Avoid substantial disadvantage where a provision, criterion or practice puts you at a substantial disadvantage in comparison with non-disabled students
> - Avoid substantial disadvantage where a physical feature of the building or premises put you at a substantial disadvantage in comparison with non-disabled students; this includes removing the physical feature in question, altering it or providing a reasonable means of avoiding it

    - Provide an auxiliary aid where, without one, you would be put at a substantial disadvantage in comparison with non-disabled students

(Equality and Human Rights Commission, 2012, p15)

For this legislation to have a realistic benefit for students with disabilities in HE it is necessary for:

1. The content of the legislation to be *understood* by those working with the student and,
2. The content to be *enforced*.

Interviews with five welfare tutors, however, revealed a gap in knowledge of this legislation, and their professional responsibilities in light of it. This lack of understanding had implications to their role as both welfare tutors and lecturers. One welfare tutor highlighted how he had never been provided with any specific information about the legal responsibilities of educators to make reasonable adjustments for students with disabilities:

> “Again, I am aware of it, but my knowledge of it is only through being a sociologist, and having a partner that works in social care. Yeah, I have not been given any training, or briefing, relating to that. I guess there’s opportunities for staff development, which would provide things like equalities and diversities training, where staff would be briefed on and discuss those sorts of things. But it’s not a contractual obligation I guess, it’s not linked to our training in the workplace. Although I suppose in our

> contracts we have to have demonstrated awareness of the principles of equalities and diversities, registrations." (Welfare tutor)

Only one of the lecturers recalled receiving training on their legal responsibilities to make reasonable adjustments, but this was only in their capacity as a welfare tutor and not training more widely available to lecturers across the HEI:

> "We have termly meeting with the disability service, in which departmental disability representatives get imparted with disability information." (Welfare tutor)

Fifteen (of 20) participants surveyed said that they were aware of the Equality Act and its requirements for educational institutions to make reasonable adjustments. This included one participant who had made a successful complaint which resulted in compensation, on the grounds of their institution not meeting the requirements of the Equality Act.

> "Yeah. Because when I complained to the [institution] that it is the exact bit of the Equality Act which I complained with, because that's what I didn't get, and that's why I won my complaint, because there was no evidence to suggest that they had made any reasonable adjustments." (Sight impaired, uses magnification)

Overall, the participants had mixed opinions of how well their HEI had observed the Equality Act: eight participants thought that their institution had observed the Act's requirements, and seven did not. The institutions observation of the Equality Act appeared to be partially dependent upon staff resources. For example, one participant who was about to start in the final year of her course was concerned after a key member of staff had left their role in the library and at the time of interview they did not have anyone who was taking responsibility for providing accessible copies of textbooks and other reading material:

> "…at the moment they don't know who is going to be doing that, if anyone next year. And this is my third and final year. I have got my dissertation to do, so I am quite worried about that because if there is no one doing it then how is it going to happen?" (Severely sight impaired, uses a screen-reader and braille display)

One participant who reported problems throughout her time in HE, having consistently not received accessible copies of lecture material, felt that the limitations of the Equality Act were due to it not sufficiently outlining the responsibilities placed on HEIs. When asked how well she thought her HEI had met the requirements of the Equality Act she responded:

> "I think the thing is, it's the problem with the Equality Act in general isn't it – 'reasonable adjustments' is a bit of a loose term and is very subjective." (Severely sight impaired, uses a screen-reader and braille display)

7.2.2. POLICIES

The research findings also identified how the students' experiences may be impacted by specific government policies, including policies overcoming barriers related to a disability. As outlined in chapter 3, opposing models construct 'disability' in different ways. A medical model of disability focuses specifically on the individual and compensations which can be made for that individual to be able to function in society. In contrast a social model of disability focuses on the social barriers which prevent an individual's participation in environments like HE. One DS officer shared how he felt UK government policies at the time of data collection were centred upon the medical model of disability, focusing on making compensations for the challenges that individuals face, rather than on institutional barriers. He believed that by structuring support around the medical model, this acts as a barrier to students who may not wish to identify themselves as disabled, or may not even view themselves as disabled:

> "…it's based on the medical model of disability, rather than the social model of disability as well, so for some students that's a struggle as well; they don't want to be providing evidence and all that sort of stuff, but you have to do it to get the support that you require." (Disability Support Officer)

In July 2015, the UK government's Department for Business, Innovation and Skills (BIS) launched a consultation into the future of DSA, and model of support for students with disabilities. They proposed an alternative system in which HE providers should take primary responsibility for supporting students with disabilities (BIS, 2015). The rationale provided for this proposal was that:

1. HE providers should take more responsibility for creating inclusive learning environments by making anticipatory adjustments for students with disabilities in accordance with the Equality Act, and
2. Students with disabilities can, and should, make greater use of assistive technology to access their courses.

This thesis examines the experiences of students with VI in HE prior to these changes. It is worth noting, however, that despite the suggestion that students with disabilities should be making greater use of assistive technology, there has not been any reallocation of funds from the pot of funding available for human support to equipment.

7.2.3. SOCIETAL PERCEPTIONS

Previous research evidence indicates that social perceptions towards people with a VI can act as a social barrier. The RNIB survey ‘My Voice’ concluded that public attitudes and awareness towards sight loss is poor (Slade and Edwards, 2005). Similarly, the 2009 British Social Attitudes survey found evidence of ‘benevolent prejudice’ towards people with disabilities in general, and identified common perceptions such disabled people being less productive than non-disabled people (Stanlland 2010, p9). Interviews with DS officers and lecturers illustrated how in some cases their perceptions of VI impacted upon their judgement of the young person they were working with. For example, one DS officer was initially concerned that one severely sight impaired student would not be able to get around independently without a guide dog. This showed a misunderstanding about independent mobility and a misconception of the young person's skillset.

> "I think she was fairly, I don't mean it unkindly, but unrealistic about how different life was going to be. The fact that she wasn't worried about getting around campus completely on her own, now she's totally blind, and doesn't have a guide dog. And she does, she negotiates her way from her halls of residence, into central campus with her stick. I think she is absolutely incredible" (Disability Support Officer talking about a student with a severe VI who uses a long cane)

A lecturer also shared how he had initially made the assumption that the student he was working with would not misuse assessment extensions on the basis that they were VI. This demonstrates that he had had different expectations for this student, to that which he had for other students. During the case study interview he reflected on how he had let the student 'get away' with things that he would not have allowed other students.

> "…that has been really good for me, to blow away any preconceived ideas I had of something, just because they are blind, they are going to be a certain way. Well behaved, very straight. But why should they be?" (Welfare tutor, talking about a participant with a severe VI)

This aligns with the observation of the parent of one of the participants who shared how she had observed the reactions of some members of staff at open days, having noticed their ‘panicked’ faces when they saw her son approaching with his cane:

> “When we went to open days we would approach the admissions tutor who was manning this wonderful […] department and [son] would approach with his white cane, and you would see the panic on their poor faces and they thought ‘oh my goodness, how are we going to do this?!’” (Parent of student with severe VI)

As discussed in the previous chapter, such reactions had an impact on the decisions of the participants when they weighed up which HEI to go to, as the negative (yet admittedly honest) reactions of staff gave them concern as to how well the institution would be able to support them.

7.3. EXOSYSTEM

In the Exosystem sit factors that are situated within the institution, but outside of the learner’s immediate environment. This includes institutional policies which impact upon students with disabilities, the expectations of staff, training provided to staff, and resource allocation.

7.3.1. POLICIES TOWARDS INCLUSIVE EDUCATION

As discussed earlier, underlying the support received by students with disabilities is the Equality Act and the institutions responsibility to make reasonable adjustments. Whilst there appears to have been limited guidance provided to staff on the content of the Equality Act, more positively all of the DS officers interviewed said that their DSO had published guides to outline the reasonable adjustments which staff should make as part institutional inclusive learning policies. An Education Support Manager at a large university who had the responsibility for overseeing the support for disabled students at a departmental level shared that in her department the range of adjustments required for the majority of students with learning difficulties and disabilities are normally covered by the departmental inclusive teaching policy.

> “There’s quite a lot of students that are covered by our inclusive teaching policy. This is something that the DSO are hoping to run out across the university, and it’s something that has been created. So things like copies of lecture notes in advance, quite a lot of student support packages are covered by that.” (Education Support Manager)

The interviews identified that some institutions were reconsidering their support models for students with disabilities. For example, one participant reported that a member of staff had been in discussions with her as part of a working group at the institution which was looking to develop inclusive practice by rethinking curriculum design.

> "We have got like reasonable adjustment champions; I don't know what that means! We have got people on the case apparently, I haven't heard all those conversations, but they kind of tell me. Each faculty have got their own champion, they are looking at every single course, looking at all the ways it's assessed and things like that, they are trying to figure out if there are other things that can be done other than standard extra time. They are looking at things like, even how things are delivered, to see what can be done." (Sight impaired, uses magnification)

Whilst these reports are positive, the accounts of fellow participants illustrate how the development of inclusive practice is still a work in a progress at many UK HE institutions, as management grapple with the concept of inclusive higher education. A DS officer described how external pressures had affected their institution policies, particularly with regards to government policy changes regarding the funding of HE:

> "We have hundreds of policies! About numerous things. As you can imagine, our university, along with many other organisations around the country, we are in a state of flux at the moment, because everyone is cutting back." (Disability Support Officer)

7.3.2. INSTITUTION HIERARCHY

It was observed by both DS officers and students that DSOs can have limited power within the institution hierarchy, which can make it challenging to ensure student support agreements are followed by staff. For example, one DS officer reported that their DSO did not have any power to enforce lecturers to adhere to the contents of the student support agreement:

> “The problem we are having now is the School just haven’t done what they need to do, and this is always the frustration, always, always the frustration. Just to sort of help you understand it, we have no jurisdiction with the School.” (Disability Support officer, talking about the experiences of a student with severe sight impairment)

In contrast, one DS officer seemed more confident of his DSOs ability to enforce support agreements, while still acknowledging there were often challenges from resistant departments:

> “I have to say, she works in an area where some of the academics are resistant, for want of a better word, to supporting disabled students. However we don’t tolerate that, we just make sure that their managers know that they are resistant.” (Disability Support Officer, talking about the experiences of a student with sight impairment)

In the previous chapter it was observed that the DSO has a key role in overseeing the support for a student with disabilities, as they work alongside the student, the department, Student Finance and other outside agencies. The limited power of a DSO can therefore be considered to be quite a significant barrier in ensuring students with disabilities receive the support they need.

7.3.3. RESOURCES

DS officers and academic staff also highlighted challenges of meeting the requirements of the Equality Act, due to resource restrictions. One welfare tutor explained how he and colleagues wished to support students wherever necessary, but in reality they had some reluctance due to the extra work involved:

> "You talk to most staff and they would say 'yeah, yeah, of course we want to support', but they are busy, and they don't like to be told that they have to do a lot of extra work." (Welfare tutor)

His views were substantiated by a DS officer who identified a wider problem within their institution where the needs of the majority were prioritised ahead of minority groups, including students with disabilities:

> "There's always lots more that could be done. And again, a lot of it isn't down to a lack of willingness to do, it's more down to lack of time. A lot of the time, a lot of the time a lack of expertise, a lack of knowledge, and lack of bodies, bums on seats to do the job. I think that's a big thing. And it always comes down to numbers, because when the university looks at what they spend their money on, obviously they have to look at the majority, you know, no matter what the law says, no matter how strongly we may feel about supporting our disabled students, they have to look at the majority."
> (Disability Support Officer)

A further DS officer suggested that their institution needed to devote more resources in order to develop its inclusive learning practice. They felt that a re-prioritisation from senior management was required for inclusion to be at the core of the institution:

> “I think it would be the Pro-Vice Chancellor setting up a team of people, to ensure that the university is fully accessible to anybody, whatever their disability. Everything that is done, is done with accessibility in mind.”
> (Disability Support Officer)

7.4. MICROSYSTEM AND MESOSYSTEM

In the Microsystem sit factors that directly impact upon the learner. This includes the institutions DSO, department welfare tutors, lecturers, support staff, the learner’s peers, curriculum and assessment practices and relevant institution infrastructure. The Mesosystem represents interactions that take place between factors in the Microsystem.

7.4.1. DISABILITY SUPPORT OFFICE (DSO) AND THE IMPLEMENTATION OF SUPPORT PLANS

As explained in chapter 6, the first point of contact for students with disabilities is often the DSO whose responsibility it is to develop a support plan which details the adjustments that are needed to enable a student to participate on their course. This should be a working document which can be amended throughout the young person's time in HE.

The participants had mixed experiences with regards to how well the DS officers were able to understand their VI. This is potentially very problematic as the DSO takes responsibility for communicating the content of the plan, and to a certain extent advocating on behalf of the student. One young person explained how when she was having problems with the accessibility of her course she looked to the DSO to intervene on her behalf, but she found they were unable to advocate for her as the DS officer did not understand the adjustments she required:

> "Terribly, terribly. I think the reason why they had so much trouble providing things for me is because they didn't understand my vision impairment in the first place." (Sight impaired, uses magnification)

Through the case study interviews, welfare tutors and DS officers reported large proportions of students in receipt of support plans, making it challenging for academic staff to put the support plans into effect. The DS officers reported that often lecturers were unaware that they had a student in their lecture with VI, unless the student themselves had disclosed this. This was something also noted by the young people:

> "… [support plans] get ignored. So it just turned out a lot of times I would be going into lectures and seminars and they wouldn't even know; they would

> have no idea that there were these issues.” (Sight impaired, uses magnification)

Despite guidance being available for making reasonable adjustments for students with disabilities, none of the academic staff interviewed had received institution-led training or guidance on how to adapt their teaching practices to create a more inclusive learning. One lecturer discussed how he felt limited by this:

> “The inclusion plan would make reference to [participant’s] condition, and it would say that these are the reasonable adjustments that staff must make. But they largely related to provision of materials, [...] so there wasn’t any guidance on how to rethink your lectures. Pedagogically it’s quite a big thing to rethink that.” (Welfare tutor)

Instead academic staff shared how they looked towards the DS officers for guidance on how to make their lectures inclusive to students with VI. However, interviews with DS officers also revealed that none of them had received any formal training on supporting students with VI. Additionally, none of the DS officers had worked as lecturers and therefore did not have any previous experience in teaching, curriculum design and assessment. One DS officer shared that she felt that ultimately academics were scared of supporting students with a severe VI - something which she empathised with:

> “They are scared actually, and I don’t blame them, I really don’t blame them. I would panic if I was in their position, because there is no one to go to.” (Disability Support Officer, talking about supporting a student with severe VI)

Case study interviews identified tensions between DS officers and academic staff when it came to putting student support agreements into effect. For example, one DS officer described her frustrations at what she viewed as a lack of engagement by a participants department. Conversely, the welfare tutor responsible spoke of, what he viewed as unrealistic adjustments, that the DS office were expecting his department to make:

> “I said ‘look, I am going to be honest with you here, I really want to be supportive, but I know what can and can’t be done, academic staff won’t do these things, so you have to work with us.” (Welfare tutor, talking about supporting a student with severe VI)

The responses of the DS office and welfare tutor are indicative of a breakdown of communication between the two as they struggled to find neutral ground when developing a support plan for one of the participants. In turn, the participant felt frustrated at the lack of progress which was being made in resolving the challenges they faced.

7.4.2. ACCESSIBLE CURRICULUM AND ASSESSMENT

At the heart of the students' educational experience are a taught curriculum and its corresponding assessments. The research findings identified multiple aspects of the systems used in HE which impacted on participants' experiences of accessing these. Their experiences are outlined below.

MODULE CHOICE

Virtual learning environments (VLE) offer opportunities for students with VI to make module choices electronically. This, however, relies on the VLE being fully accessible to the student which the research highlighted was not always the case. For example one participant reported that they were unable to make their module choices independently as that component of the VLE was not accessible, even when using her assistive technology. This meant she missed out on making her module choices until she was able to receive sighted assistance.

A further accommodation which could be made by HEIs is to allow students with disabilities priority when making module choices if this is to take account of accessibility challenges. One participant who is severely sighted impaired shared her frustrations at wanting to choose a particular module as she thought that it would be more accessible than the other available options as until that point she had been having considerable problems with the accessibility of some of the lecture notes. However, due to her department's methods for allocating places on optional modules she found herself in a position where her module of choice was oversubscribed. She was initially told that due to department procedures they were unable to accommodate her request to switch to this alternative module. She was, however, able to renegotiate this with the welfare tutor:

> "…there was a bit of a 'we shouldn't be able to swap you until the first week and you have got to go through the official sort of swapping process and we can't guarantee anything, and we had to get the undergrad tutor involved" (Severely sight impaired, uses a screen-reader and braille display)

The student reported that the lecturer was concerned about giving her an unfair advantage over her peers through giving her priority access to a module, particularly as this went against normal departmental policy. It is interesting to note here that the welfare tutor appeared to be more concerned about whether they were following institutional policies rather than whether they were meeting legal responsibility to make 'reasonable adjustments'.

COURSE DESIGN

The Higher Education Academy outlined several principles for inclusive curriculum design in HE (Morgan and Houghton, 2011). They described inclusive curriculum design as one that "takes into account students' educational, cultural and social background and experience as well as the presence of any physical or sensory impairment and their mental well-being."

When discussing the curriculum, the most positive accounts came from participants whose lecturers had a clear understanding of what the learning objectives of the module were, allowing them to make appropriate accommodations when required. For example, one participant who was studying a course with mathematical content had problems with the accessibility of the statistical software they were using. However, the lecturer had clearly defined learning objectives of the module which were for the students to develop an understanding of the mathematics and theory behind the calculations the software was making. Therefore, the lecturer and student were able to find an alternative mode of assessment which tested this learning objective. This contrasts with another severely sighted impaired student who was studying a module which included a lot of visual content. The lecturer could not identify a way in which to accommodate the student and instead advised the student not to attend future lectures:

> "I just spoke to the lecture and said "is it worth it" and most of the time we decided that I just wouldn't bother going." (Severely sight impaired, uses a screen-reader and braille display)

These problems were not addressed in sufficient time for the student to be able to complete the module at the same time as his peers, and in the end the student was advised to defer the module until the following academic year.

ACCESSIBLE LECTURE NOTES

Throughout their time in HE, the participants emphasised the benefits of being able to access accessible lecture notes in advance of lectures, with the research findings indicating that this is becoming standard practice in HEIs in the UK. One participant who is sighted impaired and uses magnification software explained the benefits of this as such provisions enabled him to be included in lectures through an adjustment which benefits *all* students. When asked what positive adjustments his HEI had made, he responded:

> “I think they made them when they started, which was putting the PowerPoints online before the lectures so that we could access them, and just small stuff like that…The one thing that I did like was that they did it for everyone, not just everyone, so I didn’t feel like I was being singled out.” (Sight impaired, uses magnification)

Despite these positive steps of providing lecture material before lectures, 12 of the participants recalled times when they were provided with inaccessible learning materials. Barriers encountered included being provided with PDFs in picture form and the files not being compatible with their assistive technology.

> “One lecturer in particular was always sending me it in PDF, I would always have to email back for a Word copy, saying I cannot access this on my screen reader, etc, and he would say ‘oh sorry, I will email it’. About a week later I would finally get the Word copy, and next time he would do it again.” (Severely sight impaired, uses a screen-reader and braille display)

One participant who is sighted impaired had a particularly stressful experience during a seminar which was structured around a large amount of written material.

This material was not provided to her in advance of the lecture, and the material she was given on the day was not in an accessible format.

> “I have a seminar and it was, the task set was having to read three previous essays, but none of them were enlarged, there were a limited number of copies so they had to be swapped around when people were done, and it was reading three of those in the space of an hour. I didn’t really have a note-taker either, so it got really stressful.” (Sight impaired, uses magnification)

For participants with severe VI studying courses with visual content, inevitably it is not always possible to provide accessible material without making some additional accommodations, such as providing diagrams in a tactile format. Seven participants spoke positively of receiving material that had been specially prepared for them, and two participants of receiving written descriptions for diagrams. The participants viewed these as appropriate accommodations.

> “I would have my work sent to me electronically and then I would have, some work would be transcribed into braille, it just depended, and those were basically the two mediums that I used – braille and electronic.” (Severely sight impaired, uses a screen-reader and braille display)

DELIVERY OF TEACHING SESSIONS

As discussed above, lecturers can facilitate the inclusion of students with VI by ensuring lecture material is provided to all students in advance, in an accessible format. However, the study identified other ways in which the participants benefited from the lecturers making additional accommodations. For example, one student shared how her lecturer devised a way of communicating to her when he was moving from one PowerPoint slide to another:

> “He’s actually altered the way that he sort of goes through things in his lectures to make it easier for me…he’s kind of come up with a way of making me aware of when he changes slides, without making it aware to everyone else, so he just says something like ‘and now’ or something, just so that I know we are going onto the next slide, but without making it obvious” (Severely sight impaired, uses a screen-reader and braille display)

A small number of participants identified problems with the delivery of teaching sessions and felt these acted as a barrier to their learning. For example, two participants said the lectures were too fast paced, one participant found it hard to follow lecturers who did not speak clearly enough and other participants struggled in following visual aspects of lectures:

> “I have had to ask a couple of them to speak a bit more clearly. Rather they had a tendency to teal off quietly towards the end, and it was quite hard to understand them, so I asked them to speak a bit more clearly and I noticed that they definitely made a concerted effort to do so. I also asked a couple of them not to say ‘this equation’, but read it out. But even if they were to read it out, it still is awkward to follow everything perfectly. It does help if they read

> out the equation, but then of course it takes twice as long if they do that through the whole lecture.” (Severely sight impaired, uses a screen-reader and braille display)

Three participants found practical sessions challenging, particularly when watching demonstrations of equipment. One participant had a more positive experience due to the adjustments put in place for him:

> “…the lecturer in charge of labs the last year, was very much open to suggestions, and in fact made suggestions before I could make them myself. Such as saying ‘you have to do this module just to, you know, have a grade, you have to have this module just to class your degree. But there is no reason we can’t some adaptions for you, maybe you will only do half the number of experiments’ I was given a Wednesday afternoon [for labs] where everybody else was Monday, Tuesday, Thursday or Friday, so I was the only person to do my experiments then, and I had an assistant helping me with that.” (Severely sight impaired, uses a screen-reader and braille display)

Arguably, for an even more inclusive experience the student would have been accommodated along with his peers, but nevertheless the student was positive about the provisions put in place.

FACILITATION TO ATTEND TEACHING SESSIONS

For an inclusive learning experience it is also important for the student to be able to, where possible, get to and from teaching sessions independently. In the case of students with VI this is usually facilitated through mobility training. In the previous chapter various challenges the participants faced when accessing mobility training were identified. As well as policy-related challenges, there were also bureaucratic barriers faced by a small number of the participants who did not receive copies of their timetable in sufficient time for them to be taught routes to their lecture rooms. One participant learned from this experience in her second year and requested the provisional timetable in advance:

> “I have asked for a provisional timetable when it comes out, so that my mobility officer can have it and work out if I need to learn any new routes. (Severely sight impaired, uses a long-cane)

The participants gave very mixed accounts of their mobility sessions, with ten participants viewing it to have been a positive experience and nine as negative. Challenges included not being provided with sufficient hours of mobility training, construction work affecting the routes they had been taught and delays in receiving their training. One participant spoke positively about being provided with a buddy at the start of his course who helped him get independently to and from lectures:

> “But the [HEI] have laid on people for me, their own students actually, they gave me a buddy, that buddy walked me to and from the halls of residence

> every single day until I was able to do it on my own. That was fine enough, and it gave me a chance to throw myself right in at the deep end again, which was a really good experience" (Severely sight impaired, uses a long-cane)

Students with VI can also be affected by the accessibility of the HEI environment; as was identified by 15 of the participants. Eight participants spoke positively of the HEI environment, whilst seven were more negative. An important adjustment which HEIs can make to accommodate students with VI is the provision of tactile paving and clear signage. However, it is important that this is implemented properly, as illustrated by one severely sighted impaired student who explained how she faced problems with the tactile paving at her HEI:

> "…the tactile paving on my campus is just really random. There seems to be no rhyme or reason as to where some of the tactile paving is, it makes no sense. My mobility officer in the first year, she requested that they move some of them around during the summer whilst I wasn't there, which they did, but basically what it was, was none of the tactile paving were aligning, so you had a tactile paving on maybe one side of the zebra crossing, but on the other it would be to the side of the zebra crossing. So it would throw you off, because you had to walk on a diagonal" (Severely sight impaired, uses a long-cane)

However, one participant spoke more positively about the environment at his HEI and how easy he found it to navigate due to way the interior of buildings had been designed:

> "Each floor is a different colour, even little things like that help, you know where you are, everything is a different colour, everything is signposted. All the room numbers are quite big as well in terms of font size, I can see those quite well. I don't think I have ever struggled getting around really." (Sight impaired, occasionally uses a long-cane)

Most positively, none of the participants reported instances where they were unable to attend lectures.

ACCESSING READING MATERIAL AND ASSESSMENTS – COURSEWORK

Underlying the HE educational experience is the expectation that the student will evolve into an independent learner, directing their own independent study. However, various barriers were identified which prevented students accessing accessible reading material, which is so integral to independent study.

A first barrier encountered by the participants was not receiving accessible copies of reading lists in sufficient time to be able to obtain alternative formats. For example, one participant having not been provided a reading list in advance was unable to complete an essay at the same time as her peers as she did not receive an accessible copy of a first semester textbook until the second semester,

> "By November I still didn't have the core books in order to at least get the general overview of everything. I had essays both summative and formative due in in December. I asked for help. No one gave me any help. No one did anything." (Sight impaired, uses magnification)

An anticipatory adjustment which the HEI should have made was to provide a copy of the reading list in sufficient time for the student to be able to obtain alternative formats so they had access to texts by at least the same time-point as their peers.

A second barrier related to how well the student was able to identify literature that they might want to reference in their essays. Participants with severe VI were generally reliant on sighted assistance to help them identify books which could then be transcribed or sourced in an accessible format. Working with a research assistant proved challenging to the participants at first, as they learned how to best direct the person assigned to them. One participant who is severely sight impaired shared that she had received advice from the staff member they were working with to facilitate their working relationship:

> "So my research assistant said that what she done before with a visually impaired student, together they would browse shelves, or go on the online library for text. Then instead of having every single book they found made

> accessible, only to be discarded if it was irrelevant, she would go through the index and find any relevant passages and then read those passages to the student, and then the student would say whether they wanted that passage or that chapter or that book or whatever made accessible" (Severely sight impaired, uses a screen-reader and braille display)

One participant who is sight impaired and uses a print reader found that the library catalogue system was inaccessible, and that he struggled to find support to overcome this barrier:

> "The problem that I found with the library, there was no one really there to help in terms of [identifying] the categories where the books were. I couldn't see any of those at all - they were all such small font. So if I needed to find someone to get a book, it would usually have to be one of my friends. If I had gone in there on my own, I would struggle a little bit, and it would take me a while to get what I want." (Sight impaired, uses magnification)

Four participants shared that they found going to the library to access books a daunting task, and one that they tended to avoid:

> "I think it's a bit of everything really. It's knowing where to look. I know I can go to the librarians to find where to look, but it's then looking through the books to see the right thing, and then if that's not the right book, finding a different one. I do find it quite hard to read large amounts of text, going

> through a few pages in a book would tire me out because I would have to concentrate so much." (Sight impaired, uses magnification)

Two participants in particular shared that the quality of their assignments were compromised due to the limited amount of additional material they referenced:

> "I got my assignment back, and I got a 2:2, but my tutor said that it was basically, it was the external resources that like held my assignment back. So we need to sort of work out a way of really being able to do that more efficiently. So yeah, I am not sure how to go about that exactly." (Severely impaired, uses a screen-reader and braille display)

A more positive inclusive experience highlighted by the majority of participants was the way in which they benefited from using accessible electronic copies of journal articles, which they were able to access through e-journals. The young people were then able to make their own adjustments such as reading papers with their screen-reader software or enlarging the font size of the document:

> "A lot of it I tend to do online. I find it has got a bit more accessible, which is nice. I use Google Scholar and things like that" (Severely sight impaired, uses a screen-reader and braille display)

Similarly, positive accounts came from participants whose libraries had a large collection of accessible e-books which enabled them to access and read books independently.

ASSESSMENTS – EXAMINATIONS

All of the participants who required adjustments for examinations benefited from individual adjustments, such as extra time, separate rooms, and a reader/scribe. Only one participant gave an example of inclusive practice by the institution, by sharing how her exam adjustments had been embedded into the standard institutions examination processes. She explained that the extra time she was allocated for assessments was automatically factored in when she received her exam timetable online, and when she took online assessments the systems automatically allocated her extra time:

> "One thing that I did have was that most of the courses have sort of like online quizzes throughout the semester to keep you on top of it, and they normally count for something like 5% of the mark. With this semester, some of them were timed, so it's like you only had a certain amount of time to complete the assessment before it just automatically submitted, and then you just got. For them I got extra time like I would in an exam." (Sight impaired, uses magnification and basic adjustments)

A further example of how HEIs could offer inclusive examinations could be to give *all* students the option of working electronically. This, however, was not an option at any of the institutions that the participants attended, with the exception of the participant quoted above who had small online assessments.

In order to put the necessary adjustments into place, DSOs relied on the learner to be able to outline their preferred ways of accessing examinations, including explaining how they would like papers to be formatted. One participant with severe VI was very diligent in doing so, having previously faced situations where her paper was not prepared correctly.

> "Yeah, I specifically made sure that they were in Word. Because I have had issues in the past where I have requested stuff in Word and I have still got it in PDF which I can't access. So I made a big deal about them having to be in Word, and I emailed all the people, so yeah, they were in Word!" (Severely sight impaired, uses a screen-reader and braille display)

Ten of the participants experienced problems with their exam arrangements in the first year of their degree, and three participants experienced problems in all three years of their course. Eight of the participants were not provided with the agreed format of paper and three participants received a paper which was inaccessible to them. One participant whose HEI did not provide her exam paper in the correct format outlined the problems she experienced:

> "There were a couple where they didn't enlarge the paper enough, and they said they thought it was because I was going to use the computer. They didn't

> really give me the extra time they were supposed to, so I don't think they looked at the support agreement again. And then one I had quite a lot of difficulty because they printed tables and diagrams straight off [statistical software] and didn't modify them in any way, so I couldn't read those." (Sight impaired, uses magnification)

Other examples of problems the participants faced included not being provided with sufficient extra time, assistive technology not being set up properly, technical problems with the equipment supplied, and the supplied scribe not having sufficient technical understanding to record the student's responses. Two participants reported that they found errors in the transcribed versions of the paper which caused considerable disruption:

> "…they still didn't produce the braille paper properly, the braille paper didn't match the paper copy that my scribe was given, so we had to pause the exam half way through, and go and get another print script" (Severely sight impaired, uses a screen-reader and braille display)

The fact that a third of the participants reported that they experienced problems in the arrangements for their examinations is of concern, compounded by the fact that the participant's reports show that often these problems were not fully resolved. For example, four participants faced situations where they should have complained about the failure to make appropriate adjustments, but described not having the necessary energy to do so:

> “I was like ‘actually if I have done badly I am going to go and complain about it’, but then I didn’t, so it didn’t really seem worth the energy” (Severely sight impaired, uses a screen-reader and braille display)

In one case the student noted that her grade was lower than her average grade. This illustrates the importance of ensuring exams are fully accessible to students with disabilities, as otherwise it is likely to affect their attainment. The student in question had spent a considerable amount of the year advocating for the adjustments she required, but the work that she had been put in had been compromised at the final hurdle of the examination:

> “They did offer me the opportunity to re-sit. I didn’t think I had done awful, I just knew I hadn’t done as well as I could have done. And now having seen the result, I know I could have done better. It’s like a high 2:2 whereas I am usually like 2:1’s/First bordering, so it’s not ideal.” (Severely sight impaired, uses a screen-reader and braille display)

7.4.3. EXTERNAL SUPPLIERS AND AGENCIES

External suppliers and agencies are often used to provide the equipment and non-medical support allocated through the student’s DSA assessment of needs. A particularly positive account came from one student with severe sight impairment whose HEI worked with their external agency to identify a research assistant with the necessary expertise to support him in practical sessions. The agency in turn provided training for the research assistant to enable her to understand how best to support the student.

> “My lecturers helped, my lecturers knew people and they recommended [assistant]. It’s that partnership, that enthusiasm of the lecturers to find me the right match, not just accept any random person. It’s very much a matching progress, like people are matched with a guide dog, it’s a similar thing. Especially with field and lab assistants – note-takers it’s different. But field and lab assistants it’s that matching process.” (Severely sight impaired, uses a screen-reader and braille display)

However, a number of participants experienced problems with external agencies. At least eight participants started their first academic year without their equipment in place, making it impossible for them to participate fully on their course. Three participants found that despite receiving funding for non-medical support (e.g. a note-taker or library support), the supplier was unable to provide the staff required, which in some cases had significant implications on their learning experience. For example, one participant was required to repeat the entire first year having not received the learning support which he had been offered through DSA until the summer term.

Several participants also highlighted the additional administrative responsibilities of drawing upon non-medical support. As well as having to coordinate this support (e.g. contacting research assistants to arrange appointments) participants referred to the administrative burden of having to sign of timesheets for those providing their support.

> "It took me a while to get used to signing off their timesheets, but it ended off being ok. I would occasionally get an email and I would be like 'that's the 97th email I have had this week, please don't bother me to do more signing'" (Severely sight impaired, uses a screen-reader)

One participant also had problems with the accessibility of the online portal which their agency expected them to use:

> "They have got an online portal and you just go and confirm the sessions they have done, and that's fine. However, they are not all that easy to work with, they are PDFs and they are a bit messy" (Severely sight impaired, uses a screen-reader and braille display)

Despite having problems with accessing non-medical support, participants who received note-taker support highlighted how important this was to them. Four participants reported that note-taker support enabled them to keep up with the pace of the lecture, removing concerns that they might fail to record some important information.

> "Very, very beneficial yeah. It's very difficult to follow the lecture because you have to make extra effort in the lecture either on the iPad or your

> computer, and having to do that whilst taking notes and listening to what the lecturer is actually saying, doing three things at once it's quite difficult. So having a note-taker takes a lot of the strain off." (Sight impaired, uses magnification)

In three cases, however, the focus of the note-taker support they received appeared to be in compensation for inaccessible lecture notes. For example, one participant when asked about how helpful they had found note-taker support responded:

> "Really helpful. I think because so many of my lecturers use diagrams, or sort of scan in pages from books and make them their slides. So it reads it as an image, and I can't convert the PowerPoints. So what my note-taker does at the minute when he writes up my notes, he essentially writes up the slides and does diagram descriptions and copies out the text and things like that" (Severely sight impaired, uses a screen-reader and braille display)

For a more inclusive learning experience the student should have been provided with accessible lecture notes, with additional adjustments made to the diagrams the student could not access independently, such as a written description or a tactile version of the diagram.

7.5. CHRONOSYSTEM AND THE LEARNERS DEVELOPMENT

This chapter has outlined many examples of inclusive practice and reasonable adjustments which were made by HEIs to allow students with VI to access their course. However, it is also important to consider the role of the learner in making their own adjustments in order to benefit from the adjustments made, and also how they were able to work in partnership with the HEI to identify solutions. This partnership is what Bronfenbrenner termed ‘progressive mutual accommodations’, as introduced in Chapter 3.

When considering the adjustments that the students themselves make, it is important to consider whether an individual has the necessary skills in place. For example for the student to be able to benefit from accessible electronic material they may need to have assistive technology skills in place to be able to access electronic documents. Likewise, to be able to explain support arrangements that they need, the student must have an understanding of the adjustments they require and the ability to advocate for these. These are examples of skills which are developed in what is referred to the ‘additional curriculum’, and therefore skills which should be developed during the young person’s time in education. The Chronosystem takes into account the skills which the person has developed over time and the resources which they have available to them to draw upon when in a certain environment. In the context of students with VI making the transition into HE, this means the learner enters HE sufficiently resourced with the skills they require to participate in that new environment, and the ability to develop additional skills which they will require as the course progresses. The next chapter draws upon the reflections of the participants to investigate just how well prepared they were for the transition into HE

8. FINDINGS: HOW WELL PREPARED ARE STUDENTS WITH VISION IMPAIRMENT FOR BEING INDEPENDENT LEARNERS IN HIGHER EDUCATION?

8.1. INTRODUCTION

This chapter focuses specifically on how well prepared the participants were for the transition into HE. Drawing again on the Bioecological Model of Human Development, it considers this in the context of what Bronfenbrenner (2005) termed ‘ecological transitions’. An ecological transition occurs when the individual (in this case the learner with VI) makes the transition from one environment to another.

Figure 11: Ecological transitions. Reproduced from Hewett et al. (2017)

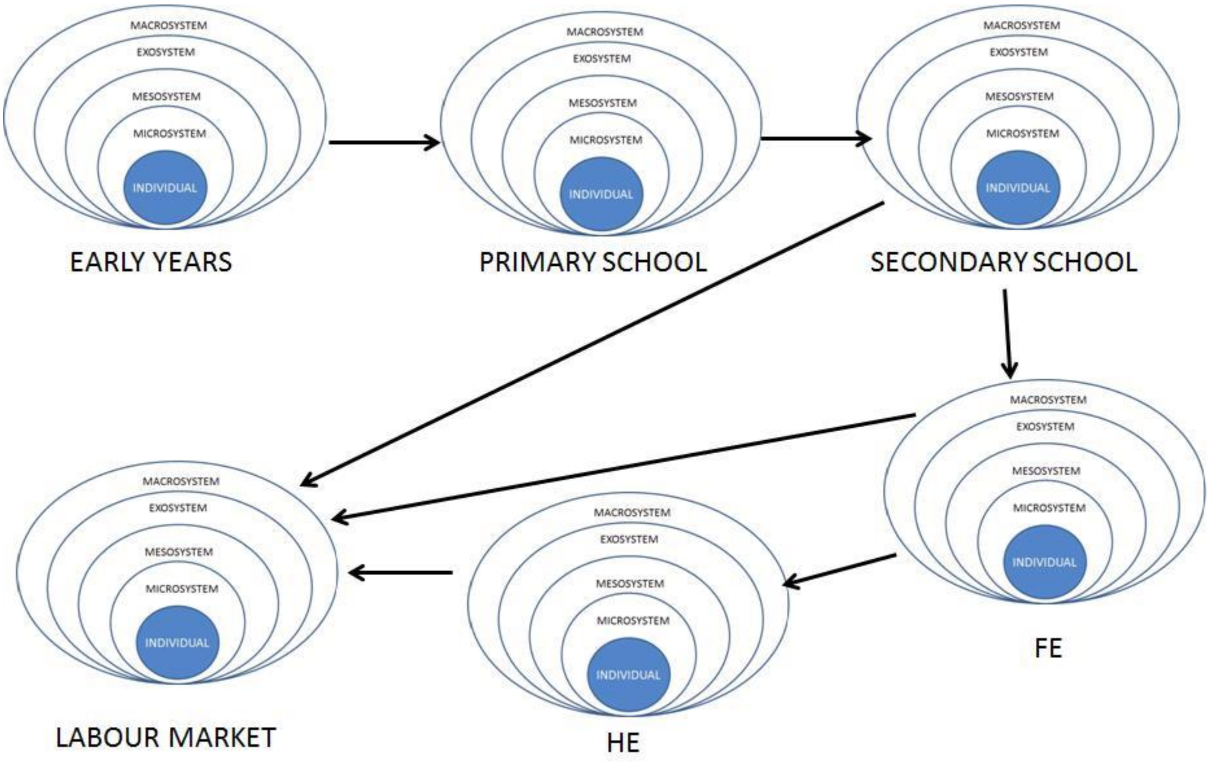


Figure 11 provides examples of the ecological transitions which could be made by a child with VI in the United Kingdom. As a baby or young child the individual at the centre of the model starts in an early years setting before eventually progressing into primary and then secondary school. The young person may then choose to go into FE college before making the decision to either go into HE or the labour market.

The broader Longitudinal Transitions Study has been interested in the process of transition between these different environments as the young person progresses towards the labour market, and in particular identifying the enablers and barriers which impact upon the young people making these transitions. As is argued by Bronfenbrenner (2005), for the individual to make a successful transition between these environments it is vital for them to be prepared with the resources required to participate in that environment. For example, in the case of a student in HE, the expectation is that the learner will have the necessary skills to be independent learners, just as in the labour market they would be expected to have the necessary skills to be an independent worker.

In the context of a young person with VI in HE who will require additional compensatory skills, these skills should have been developed over an extended period of time. As previously introduced, the development of such skills is recognised in a Dual Model of Access. The dual model outlines the role of education for preparing young people with VI to be independent adults in which (i) the child/young person’s learning environment is such that it facilitates their education (‘access to learning’) and (ii) the child/young person is supported to develop skills to be an independent learner (‘learning to access’). The development of skills over time is reflected in the bioecological model within the Chronosystem. As the young person is likely to move between a series of environments whilst these skills are developed, it also emphasises the significance of consistent factors in the young person’s life; most notably their family and the support of the QTVI.

Consequently, this chapter focuses on the Chronosystem and in particular on the participant’s development of a range of skills previously identified as being significant indicators in successful transitions for young people with VI. The skills examined have been identified through: (i) their inclusion in an additional curriculum/expanded core curriculum and (ii) previous research literature (as presented in the literature review). They include access to information, mobility and self-advocacy skills.

In the autumn 2015 interviews the participants were asked to reflect back on their experiences of developing these skills and to evaluate whether they were sufficiently resourced with the skills they required to be independent adults once they left compulsory education. The interviews also investigated with the participants what they felt had helped them to develop these skills, as well as the barriers which they encountered.

8.2. ACCESSING INFORMATION AND WORKING INDEPENDENTLY

This section considers how well equipped the participants were for being able to access information and to work independently. For a student in HE this could include accessing information in teaching sessions, independent research for the completion of assignments, the completion of examinations and participation in practical sessions.

8.2.1. INDEPENDENT ACCESS TO LECTURE NOTES

Teaching in HE can take a variety of forms, such as lectures in large lecture theatres, seminar discussion groups, and practical sessions in laboratories. Typically in these teaching sessions information will be conveyed to students in written form, such as a PowerPoint presentation on a large screen or through a handout. This can cause a barrier to students with VI if this material is not made available to them in an accessible format. As discussed earlier, many of the participants benefited from HEI policies to make lecture notes available in advance of lectures in an accessible format, or from support agreements which required lecturers to provide information to students who have challenges in accessing written and visual information. However, the research findings have shown that the institutions relied on the student to have an understanding of the strategies that could be put in place for them to access written material, particularly where the student had a severe VI or was accessing a course with lots of visual content. The findings also demonstrated how necessary it was for the student to have the skills in place to make the necessary adjustments for accessing learning material, such as the skills to use assistive technology or to interpret tactile diagrams.

The majority of participants reported that upon entry into HE they had strategies in place to be able to independently access lecture material, to ensure they were able to participate in teaching sessions. These strategies drew upon both adjustments made by the institution (including adjustments made as part of the institutions standard teaching policy) and also upon specific skills which the young people had developed and used in school.

> “It’s quite easy because I’ve got ZoomText on my laptop, I can just make it bigger if it’s too small, just zooming in, making the writing bigger for me.” (Sight impaired, uses magnification)

Common adjustments which the young people made included taking their equipment to lectures, printing off lecture notes in advance, or making adjustments to notes to ensure they were in the most appropriate format. For example, one participant explained how he was able to choose between either using printed copies of materials or having electronic copies of the notes on his laptop, both of which he had immediately in front of him.

> "It's been quite good this year, I think a lot of it is sort of paper based, so I have not had the strain of keeping having to look up and down, a lot of it has been stuff I could have in front of me, and things like that. Everything that is meant to be up on slides they have put online, so I can have it on the laptop in front of me, so I don't have to keep looking around, I can just sit and focus on my own stuff." (Sight impaired, uses magnification and basic adjustments)

As has been explained in earlier chapters, a key enabler identified by the majority of the participants was the provision of notes in an electronic format before lectures, usually accessed through the institutions VLE. This, however, still relied on the student having the skills in place to benefit from this inclusive practice. For example, one participant shared how he was able to confidently make adjustments with his computer:

> Researcher: Have there been any problems with accessing your lectures, however small?

> Participant: Electronically, no, because, again I can usually get my way around a computer and make it all bigger and stuff. (Sight impaired, uses magnification and basic adjustments)

Interestingly, despite not having used tablet computers in school or college, six participants reported using tablet computers as part of their strategy for accessing lecture notes. This indicates that the young people had independently identified ways in which they could use mainstream technology as assistive tools, showing that they had the underlying skills and confidence to develop new strategies as new technology emerged:

> “So using my iPad for loading up lectures on it instead was actually a lot more useful, and being able to get… if some things were going to be printed out in lectures, if I could find it beforehand and put it on my tablet, then I could sit in the lectures and use that and that was a lot easier, because I could just use that however I wanted.” (Sight impaired, uses magnification and basic adjustments)

In contrast, three participants shared that they frequently faced challenges in accessing their lecture notes, and during the first year of their studies had not established an appropriate strategy to do so. Two participants struggled to use the assistive technology they had been given to be able to read their notes electronically, having not used the software previously.

> “I am just annoyed that all my stuff had to go through electronically, they don’t listen that I can’t work electronically. It’s like trying to talk to a brick wall.” (Sight impaired, uses magnification and enlarged print)

Both participants who lacked confidence in accessing electronic material said that they would instead have preferred to have been provided enlarged paper-based material.

> “Ideally I would have wanted to print things in A3, or a scanner that would allow me to alter things, so that I could go from A5 to A4, but I can’t do it.” (Sight impaired, uses magnification and enlarged print)

The third participant was studying a scientific based course which had several access challenges. For example, lecturers often wrote mathematical equations on the board which he could not see, practical sessions involved using microscopes which he could not use and PowerPoints presentations distributed before lectures were purposefully left incomplete to encourage student attendance. Whilst the HEI in question could have improved their inclusive practice, interviews with the student revealed that he was unaware of various adjustments that could have been made, and that he did not appear to have the confidence to suggest possible solutions:

> Participant: Yeah, it’s all PowerPoint. What they do to make you come to the lectures is have the titles of the slides, and a bit of a paragraph, and then all

> the notes they write in. It’s all well and good them sending me the PowerPoint, but it’s got nothing on it.
>
> Researcher: Do they do a final PowerPoint at the end?
>
> Participant: Nope. They just write on it to make you turn up, sort of thing. You can get all the PowerPoints afterwards, they are all on the [VLE] thing, but it’s like a title of a slide and a bit of an intro paragraph and they write all the bullet points in during the lecture.
>
> Researcher: So presumably they have got their own notes which they could send you?
>
> Participant: I had a meeting, me and the disability officer and the lecturers and they never brought that up as an option to make things easier, so I assumed it wasn’t.

8.2.2. INDEPENDENT RESEARCH

A significant difference between a student’s learning experience in HE compared to school is the expectation that the student will conduct their own independent research as part of their studies, including identifying appropriate sources to include in assessed work. Sources could include textbooks, academic books or papers in academic journals. To be able to act as independent researchers, this places an expectation that the VI student will have the skills to be able to access written material in a variety of formats.

The participants’ experiences of acting as independent researchers were diverse, and often linked to their level of VI, ranging from those who reported no challenges in accessing material to participants who reported that their grades were affected due to the limited range of sources which they were able to access.

> Participant: I guess, it's just, yeah, I could have done with the support in the library, like journal findings, hard copy books and stuff, but otherwise, it has been ok.
> Researcher: So how have you been getting around that?
> Participant: By not using them! (Severely sight impaired, uses a screen-reader and braille display)

The majority of participants were confident in using online journals and found that the majority of the time they were accessible to them by either making adjustments to enlarge the text, by using screen reader software, or by identifying online databases which were particularly accessible:

> "A lot of it I tend to do online. I find it has got a bit more accessible, which is nice. I use Google Scholar [an online database] and things like that."
> (Severely sight impaired, uses a screen-reader and braille display)

> Researcher: Have you got to the stage where you have started looking for journal articles yet?
> Participant: Yeah, we have definitely. It's all online, so I have had no problems with it. I can adjust the size if I have needed to. (Sight impaired, uses magnification)

One participant, however, shared that she still had not found a suitable strategy for accessing online journal material. There appeared to be some confusion about what adjustments she was legally allowed to make to be able to access the written documents. It is interesting that this participant had difficulties in enlarging the text for online journals, while other participants were able to do so.

> Participant: I have got some reading I am able to do, but I am unable to access some, because I am unable to access large font.
> Researcher: Are you saying it’s not a large enough font for you?
> Participant: No, because it’s online and it’s in a small font, and I can’t get it enlarged because it has to go through the tutor. I am not allowed to. (Sight impaired, uses magnification and enlarged print)

A further participant described how he struggled to use a screen reader to read online journal articles, explaining that he did not believe he had the ability to learn how to do so, and instead he expected the institution to compensate for these challenges.

> Participant: Screen readers plus internet equals sometimes going around in circles and not finding what you want, because of the visual layout of the website. It can hide things from the screen reader, it can be tedious. It can be really frustrating. And it can drain your energy levels.
> Researcher: In terms of, you finding it hard to search for things via the internet, do you think that’s something that you can work on?

> Participant: No, because I had this conversation with someone at [previous school]. Everyone is going to tackle research differently. There are some people who have a gift of being able to use the internet really well, and others like myself have limited use of it. And there is nothing you can do about it. I have all the skills possible, but it’s still these skills take time and energy. So if I can have my library assistant do that for me, and tutors suggest that for me, it’s really useful.
>
> (Severely sight impaired, uses a screen-reader and braille display)

Accessing textbooks and hard copy academic sources appears to have proved one of the main challenges to the participants as they transitioned into HE, with several participants reporting that they purposefully avoided using these types of sources, instead prioritising material that they could access online. In order to access textbooks and hard copy material, this required the participants working with assistants to, firstly, identify relevant texts and secondly (if necessary), getting the source transcribed into an alternative format. Not all participants had access to this type of support, while a small number who could have accessed assistance reported that they were not confident enough to use it.

Interestingly, one participant who reported having challenges when accessing the library during the first year of her degree, later discovered that she had been allocated library support through DSA. However, they were unaware of this, and therefore had not drawn on this support.

Whilst some participants felt unprepared to work with a research assistant, two participants in particular were able to develop successful approaches to working with their assistants. Of note, in both cases they were assigned the same research assistant throughout the duration of the course and were therefore able to develop a positive working relationship, enabling them to be particularly well prepared when researching for their dissertations. In both cases they found working with a research assistant challenging at first but were prepared to work with them to identify best working strategies. The DSO of one of the participants highlighted how beneficial it was that the student was able to work with her assistant so effectively:

> “To be honest with you, I think she’s done really well. She’s actually working, she’s working with her support assistant very well, and the support assistant is helping with her working through things that need doing, for transcription or whatever, and you know, letting me know if anything needs supporting that hasn’t been thought of in terms of the department.” (Welfare tutor talking about the experiences a student with severely sight impairment)

A small number of the participants found that whilst the font size in books was sufficient for them to be able to independently read the material, they struggled with eye fatigue due to the volume of reading which was required. This posed particular challenges as the volume of reading increased as they progressed through the course. One young person had declined a DSA assessment as prior to starting the degree he did not think he would require any specialist support having never used any in school. It is possible, however, that he would have benefited from some form of assistive technology to assist him with reading, reducing the fatigue.

Several enablers were identified by the participants, which aided them as they conducted their independent research. Firstly, they highlighted their skills for using technology, including the use of screen-readers and magnification software and their ability to make their own basic adjustments to convert the material into an accessible format such as using zoom functions.

Three participants shared how they benefited from being able to access e-books. One participant in particular described how she took initiative and requested her library purchase some electronic copies of books. Once her institution purchased these e-books it then benefited other students at the institution:

> Researcher: How has it been in terms of things which I guess are a bit more outside of the universities control like things like research material?
> Participant: Oh that’s perfect. The university has e-books in the library and they are all accessible, the whole e-books catalogue and journals are accessible… There were some unexpected textbooks this semester and I just emailed her [librarian] and she bought them for the library itself as e-books so then everyone can access them. (Severely sight impaired, uses a screen-reader and braille display)

Three participants reported using LVAs to be able to read small print on occasions where it was not possible to get material in an electronic format:

> "There are some books that I can't ever usually find electronic copies of, but I am able to use my magnifier on them. It's not the end of the world." (Sight impaired, uses magnification and basic adjustments)

8.2.3. PRACTICAL SESSIONS AND WORKING WITH OTHERS

A small number of the participants reflected on their experiences of taking part in practical sessions and group work. Three participants described how they overcame some challenges as they were confident of asking others for help when required, while the tutor of one participant highlighted how successful the student's experience had been during practical sessions as he was able to engage with those around him and instruct them on how to assist him.

> "And in labs we have… there are screens and stuff which have stuff on them, but they don't tend to be particularly important things that are on the screens. If it is I just get someone to read it out for me, and then there is also, for each bench in the lab there is a PhD student who will kind of be a demonstrator and explain what you have to do" (Sight impaired, uses magnification and basic adjustments)

One participant shared how when he started one practical module the lecturer was very hesitant about how he would be able to access it. However, after working together they were able to identify positive solutions, which led to the lecturer encouraging the student to take a further related module in the next academic year.

A further participant found it difficult to participate in practical sessions which required the use of a microscope. At a follow-up meeting between the department and disability support office he was advised of a specialist microscope which could be used to overcome the barriers he had faced. He felt frustrated that he was unaware that this type of equipment existed at the start of the course:

> “I do engineering so its experimentation and stuff, I can’t use a microscope, and it came up in this meeting the fact that they have this equipment for people like me who can’t see a microscope, and I was just thinking ‘why didn’t you say this when I was actually doing it?!’” (Severely sight impaired, uses magnification)

8.2.4. SPECIFIC SKILLS FOR ACCESSING INFORMATION

The participants were asked to reflect back on how prepared they felt as a result of their experiences during compulsory education to be able to access information independently, and whether their educational experiences had enabled them to develop the specific skills which they required.

TECHNOLOGY

The participants reported using a wide range of assistive technology, including speech software and magnification software. Three participants stated that instead of using specialist software they instead tended to make their own simple adjustments such as using zoom options and changing the screen resolution. Fifteen of the participants stated that they had received training in using assistive technology – ten reflecting back said that they had found the training helpful, while none considered it to have been unhelpful. For example, one participant shared how through the technology sessions that she had, she had learned the shortcuts needed for using her screen-reader which she was now using in HE. Touch typing is another example of skill which the participants repeatedly identified as important across multiple points of data collection.

Of particular interest, is the number of participants who reported changing the type of assistive technology they used at key stages of their education, including sixth form and when entering HE. For example, one participant during sixth form concluded that the screen-reader that he had been given was not fit for purpose and instead requested to switch to a different package, which he later confidently used in HE.

> “I have Jaws now but we started off with… have you ever heard of Supernova? That kept crashing on me, but by the time I got to sixth form they transferred me over to Jaws. I am glad it crashed on me then rather than at university because I was able to say to the DSA people ‘look I need Jaws please’. It’s more expensive as well.” (Severely sight impaired, uses a screen reader and braille)

A further participant in school used a specialist mouse which acted as a magnifier. During her time in compulsory education she found this very helpful, but she did not request it as part of her DSA assessment of needs. After finding it challenging to access information using the alternative equipment that she had been given, she reflected back and concluded that the specialist mouse had been the most helpful tool she had used:

> "I don't really use ZoomText anymore. We attached a larger monitor to my laptop which makes things a bit easier, and I am going to get another one of those, I am going to get another enlarging mouse I think, that so far has been the most helpful thing." (Sight impaired, uses magnification)

Four participants who used specialist software in HE reported that they had not had the opportunity to use equivalent software in school. One participant when reflecting back felt that it was not necessarily something which she required during school:

> "I don't know, it's different because when I was at sixth form and school we didn't really, we weren't allowed to use laptops during our classes, those people who were dyslexic or had trouble writing, they were able to use them. But I was fine without, so I didn't really need it. Whereas now during lectures and seminars I use my laptop because I can touch type, so it's more beneficial now. So I don't think it was really necessary when I was at sixth form." (Sight impaired, uses magnification)

In contrast, another participant during the first year of his degree reported that he found it difficult to use assistive technology in lectures, having not developed these skills and methods of working in school.

> "Yeah because it would be easier to do it now, I would be used to it where I am now." (Sight impaired, uses magnification)

BRAILLE

Nine of the participants had been taught braille whilst in school, including seven who regularly used braille as a means of accessing information whilst in HE. One of two participants who did not use braille would also have liked to have done so, but was not given the option by her DSA needs assessor:

> "Yeah. I don't use it very often because DSA said 'oh you are so good with electronic, you don't need braille'." (Severely sight impaired, uses a screen-reader)

A further participant shared that he felt that he had started learning braille too late into his education and did not consider himself fluent enough in braille for it to be an effective learning tool.

All seven participants who used braille had been assigned electronic (refreshable) braille devices as part of their DSA allocation. These devices allowed them to be able to read electronic documents in braille, thereby giving them the opportunity to read something in braille without it being produced in advance (providing it was available in an accessible, electronic format). Only four of the participants had had the opportunity to use refreshable braille devices whilst in school, and therefore three chose to have their braille device based on the recommendation of their needs assessor or friends who had had positive experiences of using them. Those participants who used braille were clear that they did not use it as a means of accessing information all the time, but found it invaluable for specific tasks, such as following lecture notes during a lecture, reading notes when giving a presentation and revising.

> “If I have to remember, like a speech or anything, a presentation, then I prefer it in braille. Because you read through it, and not listen, if you listen to it you will forget it, but reading through it, it will actually sink in.” (Severely sight impaired, uses a screen-reader and braille)

Six of the participants who regularly used braille in HE highlighted how important it had been to them to have had the opportunity to learn braille at a young age:

> Participant: That was helpful, I started braille in nursery and finished that in year 2.
> Researcher: So was that something that was particularly helpful, starting early?

> Participant: Yes because that’s when sighted people start to learn to read print, it’s a right I think, you should start braille at the same time. You learn it best when you are young anyway.

Three participants also considered it important that they had had the opportunity to use braille during their lessons in school. For example, one young person identified certain lessons where it was more helpful to use braille rather than a screen-reader:

> “In mainstream school it was really useful, because I could do stuff like maths and science all through braille and didn’t use my laptops in any of those. And in French because of all the weird symbols and stuff, I just used braille for that and that was really useful in that way. And you know stuff like diagrams and things like that.” (Severely sight impaired, uses a screen-reader and braille display)

LOW VISION AIDS

A small number of participants identified situations where they used a LVA when accessing written documents. In the majority of cases this was when they were conducting independent research in the library and had to read small print in books.

> Researcher: In terms of accessing the books, once you have got them, how have you found that?
>
> Participant: Absolutely fine. I have got my handheld magnifier for that sort of stuff. That’s been fine. (Sight impaired, uses magnification)

However, one participant said that she was unable to use a LVA in HE having concluded that there was only one type of LVA that was helpful for her, but reportedly not being able to obtain it:

> “I knew I would need a specific magnifier to make my life easier, but I also know that there are magnifiers that I can’t get on the LVA scheme with my optician, I can’t get that. I knew that there would be various things that RNIB do that would make my life easier, but I can’t get those. (Sight impaired, uses magnification)

It is possible that she would have been able to have the LVA through DSA, but this had not been discussed as part of her needs assessment. A further participant shared that while he was allocated a magnifier through DSA and had found it helpful, he was unaware that such LVAs existed prior to his assessment.

> “There’s a lot of things that I wasn’t aware of at the time. I was very surprised with what they can actually provide, and the detail they actually go into. (Sight impaired, uses magnification)

Similarly, another participant had not discovered that her HEI owned the type of CCTV she had used (and benefited from) during school until the third year of her degree. She had not thought to raise this as part of her needs assessment meeting or her support plan with the DSO.

Two participants considered LVAs to be redundant, instead preferring to use their mobile phones as an assistive tool:

> “Low vision aids were fine, but actually, I have actually surpassed the need for them by figuring out how to use an iPhone to do the same job. So it was fine for the time, the low tech time, but now moving into a more high-tech world, I think they’ve, if they have not already been surpassed, they are on the way” (Sight impaired, uses magnification and basic adjustments)

A further participant who had previously used LVAs to read books had instead started to use E-books which could then be adjusted to the text size she required:

> “I have a Kindle, so books aren’t really a problem anymore.” (Sight impaired, uses magnification)

These responses illustrate how these participants had been able to apply the strategies that they had used with LVAs as new technologies had emerged.

Finally, one participant described her reluctance to use LVAs when the HEI could take responsibility for adjustments instead:

> “…basically they assume that they can cut corners and be like ‘oh we don’t need to enlarge her work, all you need to do is give her a CCTV and it’s fine’, and it’s not.” (Sight impaired, uses magnification)

Reflecting on earlier interviews with this participant, she had always been provided with large print material and had become reluctant to making her own adaptations to access learning material. She was also reluctant to use electronic material, instead preferring to always have material provided to her in exactly the format she required.

8.3. SELF-ADVOCACY

8.3.1. INTRODUCTION

This section examines how prepared the participants were to self-advocate. Some of the content in this section has previously been published in the conference proceedings for the WBU-ICEVI 2016 Joint Assembly (Hewett, Douglas, and Keil, 2016). Through the analysis of the data collected, three different ways were identified in which the it was necessary for the students to self-advocate. These were:

- Negotiating support (both in terms of requesting support packages and also explaining what adjustments were required).
- Explaining their VI and how it impacts upon their daily life.
- Addressing problems if they arise.

The participants’ experiences of each of these are explored in turn.

8.3.2. NEGOTIATING SUPPORT

There were two main ways in which it was necessary for the participants to negotiate the support they received. The first way was through negotiating the contents of the support package they received in HE. This was the case, for example, when the participants met with DSA needs assessors to discuss the support that they would receive through DSA. This included advocating for the equipment they intended to use and for the amount and type of non-medical support they wished to receive. This was also true when they first met with the DSO, when possible support arrangements were discussed such as having access to accessible notes in advance of lectures and having a sighted guide at the start of the year. The second way was through negotiating the specifics of the adjustments they required. This included, explaining the format which they require material to be prepared in for it to be compatible with their assistive technology, and outlining the adjustments that they would need to access examinations.

Twenty five of the participants were asked whether they considered themselves to have been prepared to negotiate the support which they required when started in HE. Nineteen of the participants responded saying they had felt prepared, while six did not. Contrasting levels of confidence can be illustrated in the following quotes:

> “Definitely prepared… I was able to hit university guns blazing, knowing that I needed to do XYZ straight away. So much so that when I had a mentor I kind of knew everything that he could help me with, I had already done it, so

> that's how prepared I was." (Participant with severe VI who felt prepared to negotiate support needs)

> "I wasn't, I had no help explaining anything to anyone, and it makes it very difficult." (Participant with sight impairment who felt unprepared to negotiate support needs)

The participants who felt prepared to advocate in this way identified various enablers that they believed important for equipping them to advocate in such a way. One participant shared that during their time in school she had been encouraged to advocate:

> "Yeah, I think that's something that I consistently got. If I would say I was struggling with something, or with seeing the board, I was consistently told that I needed to ask to sit at the front and stuff, so that's something that over the years I have become quite good at. Even in situations with strangers I am still quite good at asking for help." (Sight impaired, uses magnification and basic adjustments).

Several participants felt that they had benefited from having the opportunity to experiment with different approaches to working over a period of time in education, giving them the opportunity to reflect on the various equipment and strategies that they had used.

> "The thing is I knew exactly what I needed because I knew what worked for me, and I knew what didn't work. Because literally throughout school I have been through every single possible thing, like CCTV, to Jaws, to magnifying glasses, to round magnifying glasses, to short ones, to ones that sit in your pockets, to ones that sit on the desk. Lamp lights, writing implement aids. I have been through literally everything, so I think that why I was in such a good position. It's more that I knew what didn't work, so that way we were able to figure out what did work." (Sight impaired, uses magnification).

Two participants identified having had previous experiences they could draw upon when negotiating their support in HE as significant:

> "I have always just done that. I didn't get guidance, it was just explaining what I have got, and them understanding." (Sight impaired, uses basic adjustments)

Finally, one participant upon reflecting back identified how important it was to her to have received specialist advice that she could later draw on. Four participants recalled receiving advice on approaching specific situations, and a further participant found it helpful that he prepared for such discussions by talking the matter through with his parents.

> "I had mobility guidance about explaining about sighted guide, that kind of thing, how people need to guide me practically and orally; I practiced on my mobility officers." (Severely sight impaired, long cane user).

One participant found it difficult to explain the support he needed, as his suggestions were challenged by the person supporting him:

> “But the complications come when people think they know better than what you know. You say ‘I like working like this, and this is the best for me’ and they say ‘oh that sounds good, but we think it would work better like this’.” (Sight impaired, magnification user)

One participant found that it was harder to explain the support that he required than he had anticipated, after discovering that those he spoke to initially could not understand the strategies he was proposing:

> “I think I was as prepared as I could be, but maybe because I was used to things being put in place automatically. Yeah, I didn’t make everything explicitly clear, I thought they would just understand like first time round.” (Severely sight impaired, screen-reader and magnification user)

A final participant found it difficult to know how to explain the support which she required, and felt that some guidance to help equip her to talk about the adjustments which she needed would have been helpful:

> “Yeah, I am not really sure how to explain it most of the time” (Not registered, uses basic adjustments)

8.3.3. EXPLAINING VISION IMPAIRMENT

The participants also identified situations where it was necessary for them to explain their VI, including being able to provide a description of what they are able to see and an overview of how their VI affects them. This was necessary in various situations, such as when talking to the DSA assessor to put together a support package, when developing a support plan with staff at the HEI, and when interacting with peers like their flatmates and course mates.

Sixteen participants identified situations in which they were prepared to explain their VI, while 11 identified situations where they were not. For example, one participant explained that he did not feel very prepared for explaining his VI in the first year of his course:

> “I had gotten more confident with understanding my own visual impairment, and being able to explain to other people, but actually being comfortable to explain it to other people, I wasn’t very comfortable in doing that in the first year. I was used to talking about it with other visually impaired people who, I don’t know, didn’t really need as much explaining if you want, because they get stuff like light perception and depth perception. But actually explaining and talking about it to people who might never have met someone who is visually impaired before or have no concept of visual impairment or the range of visual impairment at all, I have not really much experience of that at all.” (Severely sight impaired student who did not feel prepared to explain their VI)

Two participants reported that they did not have a strategy for going about explaining their VI to others, while one participant felt restricted because the medical specialists supporting her did not fully understand her eye condition themselves. One participant who is sight impaired found it difficult to explain why her eyesight could not be corrected with glasses:

> “[…] because there’s so many people that need glasses. I can’t describe how it’s different than just reading glasses” (Not registered)

Three participants shared that they were concerned about talking about their VI to others in case it resulted in an awkward situation:

> “I don’t know, it’s a really hard one. It’s a really, really difficult one. At what point do you? It is horrible; it becomes a big thing in the eyes of person talking to you.” (Severely sighted impaired)

A final participant said that he found it challenging coming from a specialist school environment into a mainstream environment. He found this transition to being surrounded by people with limited understanding of VI unexpectedly difficult:

> “No, and it was actually harder than I thought to explain to someone. Because I was so used to being in a college where everyone knew what a visual impairment was. And now I am back into a place where no one really knows.

> I think it took a good couple of months for even just my flat mates to start realising the nature of my sight." (Severely sight impaired)

Those participants who did feel prepared to explain their VI identified various enablers. Two participants felt that they had learnt from guidance and support from others:

> "Oh definitely more than prepared for it. In terms of guidance because my parents were fairly, they were open about it to people. They have not really held back in telling people that I am blind, they have actually encouraged, openly told people to make things more accessible for me. So I have been able to touch things 'oh he is blind, can he feel this, he is blind so he needs this'. That's taught me that it is the best thing you can say because it lets people know, hopefully, how to treat you correctly." (Severely sight impaired)

Five participants shared that they benefited from drawing upon previous experiences, while a further two participants had benefited from listening to others talking about their VI:

> Researcher: It sounds like you are confident in doing that.
> Participant: Very, but that's just me, I don't think the school gave us that information, that was me picking stuff up from experience, from encounters with my friends, just various life experiences. (Severely sight impaired)

> I didn’t really have guidance as much, I just when I was growing up I listened to how my mum explained it, and then I have just added in my own view points, and that’s how I have done it. (Sight impaired)

These examples also illustrate how important it is for people around the young person, such as their family and teachers, to be open to talking about the young person’s VI.

Finally, three participants highlighted their personal understanding of their VI as significant to their underlying confidence. In one case the student had conducted their own independent research until she felt sufficiently confident to be able to explain their condition to others:

> “When I was at school I struggled to explain it as I didn’t know what the problem was, and no one really told me. But partly that might be because I am the kind of person that is not really satisfied with a simple answer. So I wanted to know the medical condition, the underlying, everything! So by the time I got to sixth form and I was doing biology A-level as well and I was starting to get an interest in medical stuff, I had Googled it and I had figured out the exact genes that had gone faulty and had gone right down to really in depth detail level” (Not registered)

Five participants highlighted how important it was that they had reached a place where they felt comfortable talking to others about their VI, demonstrating that preparation goes beyond simply being given information.

> "No, I didn't. I don't have a problem with telling them about it, I would want them to know." (Sight impaired)

8.3.4. SELF-ADVOCATING WHEN THINGS GO WRONG

A final way in which it was necessary for the young people to self-advocate was to respond to problems that they had encountered. For example this included addressing situations where members of staff had not been adhering to the terms of their support agreement, where they had not received equipment allocated from DSA at the start of their course, or where they had faced challenges with meeting assignment deadlines and needed to request an extension. Thirteen participants reported that they had felt prepared to self-advocate to deal with problems they encountered, whilst 9 participants felt unprepared.

> "Yeah I felt prepared. When I did my exams I didn't get all the adjustments that I needed, but I spoke to someone, and they ensured I got them." (Participant who felt prepared to address challenges)

> "I don't think I was prepared at all for that one…I think if maybe I had been told of subtle ways. If I couldn't tell a teacher outright, maybe being told of

> other methods to use.” (Participant who did not feel prepared to address challenges)

The participants who felt prepared to address problems identified a number of factors which they felt contributed to this. Four participants had been encouraged by others to speak up when they were experiencing problems.

> “So I have always learnt, my Mum said to me you need to get really good at advocating on your behalf, and I did because I had to.” (Sight impaired)

One participant attended an event where she heard from other students with VI already in HE, who emphasised how important it is to self-advocate:

> “We had a leaver’s conference and we had ex-students come to talk to us about when they had problems and when they challenged people and that really helped” (Severely sight impaired)

Four participants viewed their previous experiences as particularly important, including two participants who felt they had learned how to address challenges over their educational career:

> “No not really, but again even at school teachers forgot that I needed it bigger and stuff like that, so I was used to telling them that. I did find it difficult, it felt like I was telling them what to do, and you know, the teachers tell me

> what to do! But my learning support at school always said don't be afraid to tell them that they need to do this, so that was good." (Sight impaired, requires magnification or large print)

Some participants identified certain personal attributes as significant to their overall experience. This included two participants who viewed their ability to get on with people well as important, three participants who felt they had the necessary underlying confidence to advocate and one participant who felt he benefited from general common sense.

> "I understand why some people can't because they may have never had an issue before and don't know what to do, or maybe feel self-conscious, there are times at uni where I have literally sat there and been like 'right, I am telling people who have 25 years of research experience, Law degrees, masters, some of them are doctors and professors, and yet I am sitting there and telling them what to do!' It can be a bit intimidating, but you kind of have to get past it, and if you have really good relationships with somebody it's ok." (Sight impaired)

Some participants identified ways in which they had negative experiences as they commenced HE because they found it difficult to address the challenges that they faced. For example, one participant had a particularly difficult experience in the first year of her course which led to her considering withdrawing from the programme.

> "No, and I think that's where I struggled in the first year. It's just something that I worked out on my own" (Severely sight impaired)

A further participant explained how she did not feel prepared to challenge her HEI when they failed to make reasonable adjustments as she and her family had assumed that the necessary support would be put in place, as has been indicated to them.

> "No, I think the expectation was I wouldn't get much challenge, it was only when I got to uni I was told there would be." (Sight impaired)

In the case of this student her apparent lack of confidence in challenging the HEI could arguably have contributed to her achieving a lower degree classification than she had hoped. While she had struggled with the accessibility of the course, case study interviews with the DSO revealed that they were unaware of the challenges she was facing, and instead they assumed, due to lack of contact, that her arrangements were working well. Instead the student regularly encountered situations where she was unable to access lecture content, and even cases where she was unable to access exam material.

8.3.5. ATTITUDES TO INDEPENDENCE

When asking the young people to evaluate their levels of independence it is important to also consider the different ways in which an individual might interpret independence. The participants' attitudes towards independence have been investigated in more depth in a peer-reviewed paper (Douglas and Hewett, 2014).

This paper investigated a series of employment related scenarios which were posed to the participants. Drawing upon the participants' responses, four different typologies of individual were identified. These are summarised in Figure 12.

Figure 12: Different typologies of approaches to solving problems, adapted from Douglas and Hewett (2014)

Active – Internaliser Focused upon taking action Responsibility for the problem/actions lies with self	**Active – Externaliser** Focused upon taking action Responsibility for the problem/action lies with others
Passive – Internaliser Focused upon action by others Responsibility for the problem/action lies with self	**Passive – Externaliser** Focused upon action by others Responsibility for the problem/action lies with others

The paper outlined different attitudes and approaches to independence of the participants. Their approach depends upon whether the young person is an active or passive problem solver, and whether they view the responsibility for solving these problems to be their responsibility (internaliser) or the responsibility of others (externaliser). Whilst the paper acknowledges that in reality the young people tended to demonstrate elements of more than one typology, the findings in the paper do provide evidence that the young people in the Longitudinal Transitions Study have differing attitudes of who should take responsibility for challenges they may face, and also that some participants were more likely to take action than others. As an example, in a scenario where a young person who normally uses a screen reader is presented with a printed copy of a document an internaliser may conclude that they were not sufficiently prepared for that situation if they did not have the skills to independently access that document, for example by scanning the document using optical recognition software. Alternatively, an externaliser may conclude that they were sufficiently prepared for such a scenario as they were able to access electronic material, and it was the failing of the institution to provide the document in their preferred format that restricted them.

The interviews with the participants have identified various examples of these different attributes, and demonstrated how such different approaches to independence can impact upon the student's experience. One participant demonstrated the attributes of an active-internaliser when they took responsibility for finding out how to access a free disability bus pass in her new city.

> "I will have to talk to Social Services to get my disability registered in order to get free transport, like they do in [home city]. To get a free bus pass, you get free travel here, and I said 'is there one in [university city]' and they were like 'yeah!'" (Sight impaired, example of active-internaliser)

As a further example, as previously noted the participants often had to request alternative sources of text to be identified. One participant found this difficult because whilst he recognised his own responsibility in notifying staff, he remained passive when faced with barriers. This led to him not having access to a key textbook for the academic year.

> "I did have a textbook, I had a textbook for the first couple of years. There were a couple of textbooks which we were told would be useful reading for this year. I have never managed to access the textbooks properly though. I probably should have gone back and talked to them, that would have been a really useful thing to do, just for their information if nothing else. In hindsight that would have been a really good idea – never mind!" (Severely sight impaired, example of passive-internaliser).

Finally, one participant who had problems in following lecturers due to repeatedly being given inaccessible lecture material consistently gave examples of how she viewed it as the responsibility of staff to resolve problems, and not her own. This was particularly problematic as the DSO were unaware of the challenges that she was facing, and therefore there was no one driving the required change.

> "Well it maybe would have been easier if lecturers or seminar tutors, if they had read the support agreement, it would maybe help if they had spoken to me first and sent some things via email, so then I could access them much easier." (Sight impaired, example of passive-externaliser).

The accounts of the participants and staff in HE have highlighted how support mechanisms in HE rely on the student taking an active role in their learning. Due to the size of institutions, welfare tutors and DS officers explained how it was impractical for them to monitor the experiences of all participants, and therefore how they expected the young person to alert them of problems. As a consequence, participants who often demonstrated attributes of being passive often had particular difficulties. The active role of the learner is reflected in the bioecological model through progressive mutual accommodations. This is discussed further in the next chapter.

8.4. GETTING ABOUT INDEPENDENTLY

8.4.1. INTRODUCTION

This section investigates how prepared the participants felt they were for learning to get around independently in their new environment. The majority of participants moved away from home, and so it was necessary for them to learn to get around in a completely new place. This includes the immediate environment of their HEI, the town/city in which the HEI was located and the public transport which served this area.

As discussed earlier, mobility support funded by DSA is provided specifically to enable the student to be able to participate on their course (e.g. to get from their halls of residence to lectures or to the library) while extra-curricular mobility support is normally funded by Local Authorities (e.g. mobility around a city centre). Additionally, a small number of the participants received mobility support through UK charity Guide Dogs as they attended HE with a guide dog, although in the majority of cases they were not allocated their guide dog until after the first year.

8.4.2. LEARNING TO GET AROUND IN NEW AREAS

Eleven participants reported that once they left the school education system they felt prepared with the skills and confidence they needed to get around in their new environment while 14 participants did not.

> "Not at all, because I don't know how to do it, I don't like cities especially London. They are too busy, so various things knock my senses out and trying to get people to understand that is very difficult." (Participant who is sight impaired and did not feel prepared for learning new routes)

> "I think with the support that I got given over the past, I have seen how people obviously look around the area first and get to know their surroundings before. So I would say I would be prepared for going to new areas really." (Participant who is sight impaired and felt prepared for learning new routes).

The participants who felt confident when starting in HE identified several enablers which they considered significant. Firstly, eight participants found it helpful to have someone to help them learn new routes in the area. In three cases this support came from family members.

> "I can learn routes relatively well, so I was taught initial routes by my note-takers who were like my sighted guides when I first arrived. But after a few

> weeks in once I figured out to get to places myself I didn’t need assistance anymore.” (Severely sight impaired)

Three participants highlighted how helpful they found the navigation tools available on mainstream technology, such as Google maps running GPS. These tools enabled the young people to make preparations to ensure that they were able to get around independently:

> “I think I am pretty prepared. I would do a lot of research and get an idea, go on Google maps and have a look at it all. I feel fine with that.” (Severely sight impaired)

Two participants identified their desire to be independent as important. Two participants who, although they felt they had the necessary mobility skills to learn the routes around their campus, felt unprepared to get around independently as they felt self-conscious using a cane. Over time one of these participants was able to work with a mobility officer who helped them overcome this barrier.

> “I always the viewed the cane as something which made me stand out, but my rehab worker at [university] she would just be like ‘yeah, it makes you stand out, but you falling flat on your face without it is going to make you more’. And she just knew how I felt without having to explain. Because I was really paranoid about everyone staring at me on campus when I was using it. I didn’t have to tell her that, just around campus doing mobility one day she

> said ‘no one is looking at you know, no one is even bothered’. I didn’t have to tell her that, but I don’t think that’s something that mobility teachers from before would have really thought about or would have taken me up on.” (Severely sight impaired, uses a long cane)

Finally, one participant reported that he did not feel prepared for getting around independently until he left school and worked with a rehab officer who helped him develop specific skills for navigating a new area, including using echo location:

> “He did a lot of work on if you get lost how to retrace your steps, teaching me echo location that really helped, getting a picture of your surroundings, knowing how to ask people, what to ask people, being able to ask people and having the confidence to do that.” (Severely sight impaired, uses a long cane)

Only two participants recalled receiving mobility support which was designed to equip them to get around in new environments. The mobility support that the other participants received reportedly tended to focus on learning specific routes and did not focus on how to apply the skills developed.

Of the participants who did not feel prepared for getting around in a new area, five felt that they had not been able to build up their confidence sufficiently, and four did not think that they had the necessary skills in place.

> “I think maybe if I had got through the mobility programme quicker I might have been able to learn a few more skills before leaving school.” (Severely sight impaired student who had been in a specialist setting)

8.4.3. USING PUBLIC TRANSPORT

Thirteen participants said that they felt prepared for using public transport when they entered HE, whilst ten did not.

> “It’s something I still struggle with, the thing I most struggle with actually” (Sight impaired)

> “Trains are my best friend, I kind of have to use them an awful lot.” (Severely sight impaired)

Fifteen participants said that they had received training in using public transport, while six had not. The training that they received, however, tended to be specific to their home environment and only covered journeys that they regularly made. Therefore, whilst they had been shown how to use one mode of transport, several of the participants were not confident in being able to use another.

> “I am fine with buses, trains a bit less, but I have also really been thinking about looking into some mobility for that. I feel that would be good. I am quite confident, but just have that extra reassurance” (Severely sight impaired)

The participants identified a number of enablers which they felt had helped prepare them for using public transport independently. These included having the opportunity to practice, knowledge of services such as rail assist, knowing how to conduct research to plan journeys, and having mobility training for independent travel.

> "Public transport was something that used to really stress me out, because I was going to unfamiliar places and stuff. But I think that's just in practice, and getting used to travelling on trains, and getting used to where to go. I think everyone has that when they first start taking trains and buses, particularly in busy cities." (Not registered)

Examples of barriers identified were feeling anxious or self-conscious about using public transport, not having had opportunities to practice their skills, having had mobility sessions too infrequently in school, and not knowing about services such as rail assist.

> "I think now I am completely fine with it. About 7 months ago I had a lot of anxiety around it, I really didn't like it." (Sight impaired student after first year in HE)

8.5. IMPORTANCE OF PREPARATION

The examples provided in this chapter have highlighted how important it is for young people with VI to be prepared with a range of skills in order to be able to participate as independently in HE. Of particular note is how common it was for there to be interactions between the adjustments made by HEIs and the skills and experiences that the student possessed. These ideas of interactions are explored further in the next chapter, which explores ways in which a balanced model of support can be developed, which takes into account the responsibilities of HEIs, the role of the independent learner and the ways in which the two might work together.

9. DISCUSSION: BALANCED STRATEGIES OF SUPPORT FOR STUDENTS WITH VISION IMPAIRMENT

9.1. INTRODUCTION

Guidance provided by the Quality Assurance Agency (QAA) in the UK notes the importance of institutions taking responsibility for developing and promoting equality of opportunity (e.g. through broad ‘anticipatory’ adjustments undertaken in promoting inclusive curriculum design), whilst also acknowledging *individual* requirements (e.g. particular student learning needs arising from a given disability) in seeking to reduce potential ‘barriers’ to participation in learning (QAA, 2015). This guidance is echoed in a recent report published by the UK government (Gov.UK, 2017) where it states that “HE providers must further develop a more strategic and flexible approach to delivering inclusive practice, accepting that there will be the need for individual adjustments” (Gov.UK, 2017, p11). Furthermore, commentators argue that it is also important to consider the role of the student as an ‘independent’ learner i.e. to ensure there is a focus on the *agency* and *skills* the young person has developed during their life (e.g. Sapp and Hatlen, 2010, have applied these arguments to specific context of HE). In the case of a student with VI, for example, this includes the skills required to move around a campus independently, access information and advocate for adjustments.

The research findings presented in chapters 6 to 8 illustrate the complexity of the transition process into HE for students with VI, as well as students with disabilities more broadly. It can be argued that part of this complexity is due to the need for the institution and student to work together to find *an appropriate and progressive model of support*. An inclusive model of HE should therefore take into account the duty of the institution to create an inclusive learning experience, the institutions responsibility to cater for specific individual needs through reasonable adjustments, and the responsibility of the learner to draw upon their own skills and agency.

In this chapter I extend the analysis by drawing upon the findings in Chapters 6 to 8 to present a new conceptual model *'The Balanced Model of Support'*, which takes these requirements into account. I then apply this model by revisiting the data analysis to identify examples of what could be considered balanced strategies for inclusive access to HE. This conceptual model was developed by drawing upon the findings from the earlier analysis to develop a list of 'key curriculum access issues' to illustrate different strategies of support. With respect to the bioecological model, this stage of the analysis focused in particular on the 'proximal processes' (interactions between the learner and their environment), the personal agency of the learner as developed in the chronosystem and the need for progressive mutual accommodations. To do this I outline the curriculum access issues and explicitly analyse the balance between four functions: inclusive practice, individual adjustments, personal agency and progressive mutual accommodations.

The content of this chapter has been successfully published as a peer-reviewed paper: Hewett, R., Douglas, G., McLinden, M., & Keil, S. (2018) Balancing inclusive design, adjustments and personal agency: progressive mutual accommodations and the experiences of university students with vision impairment in the United Kingdom, International Journal of Inclusive Education.

9.2. PRESENTING THE BALANCED MODEL OF SUPPORT

Recent reforms to the English support system for students with disabilities mean that greater responsibility has been given to HEIs to accommodate students with disabilities. With research evidence demonstrating that there are still many barriers faced by students with disabilities in HE (e.g. Morina, 2017; Bishop and Rhind, 2013) (something strongly supported by the findings in this thesis), it could be argued that it is time for HEIs to reconceptualise their models of support.

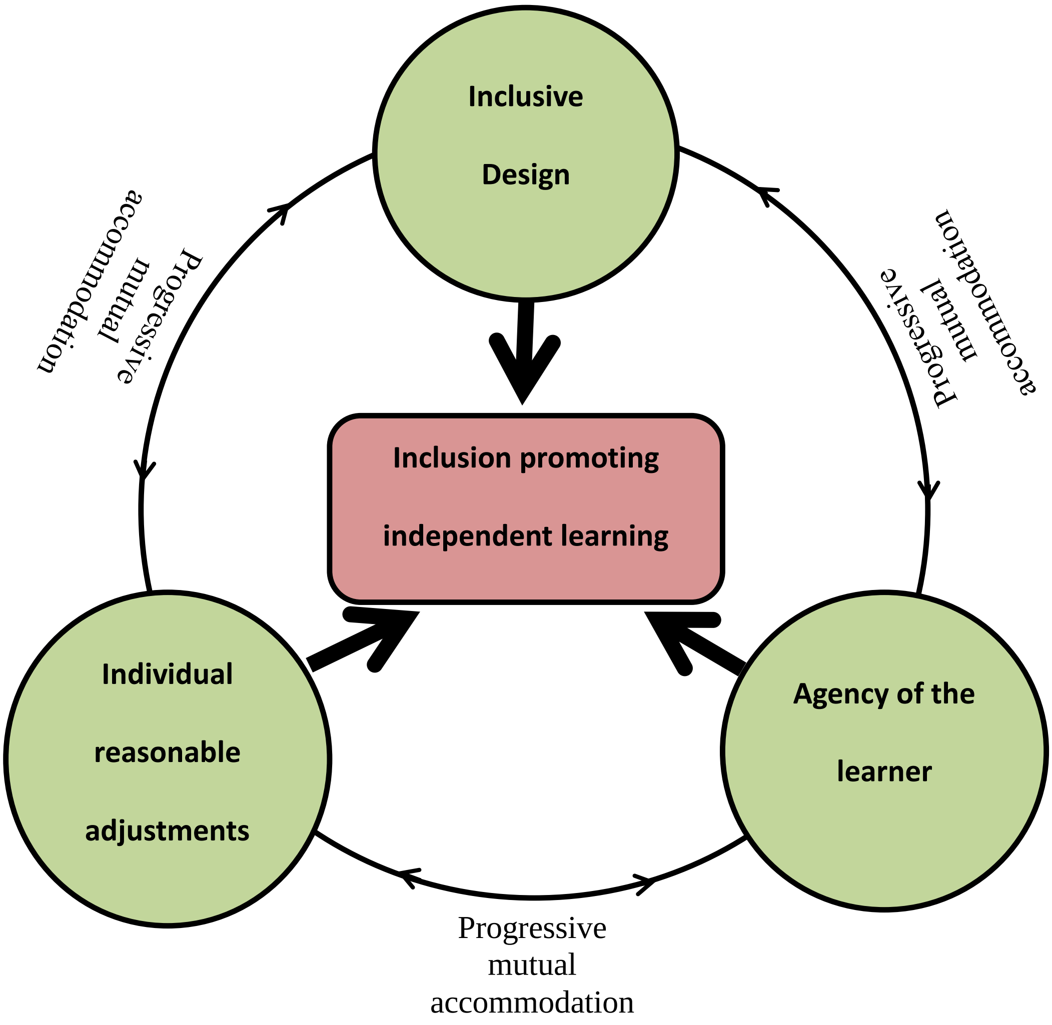
The literature review has shown that a challenge for HEIs is navigating how to find an appropriate balance between creating inclusive learning environments that accommodate all students, making specific adjustments for individuals with specific needs, and having appropriate expectations of the student. The proposed ‘Balanced Model of Support’ which I present in this chapter, argues that central to strategies of support should be mutual accommodations between institution and student that are progressive in nature and facilitate the student’s journey towards becoming an independent learner. This is keeping with the dual model of access which was outlined in Chapter 3. In the dual model, the objective is to allow the individual to gradually become more and more independent, through decreasing focus on educators providing support through ‘access-to-learning’ strategies and increasing focus on the individual ‘learning-to-access’ strategies. It is therefore important for HEIs to work with students with VI, and develop strategies that allow the student to draw upon and continue to develop independence skills, enabling them to continue developing the skills that they will require to function independently in the workplace.

The Balanced Model of Support is illustrated in Figure 13. This model, developed through the findings of this study, explores the following interrelating functions:

1. Inclusive practice – i.e. how barriers had been addressed through the foundations of inclusive education;
2. Individual adjustments – i.e. where it was necessary for the HEI to make adjustments to meet individual needs to overcome barriers which could not be overcome through inclusive approaches;
3. Personal agency and adjustments of the learner – i.e. where the individual made their own adjustments, drawing upon (and developing) their existing skillset (reflected in the chronosystem)
4. Progressive mutual accommodations – i.e. where institution and learner collaborated to facilitate access, and how this developed over time.

Functions 1 and 2 are aligned to existing models of support for students with disabilities in HE (e.g. Department for Education, 2017), while functions 3 and 4 were identified through the literature review. Importantly, all four functions are recognised within the Bioecological Model of Inclusive Higher Education which was developed in Chapter 5.

Figure 13: The Balanced Model of Support: Balancing inclusive design, individual adjustments and individual agency for students with disabilities in Higher Education



9.3. APPLYING THE BALANCED MODEL OF SUPPORT TO THE EXPERIENCES OF STUDENTS WITH VISION IMPAIRMENT

In this section I apply the Balanced Model of Support by providing scenario curriculum access issues in HE for students with VI. The examples offered demonstrate how participants in the study benefited from inclusive practice such as the provision of accessible material in advance of lectures and positive individual adjustments such as tactile diagrams. Underlying the account from the participants were examples of ways in which their pre-existing skills and knowledge had an impact upon their broader experiences and how they were able to work with their institution to use these effectively. Examples include their ability (or lack of) to use assistive technology, get around independently and self-advocate, and their knowledge of possible adjustments. These examples illustrate the type of targeted skills which are developed with children and young people with VI through a specialist curriculum in early-years and during compulsory education. This is recognised in Bronfenbrenner's bioecological model through the Chronosystem, highlighting the importance of a young person being able to develop these skills over time. Primarily the examples presented in this section focus on positive examples of inclusion, although some barriers the young people faced are also highlighted, along with suggested ways in which they could have been overcome. These different examples are summarised in Table 24, and then expanded upon.

As noted, the examples provided also outline ways in which it was necessary for the student and institution to learn to work together effectively, a process introduced by Bronfenbrenner in his bioecological model and described as *progressive* mutual accommodations. Throughout the course of the interviews, there had been a sense of acceptance from the participants that HEIs face a complex challenge in making reasonable adjustments to enable them to fully participate in HE, and an understanding that a period of learning is required by all stakeholders. This relies on the personal agency of the student, the duties of the HEI, and the willingness of both to work together.

The findings are organised under a series of seven curriculum access issues, which were identified during Stages 1 to 6 of the data analysis process. This list is not intended to be exhaustive, but rather to provide illustrative examples of central components of teaching and learning through which to explore the following interrelating functions identified in the model.

Table 24: Examples of balanced strategies for inclusive access to Higher Education for students with vision impairment

Example curriculum area issues	**Access functions**		
	Inclusive practice	**Adjustments**	**Personal agency**
Course design	Using well defined module learning outcomes, allowing flexibility in assessment.	Providing an alternative assessment which does not require use of inaccessible software, but still tests learning outcomes.	Engaging with lecturer to identify solutions and articulating possible adjustments.
Accessible lecture notes	Making lecture notes available on virtual learning environment.	Providing lecture notes in alternative formats if required – for example tactile versions of diagrams.	Accessing lectures notes from virtual environment and making necessary adjustments.
Delivery of teaching sessions	Ensuring accessible lecture material is available.	Providing verbal clues to enable student to follow slides in lecture.	Articulating the challenges faced in accessing lectures and working with staff to identify solutions.
Facilitating to attend teaching sessions	Providing timetables in advance to all students.	Providing mobility training for student to learn routes to get around independently.	Coordinating with mobility officer to arrange training, and drawing upon existing mobility skills to learn routes.
Accessing reading material and assessments – coursework	Providing copies of reading lists in advance to all students.	Providing research assistants to help students identify research material to be converted into an accessible format.	Directing research assistant to ensure identification of relevant texts.
Assessments – examinations	Reasonable adjustments for students requiring exam adjustments embedded within central systems, e.g. online assessments automatically	Providing modified papers, e.g. papers in braille.	Explaining preferred adjustments for exams to staff.

	allocating extra time.		
Assessments - feedback	Providing feedback through virtual learning environment in an accessible format.	Providing an opportunity for individual feedback to discuss specific challenges relating to vision impairment.	Using opportunities available to meet with staff. Drawing on self-advocacy skills to alert staff to any problems they experience with assessments.

9.3.1. COURSE DESIGN

Morgan and Houghton (2011) outlined several principles for inclusive curriculum design. They describe these as taking “into account students’ educational, cultural and social background and experience as well as the presence of any physical or sensory impairment and their mental well-being” (p5). Positive accounts of course design came from participants whose lecturers had provided clear and considered learning objectives. For example, one participant studying a scientific course had problems with the accessibility of a piece of specialist statistics software and was not able to use it for his assignments. The software chosen was standard to their field of study and one that employers would expect students to have learned as part of their degree, hence it was important to use it on the course so as not to restrict other students. However, as the course was designed around learning objectives of understanding the mathematics behind the calculations being made rather than the use of the software itself, lecturer and student were able to work together to identify suitable alternative modes of learning and assessment. This was possible due to the careful design of the learning outcomes (inclusive practice), the adjustments made by the lecturer and the students’ ability to articulate possible adjustments including alternative software, which they had used in school.

9.3.2. ACCESSIBLE LECTURE NOTES

As discussed in chapters 7 and 8, students with VI benefit from having access to accessible lecture notes in advance of lectures. This provision appears to becoming standard practice in many HEIs in the UK, through notes being shared in advance on VLE. Whilst it is the HEIs responsibility to ensure that notes are made available and in an accessible format, this inclusive practice will be ineffective if the students themselves do not have the necessary skills to be able to access the learning material. However, in certain situations it was also necessary to make individual adjustments to enable the student to access lecture notes. This was particularly the case with graphs where tactile versions of the diagrams were required. This often required a period of learning between student and lecturer as they worked together to ascertain how best to make content accessible, according to the students' preferences. Students made personal adjustments by obtaining lecture notes in advance of lectures, making modifications where required (such as adjusting the font size of electronic documents) and using assistive technology.

9.3.3. DELIVERY OF TEACHING SESSIONS

Lecturers can promote inclusive practice by ensuring lecture material is accessible – i.e. that it is prepared in a format which enables the students' independent access, using assistive technology where necessary. Some participants in the study felt excluded from lectures as they relied upon note-taker support to help them access inaccessible parts of the lecture, such as diagrams being drawn on the board. This resulted in the student sitting beside their note-taker to receive verbal instruction during the lecture, something which they felt restricted interaction with their peers.

Some students benefited from individual adjustments made for them during their teaching sessions. For example, one lecturer gave verbal clues to help the student follow the lecture. The student made her own adjustments by introducing herself to the lecturer and setting up a meeting to help devise this strategy. It could be argued an adjustment which ensures that students are able to follow the flow of a lecture would benefit all, forming part of inclusive pedagogy.

Some teaching sessions involved group work. Positive accounts came from participants who felt able to explain to their peers how best to include them in the group. Peers made positive adjustments by being mindful of the accessibility of specific tasks when allocating roles. A less positive account came from one participant who was unable to keep up with the pace of the group work because the material provided was not accessible and not made available in advance.

9.3.4. FACILITATION TO ATTEND TEACHING SESSIONS

A challenge for students with VI can be getting to and from lectures independently. Examples identified of inclusive practice facilitating this are providing timetables in advance (allowing sufficient time to allow for mobility sessions to be arranged and routes learned) and making the environment as accessible as possible, for example with tactile paving, clear signage and good lighting. An obvious individual adjustment is the provision of mobility support to enable the student to learn necessary routes around the institution. General inclusive practice includes restricting the amount of movement that students need to make between lectures (e.g. not scheduling consecutive lectures on opposite sides of the campus).

The receipt of mobility support relies on the student engaging with this support, and for them having existing mobility skills to draw upon and the confidence to do so. One participant who received limited mobility support in school was restricted by his mobility skills once in HE. Despite having access to mobility support, in the second year of his degree he felt unable to move into private accommodation with his friends as he was not confident enough to journey independently onto campus. He also felt unable to travel back to visit his parents by using public transport. Another participant who identified herself as having strong mobility skills was frustrated as the HEI restricted her in receiving mobility sessions until several weeks into the first semester. Instead of being able to go between lectures independently, she was reliant upon a sighted guide. Some students reported at first needing support from a sighted guide as they learned to navigate their new environment, but over time they were able to learn the necessary routes, illustrating how the support that a VI student requires is often progressive.

9.3.5. ACCESSING READING MATERIAL AND ASSESSMENTS – COURSEWORK

Central to the focus of HE is the aspiration for the student to become an independent learner. For students with VI, this is often problematic due to barriers in obtaining accessible copies of text, beyond the immediate control of the institution. HEIs can promote inclusive practice by providing copies of reading lists in sufficient time for alternative formats to be obtained and subscribing to accessible online journals/e-books. This can advantage all students as they have more time to access reading material to conduct preparatory reading and have more options for accessing texts. Students can make their own adjustments by taking initiative to communicate with the library about the books that they need to access.

The study highlighted particular challenges for students reliant on electronic formats as when they sought to identify books independently, they were unable to scan through physical books in the same way as their sighted peers. This challenge was often overcome through individual adjustments and the provision of ‘research assistants’. However, working with a research assistant requires a considerable adjustment from the student as they learned how to instruct them. One participant shared how they found it challenging at first knowing how to approach this, and how it was necessary for them to work with the research assistant to develop a suitable strategy.

Several of the participants with severe VI encountered barriers due to the apparent lack of training of support staff. For example, one participant very articulately described how she had explained to library staff that she required electronic versions of textbooks that were compatible with her screen-reader. However, when she received these, the files supplied were in an inaccessible image format instead of text format.

9.3.6. ASSESSMENTS – EXAMINATIONS

The majority of participants identified examples of individual adjustments which were made by the HEI to enable them to sit examinations. Problems were encountered when these adjustments made were ad hoc, and several participants provided examples such as being given incorrect room numbers or the invigilator had not being given correct information about the adjustments they should receive, such as the amount of additional time.

An example of inclusive practice that was identified by one student was how their exam access arrangements were embedded into the institution's system. For example as part of her learning support agreement, she was due to receive extra time for assessments. This was automatically factored into online exam timetables, and when she took online assessments, the systems were designed to automatically allocate extra time. One participant had a less positive experience as instead of accessing his individual timetable, he incorrectly assumed he was in the same room as friends, having not looked at his individual timetable beforehand. A further example of an inclusive assessment process is giving all students the option to work electronically. This was not an option at the institutions of any of the participants, apart from at one institution where some of the smaller assessments were conducted online.

Individual adjustments included modified papers, extra time, separate rooms and the provision of readers/scribes. When asked about how they found these adjustments, the participants spoke of them positively, and highlighted how they were able to draw on their experience of using the same types of adjustments at school. One less positive account came from a participant who was given a scribe even though she had not requested one, and instead it was assumed that she would require it. She felt obliged to use the scribe, even though it was a new way of working for her. To put into place appropriate exam adjustments, the majority of HEIs looked to the student to explain their preferred access methods and several participants described situations where they drew upon their self-advocacy skills and were assertive about what they required.

9.3.7. ASSESSMENTS – FEEDBACK

A number of participants reported receiving exam grades and assignment feedback through the HEIs VLE. This is a positive example of inclusive practice as all students received feedback in the same way. However, to ensure an inclusive experience, it is important to ensure feedback is accessible to all. One participant shared how her feedback was uploaded in a ‘picture format’ of PDF on the VLE, meaning she was unable to read the feedback using a screen-reader, and thus unable to access her marks independently.

Several participants described how they and their lecturers made adjustments by arranging meetings to receive feedback specifically in relation to their VI. One common example of feedback given was that the student had not used sufficient references in their assignments. This was often attributed by the participants to problems they faced with accessing accessible texts. This dialogue with their lecturers alerted the participants to the importance of referencing a wide range of material, and in several cases was a catalyst to them taking the initiative to develop strategies to access more material, including making greater use of their existing support.

None of the participants reported having had opportunities to provide feedback on how well the exam adjustments had been delivered. This proved a barrier to some who experienced problems, but did not have the confidence to challenge this. One participant over the course of her degree described facing multiple problems with examinations; to the extent she believed it affected her final degree classification. A tension in this situation was identified through an interview with the DSO at her institution. They explained that due to the volume of students supported, they rely on individuals to identify problems as they occur, but in this case the student had not approached them with any problems. Raising problems such as these is an important aspect part of the individual's personal agency.

9.4. THE BALANCED MODEL OF SUPPORT AND PROGRESSIVE MUTUAL ACCOMMODATIONS

As already outlined, the Balanced Model of Support captures how a balanced approach is required for students with VI in HE, to enable them to function as independent learners. In keeping with other models of support for students with disabilities in HE (e.g. Department for Education, 2017), it recognises the need for a balance between anticipatory adjustments provided through 'inclusive practice', alongside adjustments to meet individual needs. Significantly, in addition, it explicitly acknowledges the role of the learner in facilitating successful outcomes by drawing upon his or her personal agency and the key skills the individual developed both before and during HE. The framework also recognises the progressive nature of this support in the form of progressive mutual accommodations between institution and learner. The concept of personal agency and progressive mutual accommodations over the lifecycle of a university qualification can be illustrated through the following case study.

Case study of Progressive Mutual Accommodations

"Erika" is severely sight impaired and reads through braille and specialist speech software. She studied an Arts based course requiring large volumes of reading.

In the first year she faced challenges obtaining accessible reading material. Her institution failed to provide reading lists in sufficient time for the library to source alternative formats of texts, and when they did, the library did not fully understand the adjustments which she required, leading to further delays. Therefore, the HEI did not fulfil its anticipatory duties.

Whilst initially Erika found it challenging, she took the initiative and explained to staff the adaptations she required. Through DSA Erika was assigned a research assistant who helped her format essays and identify books in the library. Importantly, the research assistant informally took a mentoring role by helping Erika develop her own independent study skills.

In the second year, Erika arranged meetings with all her lecturers to introduce herself and to explain to them what adjustments they could make to include her in lectures and seminars. Having learned from the previous year, library staff obtained reading lists in advance of her modules starting and all reading material was prepared for her in an accessible format in advance of the start of term. She continued to work with her research assistant and her grades improved as she was able to draw on a wider range of sources for her essays.

In her third year, Erika completed her dissertation. This posed new challenges as she focused on her own individual research because she had to identify relevant sources with less direction. This was particularly challenging when she needed to reference physical books rather than electronic journal articles as in order to access this material it needed to be converted to accessible electronic format. Ordinarily the library service would either arrange for an alternative format to be sourced, or for it to be transcribed. However, with so many potential texts, this proved impractical. Instead Erika worked in partnership with her research assistant. She directed the research assistant to particular books using the library catalogue. The research assistant in turn then gave a summary of the headings in that book, and when requested by Erika, read out short segments. Erika then made the decision of whether to request for the text to be adapted or not. Whilst this process was more time consuming than it was for her sighted peers, Erika was able to make independent decisions. This was possible through collaborative working between Erika and multiple members of staff at the institution; a process which was developed and refined throughout the duration of her course.

9.5. ADDRESSING TENSIONS WITHIN THE PROPOSED MODEL

Department for Education (2017) provides broad guidance to HEIs of ways in which inclusive practice can be implemented, many of which mirror strategies identified throughout this thesis. This guidance is important because it rightly places responsibility upon the HEI for providing social structures which are inclusive of all students. The guidance, however, fails to acknowledge the role of the individual learner, and the importance of the learner working in partnership with the HEI. The framework outlined in this chapter centres round these interactions between the institution and learner, and to this extent offers a more complete analysis. By examining the findings of the Longitudinal Transitions Study through the lens of a Bioecological Model of Inclusive HE, it has been demonstrated that HEIs may find an appropriate balance between improving learning experiences of students with VI in HE through developing and promoting inclusive practice, by making individual adjustments for specific individual needs and by recognising the significance of the personal agency of the student. The framework developed also emphasises the important role of progressive and mutual accommodation between the learner and the institution, and the importance of the learner being suitably prepared through their earlier educational experiences to be able to participate in the new setting of HE as an ‘agent of change’.

However, it is also important to consider the tensions that may exist through the interactions explored in this framework. For example, there may be cases where either the HEI fails to provide an inclusive learning environment, or the student arrives without the range of skills they need to benefit from inclusive practice. This can result in both HEI and the student relying heavily on individual adjustments to enable the student to succeed. It is therefore important for HEIs to fulfil their obligation to provide inclusive learning environments and have strategies in place for nurturing the student’s development of these skills once the student transitions into HE. This is particularly true for students who may have experienced sight loss later in their educational career and therefore may not have benefited from being taught areas of a specialist curriculum during school. Another type of exclusion is having limited expectations of those with disability amongst HE staff. At an extreme this can lead to a disbelief that disabled students can cope in HE, and therefore lead to exclusion from entry. It can also lead to the potential of ‘over-support’, which although based upon good intentions, still represents a type of exclusion. This is illustrated in the following case study:

Case study of over-supporting a student in HE

“Michael” described his reluctance to conduct his own online searches for literature for his coursework and dissertation as he was not very confident in using assistive technology, (particularly when accessing the internet), or in learning new skills in order to undertake access information independently. Instead he relied heavily on sighted assistance (funded by the HEI) to identify literature for him. Instead of working in partnership with the research assistant (as illustrated in the case study above), the student directed all responsibility to his assistant and did not engage with her during the process. As well as restricting him in becoming an independent learner, this posed potential challenges for the student in his transition to a Master’s degree at a different institution. Ideally, throughout the course of his studies he would have continued to develop his skills in assistive technology, leaving him better prepared to make this next transition.

The very notion of making ‘reasonable adjustments’ is a subjective one, and can be interpreted in different ways. This can lead to a lack of clarity of responsibility and ultimately a breakdown in system. For example, one participant described how she spoke with a lecturer and requested that he make some simple modifications to the lecture material he provided. The lecturer refused to do so, arguing that these types of adjustments should be attended to as part of DSA funding.

The recognition that inclusion is multifactorial has the implicit challenge that there may well be tensions between stakeholder responsibility for making it work, and attributing blame when it does not work. These ideas of tension in the implementation of inclusive education policy were explored by Norwich (2013) who noted that there are often problems associated with positions that are represented as dichotomies. Norwich argues that it is important to acknowledge these possible tensions to maintain ‘intellectual honesty’ and also in order to help identify common ground between positions to reduce the possibility of conflict. Importantly, the interventions and resources which are generic (or ‘inclusive’) and ‘specialist’ (or individually focused) should not be viewed as a dichotomy which has mutually exclusive choices. Rather they should be viewed as a dimension that must be navigated with the hope of "having it both or all ways" (Norwich, 2013, p156). For example, whilst an institution may strive to develop inclusive practice which benefits it all, it may be necessary to draw on specialist advice to implement this effectively.

To supplement the guidance provided by Department for Education (2017), organisations like the Equality Challenge Unit have developed resources to assist institutions in understanding their responsibilities for making reasonable adjustments. Furthermore, all of the DS officers interviewed stated that their institution had developed guidance material for staff on what reasonable adjustments are, and what their responsibilities were. Less positively, the majority of institutions noted that they did not have systems in place to enforce the delivery of reasonable adjustments, meaning that staff were often failing to follow the guidelines set by their own institutions.

This chapter highlights how important it is to have clear legislation and guidelines in place, to both help decision-makers make appropriate choices, and also to protect the rights of individuals (and in particular marginal groups such as students with disabilities). It could be argued that these guidelines should 'favour' the individual rather than the institution as they are the most vulnerable in these situations (as illustrated through the findings in this thesis). Rather what was sometimes observed was lecturers who were so concerned about giving advantage to the student with VI, that they failed to make reasonable adjustments.

10. CONCLUSIONS

10.1. INTRODUCTION

The findings presented in this thesis form part of a larger investigation into the experiences of young people with vision impairment (VI) as they make the transition from compulsory education, through to adulthood, and in particular the labour market. The objective of the Longitudinal Transitions Study, has been to gain an understanding of the enablers and barriers which can impact upon the success of a young person with VI making these transitions. This investigation came about due to concerns about the employment outcomes of young people with VI.

The Longitudinal Transitions Study started in 2010, with the recruitment of over 80 participants who met the entry criteria of being in school years 9-11 (aged 14-16), being supported by specialist educational professionals for their VI, and being able to independently complete a questionnaire. The participants were followed as they pursued various pathways after compulsory education, including further education, apprenticeships, higher education (HE) and employment. The study has been conducted in three phases, and funded by Royal National Institute of Blind People, the Nuffield Foundation and Thomas Pocklington Trust.

As over half the participants decided to apply for HE, this became an important focus of the study, particularly as higher level qualifications have been identified as an important enabler for young people with VI successfully obtaining employment, even beyond that observed in the general population.

Because the participants were recruited in different school years and entered HE at different times, it was possible to initially follow a small group of the older participants making this transition. It was observed that the transition into HE was extremely challenging for the participants; even more so than the previous transitions they had made. Consequently, the decision was made to conduct a more comprehensive investigation into the experiences of the participants in HE, as part of this doctoral study. This has involved conducting regular semi-structured interviews with the participants at key stages of their transition into HE, including initial application, initial transition, at the end of first year, and as part of routine longitudinal interviews. Additionally, five participants were selected to take part in case study work. This involved an in-depth investigation into the participant’s experiences, including spending a day shadowing the students on a typical day on their course, and interviews with 15 ‘associates’ who had played a key role in supporting them as they made the transition into HE (for example family members, specialist teachers, welfare tutors and disability support officers).

10.2. KEY FINDINGS FROM THE LITERATURE REVIEW

The literature review identified that VI in children and young people is low incidence with only two in every 1000 children and young people up to the age of 25 having a VI (e.g. Vision2020UK), and 30% of these young people having complex needs. Specialist support in schools in the UK is provided through QTVIs who have a mandatory qualification for working with children and young people with VI. As well as having responsibility for ensuring that the student is included within lessons, the QTVI also takes responsibility for the coordination of what is referred to within the UK as an ‘additional curriculum’; a concept which closely mirrors the United States ‘expanded core curriculum’ (ECC). This is the term given to the specific specialist skills that are taught to students with VI which are not part of the core curriculum (Douglas, Hewett and McLinden, 2019). The ECC consists of nine areas, including skills for accessing the curriculum, independent living skills, orientation and mobility skills and self-determination skills. Significantly, my review of literature into the enablers and barriers that contribute towards successful post-school transitions for young people with VI identified as significant many of the skills that constitute this specialist curriculum.

Similarly, several of the research literature which focused on the experiences of students with disabilities identified the importance of the preparation of the student, including the prior development of skills such as self-determination, self-advocacy, problem-solving and use of assistive technology (Getzel and Thoma, 2008; Morina, 2017a; Morina 2017b; Diquette, 2000).

Despite research evidence showing the significant contribution that the student makes to their overall experience, a review of HE policy and guidance for supporting students with disabilities in the UK shows that these publications tend to focus on the responsibilities of the institution in meeting the needs of students and developing inclusive practice, and neglect to acknowledge the role of the student (e.g. Department for Education, 2017). Perhaps this is due to these policies being developed in response to legislation like the UK Equality Act (2010), which outlines the legal obligations that educational establishments have towards students with disabilities, such as making reasonable adjustments and not discriminating during course admissions.

Positively, data collected by government agencies indicates that these legislations and policies are making some difference, with the proportion of students with disabilities entering HEIs having increased over time (ECU, 2017). However, whilst these statistics indicate that more students with disabilities are able to enter HE, it does not necessarily prove that their overall learning experiences and outcomes have improved. Rather even the recent research literature identified has shown that despite legislation like the UK Equality Act, 2010 and USA Individuals with Disabilities Act, students with disabilities still face a number of barriers (e.g. Morina 2017a; Morina, 2017b; Ostrowski, 2016).

A further important theme identified through the literature review was the importance of partnership between the institution and the student, and the student playing an active role in their learning experience. Several studies identified ways in which the institution and the student worked together to find suitable adjustments, sometimes requiring a process of trial and error over a period of time, and requiring patience from both parties.

The findings of the literature review illustrated the complexity of the experiences of students with disabilities in HE, although it was observed that the majority of studies looked at the students experiences in isolation from their broader life experience. This led to the conclusion that it was necessary to take a holistic perspective when investigating the transition experiences of students with VI. For example:

- Looking at the specialist support the young people received when preparing to enter HE.
- Examining the provisions made by HEIs for students with disabilities.
- Establishing how the support provided compared to legislation and policy around inclusive education.
- Exploring how prepared the young people were for having the skills and experiences they required to work independently in HE.
- Looking at the role of partnerships between student and institution.

This led to the development of the three research questions, which have been explored through this thesis:

1. How well supported are students with vision impairment as they make the transition into Higher Education?
2. How inclusive is Higher Education for students with vision impairment?
3. How well prepared are vision impaired students for being independent learners in Higher Education?

The key findings which emerged through these research questions are discussed in 10.5-10.7.

10.3. DATA COLLECTION, ANALYSIS AND DEVELOPMENT OF THE BIOECOLOGICAL MODEL OF INCLUSIVE HIGHER EDUCATION

10.3.1. DATA COLLECTION

This doctoral study has reported on the experiences of 39 of the participants from the broader Longitudinal Transitions Study as they made the transition into HE. Through the use of a longitudinal qualitative design it was possible to collect data from the participants as they were going through the transition process, and also to draw upon contextual information from previous data collections for the Longitudinal Transitions Study. When working with the participants, guidance was followed by Duckett and Pratt (2001) who advocated for and provided guidance on adopting a participatory approach to research.

10.3.2. USE OF THE WHO ICF FRAMEWORK

An important reference when developing the interview schedules, interpreting the data collected, and reporting on the findings, was the WHO International Classification of Functioning Disability and Health (ICF) Framework (WHO, 2001). This provided a recognised framework for interpreting disability, by bringing together principles of both medical and social models of disability, and offering helpful vocabulary for conducting disability research, such as ‘impairment’, ‘activity’, ‘participant’ and ‘barriers’.

10.3.3. DATA ANALYSIS AND DEVELOPMENT OF CONCEPTUAL MODELS

The analysis of data followed a multi-stage process. Thematic analysis was judged to the most appropriate approach, as this allowed for the influence of earlier explorations of research literature and data analysis for the main Longitudinal Transitions Study. The broad stages of data analysis that I followed were:

- Stage 1: Arranging the data into a sequence of chronological events which reflected the transition journey into HE (presented in Hewett et al., 2015).
- Stage 2: Working with other researchers to collaborate, rearrange and combine codes, drawing upon two frameworks – the ICF and Bronfenbrenner’s Bioecological Model of Human Development.
- Stage 3: Re-evaluating the data by considering the system as a whole, particularly with respect to inclusion. This led to my development of *the Bioecological Model of Inclusive Higher Education*.

- Stage 4: Revisiting the analysis from Stage 3 to identify examples of balanced strategies for inclusive access to HE in terms of inclusive practice, individual adjustments, personal agency and progressive mutual accommodations between learner and institution, using a pre-determined list of ‘key curriculum issues’ derived from Stages 1-3 of the analysis. This led to my development of *the Balanced Model of Support*.

10.4. APPLICATION OF A BIOECOLOGICAL MODEL OF HUMAN DEVELOPMENT

As noted, during Stages 2 and 3 of the analysis I decided to experiment by applying Bronfenbrenner’s bioecological model as a framework, to ascertain how helpful it would be as a means for interpreting the research findings. This approach drew upon previous work by Anderson et al. (2014) who had applied Bronfenbrenner’s bioecological model to develop a Bioecological Model of Inclusive Education as a mechanism for interpreting what they termed as “complicated, messy and changeable” learning environments (p31).

There were several reasons why it was envisaged that a bioecological model would offer a valuable conceptual framework. Firstly, in line with observations by Anderson et al. when exploring school environments, the early data collections, initial analysis and the literature review revealed that the experiences of students with VI in HE are determined by an extremely complex range of factors, including factors beyond the organisation such as external legislation and HE policy, as well as factors immediate to the learner, such as their lecturers and note-takers. By applying the bioecological model it was possible to ‘map out’ the different factors that have an influence upon the learner, and also to position them appropriately to the students’ environment. Secondly, the bioecological model recognises the significance of the interactions of factor. This was important as a key finding in the initial analysis of the data was how much interaction there is between the different factors immediate to the student, such as DSOs and lecturers. Thirdly, the bioecological model gives recognition to the contribution made by the learner, by positioning them at the centre of the model. This was extremely important as much of the literature identified through the literature review focused on the contribution that the student can have on their own learning experience and eventual outcomes (e.g. Bishop and Rhind, 2011; Erhardt and Shuman, 2015). This also allows recognition of experiences in education, and in particular the ‘additional curriculum’, by accounting for the skills and experiences gained by the individual throughout the course of their life. Finally, the model also recognises the importance of partnerships between the student and key parties situated within their learning environment, as viewed through ‘progressive mutual accommodations’. Again, the significance of partnerships was an important finding in the literature review, with research evidence showing that student outcomes improved where institutions and students worked together to identify appropriate adjustments, with the objective of facilitating independent study (e.g. Boyd-Kimball, 2012; Cole and Slavin, 2013).

In order to apply Bronfenbrenner’s bioecological model, I developed the Bioecological Model of Inclusive Higher Education. I took the different factors identified during Stages 1 and 2 of the research, and then mapped these onto the five systems Bronfenbrenner described. The model developed was then used as a ‘lens’ through which to investigate the three research questions posed, as discussed below.

It was found that applying Bronfenbrenner’s model as a Bioecological Model of Inclusive Higher Education provided a valuable framework, making it possible to take a holistic view of the learner’s experience in their immediate and broader context, and the progressive mutual accommodations between learner and educator.

10.5. RQ1: HOW WELL SUPPORTED ARE STUDENTS WITH VISION IMPAIRMENT AS THEY MAKE THE TRANSITION INTO HIGHER EDUCATION?

The first research question investigated how well supported the participants were as they made the transition into HE. Previous research, such as Morina (2017a), highlighted how difficult the transition into HE can be for students with disabilities. Despite this, very few of the participants in the study received specialist transitions support as they prepared to go into HE. This was in keeping with the statutory duties of specialist services at the time of the research, as they were only required to provide transition support until the age of 16. However, Reed and Curtis (2011) identified the important contribution that specialist services can make for facilitating this transition, through working with the student to provide individualised support and by providing specialist guidance to the HEI. This underlines the importance of the new UK Code of Practice which requires specialist services to support young people with SEND until the age of 25, including supporting them for the initial transition into HE. The findings of this research question revealed that a lot of responsibility is placed on students with VI as they make the transition into HE, including as they negotiate the DSA process and the support available from HEIs, and make informed decisions about which course and institution to attend. Therefore, there are many possible ways in which the student may benefit from receiving guidance from a specialist professional.

I note that whilst participation data shows that increasingly more students with disabilities are attending HE and that none of the participants in the study felt that their VI restricted them from going to HE, the study found that some of the participants felt restricted in their choice of institution. These perceptions of limitation came about largely after the participants visited institutions for open days, and had an opportunity to assess how prepared (or willing) the institutions were to accommodate them. This finding is substantiated by studies such as West et al. (1993), Morina (2017a), Brandt (2011) and Duquette (2000) which all highlighted how a lack of knowledge and poor attitudes of staff can form barriers for students with disabilities.

The research findings have also highlighted what an extremely complex and time intensive process the transition into HE can be for students with VI. The case study interviews illustrated that in order to negotiate this process, many of the participants received a high level of support from parents. It is likely, therefore, that these complex processes could act as a barrier for students who are not able to access such levels of support.

It is also important to note the extent to which the process for putting into place support for students with disabilities in HE has been shown to rely on student disclosure during the initial application process, as supported by Getzel and Thoma (2008) also provided evidence of poor outcomes due to lack of disclosure. Riddell (1998) and Fuller et al. (2004) identified several reasons why students with disabilities may be reluctant to disclose. This highlights how important it is for *all* students to have access to information about the support available, whether they have disclosed as having a disability or not, and for there to be clear and multiple opportunities for disclosure. It also shows why it is important to be sensitive to reasons why a student may not wish to disclose and to put mechanisms in place to accommodate this.

There are notable tensions with these conclusions as it could be argued that true inclusive practice should remove the need for the student to disclose. However, it is important to consider research evidence such as Morina (2017a) which described a difficult and “fragile” transition process for students with disabilities which can easily lead to student drop out, as well as West et al. (1993) and Vickerman and Blundell (2010) who identified the importance of tailored transition support. Furthermore, in my presentation of the theoretical framework underpinning this research, I have argued the importance of looking beyond a social model of disability which takes the view that it is simply society that disables physically impaired people, and instead to acknowledge the significance of that individual's impairment and the complexity of the interaction of a number of factors in an individual's life. A significant finding from the literature review was how commonly students with VI benefited from individualised adjustments, designed to support them as independent learners (Betts and Cross, 2010; Brazier, 2013; Cole, 2013; Gorlewicz et al., 2014; Harshman et al., 2013; Kugler and Andrews, 1996; Marson et al., 2013).

10.6. RQ2: HOW INCLUSIVE IS HIGHER EDUCATION FOR STUDENTS WITH VISION IMPAIRMENT?

The second research question investigated how inclusive the HEIs were for the participants by looking at examples (or failures) of inclusive practice, as well as situations where it was necessary to overcome barriers through individual adjustments. Anderson et al. (2014) recommended judging how inclusive an educational environment is through making observations of three key principles: 'participation', 'achievement' and 'value'.

10.6.1. PARTICIPATION

Having faced barriers to participation on their courses, four of the participants failed to complete their first year. In each case the HE provider accepted responsibility for not having made reasonable adjustments and compensated the participants accordingly. Whilst other participants persevered with their courses, they identified many challenges which prevented full participation, largely due to a lack of *anticipatory* adjustments. This aligns with previous research findings which found that often despite there being legislation in place to support students with disabilities, the requirements of this legislation were often not met (e.g. Brandt, 2011; Fuller et al, 2004; Kendall, 2016; Morina, 2017a; Riddell, 1998; West et al..1993). Examples of anticipatory adjustments included providing reading lists in sufficient time for alternative formats to be sourced and arranging for students to be able to move into accommodation early to allow them sufficient time to learn key routes across campus. Failure to make anticipatory adjustments led to various ongoing challenges for the participants such as not being able to get to lectures independently, not being able to discuss reading material in seminars, not being able to make module choices and even, in one case, not being able to take an exam until the following academic year.

A significant point of note is how the failure of HEIs to make anticipatory adjustments often led to the student’s academic year being extended, for example, by asking the student to sit assessments during the summer holidays or even (in a small number of cases) to return the following academic year and repeat an entire year of their course. This could have long-term implications for the students who could potentially have used the summer break as a time for other activities such as internships or voluntary work. Additionally, whilst in each case where the student had to repeat an academic year the institution offered to pay for the associated course fees, no contribution was made towards living costs or to compensate for (potential) lost earnings.

10.6.2. ACHIEVEMENT

The literature identified primarily interpreted achievement in terms of whether the student was able to access the course or not, and tended not to report on broader outcomes. One key measure of achievement that they did use, however, was whether the student was facilitated to work independently or not (e.g. Cole and Slavin, 2013; Gorlewicz, 2014). Many of the participants spoke positively about the grades and degree classification they obtained, although their achievements did not always follow the same timescales as their peers. For example, as it was common for academic staff to rely on students' use of deadline extensions to compensate for the barriers they experienced, this passed pressure onto other deadlines.

A small number of participants expressed disappointment at the grades they obtained, which they attributed directly to the barriers they encountered. Academic attainment has particular significance for students once they leave HE and look to enter into the labour market, as degree classifications are viewed as a 'signal' to employers of an individual's overall ability (Feng and Graetz, 2013). It is not uncommon for job specifications to stipulate a minimum degree classification, and participants who achieved lower grades as a consequence of poor inclusive practice could be unfairly restricted in their future careers. One participant who was NEET 18 months after completing HE found that she was unable to apply to graduate jobs due to her lower degree classification. Lower attainment also has implications for students who may have wished to continue with further study. This was true for one student who felt that his institution did not make sufficient adjustments during his examinations when he was facing medical problems associated with his VI and he ultimately achieved a final degree classification which was lower than expected. He had been offered a funded place on a Masters course, but could not meet this conditional offer as a consequence of the lower final grade. Whilst these findings extend beyond the participants transition into HE, it emphasises the importance of having clear strategies in place at the start of the course to ensure that a student is able to access their chosen course.

Achievement, however, is broader than simply academic attainment per se and can also relate to the development of certain skills, such as the ability to use specialist tools and software. One participant was disappointed that adjustments were not in place to enable her to learn to use the statistical software she considered to be a core component of her course. In contrast another participant spoke positively of having had the opportunity to learn to use equipment in practical geography sessions as a result of the careful and considered planning by his department. These discussions had largely taken place prior to him starting on the course.

10.6.3. VALUE

Anderson et al. (2014) drawing upon work from Aspin (2007), defined value as “being accepted, respected and seen as important and capable of doing” (p25). Positively, the interviews demonstrated that overall the participants felt they were treated in the same way as their peers and held to the same expectations. However, it is worthwhile remembering that some of the participants based their choice of HEI partly on the apparent willingness of staff to accommodate their disability; suggesting a bias towards more accommodating HEIs.

Whilst many of the participants reported that they did not feel that they were viewed any differently to their sighted peers, this was less true for participants with severe VI. For example, one DS officer described academic staff as “scared” of working with students with severe VI while one parent described observing the “panicked” reactions from staff at open days at some HEIs when they saw her son approach them with his long cane.

Unfavourable attitudes from staff can negatively impact students with disabilities in ways beyond simply their level of attainment. For example one participant found that a lack of reasonable adjustments from staff affected her general attitude towards her studies:

> “No, it makes a big difference as well, because it makes you feel more included in what’s going on, but it makes you feel more sort of welcome and gives me more of an incentive to bother, I guess. Whereas one of my sociology lecturers, told me point blank at the start of the semester that he wouldn’t be altering anything for me, because I have DSA and stuff they should be doing it for me…it’s just discouraging isn’t it.” (Severely sight impaired, uses a screen-reader and braille display)

In contrast, another participant highlighted the willingness of lecturers as being of particular significance to his overall positive educational experience (and ultimately his enthusiasm to continue with further study). When asked if there had been anything that was particularly helpful to him, he responded:

> “The willingness of the lecturers to embrace a blind person. And to understand that I do need extra help and assistance, and they have not kicked up a fuss about it.” (Severely sight impaired, uses a screen-reader and braille display)

A further way in which value can be demonstrated to students with disabilities is through acceptance from, and integration with their peers. Three participants identified occasions when they felt left on the fringes during group work. They gave several explanations for this, including barriers in accessing the course material, their peers’ apparent perception of their educational ability, and their peers caution in interacting with them (apparently in case of causing offence). Lewin-Jones and Hodgson (2004) argued that other students should take responsibility for facilitating adjustments as well as staff.

Finally, interviews with academic staff demonstrated that whilst they did value the students they were supporting, and in principle would like to provide greater support to students with disabilities, the amount of resource available to facilitate this was limited. For example, one welfare tutor explained that he felt unable to commit any time towards preparing for the arrival of a student, until she had received her A-level grades and had officially accepted a place on their course. This also meant that staff had limited opportunities to develop their knowledge on inclusive practice – a common findings in the literature review (e.g. Brandt, 2011; Fuller et al, 2004; Kendall, 2016; Morina, 2017a; Riddell, 1998; West et al, 1993).

10.7. RQ3: HOW WELL PREPARED ARE VISION IMPAIRED STUDENTS FOR BEING INDEPENDENT LEARNERS IN HIGHER EDUCATION?

The third research question investigated how prepared the participants were to act as independent learners once they entered HE. This included considering how prepared they were to partner with the institution and also to develop new skills. As discussed in the conclusions of the literature review in Chapter 2, the majority of the research evidence identified tended to focus the experiences of young people with VI in HE in isolation, without considering the life experience of the student up to that point. Therefore the broader focus of this thesis offers an important contribution to knowledge.

Previous research has identified a number of enablers for young people with VI to have successful transitions into adulthood. Many of these mirror the key components of the 'additional' or 'expanded core curriculum' (e.g. Capella McDonnall, 2011; Crudden, 2012, and Keil, 2016). These include skills for accessing information, getting around independently, and self-advocating. Importantly the chapter investigated not only whether the young people were able to display these skills, but also what helped (or hindered) them in developing these skills and being prepared for living and working independently in HE.

The themes which emerged included the value of being able to draw upon previous experiences in their new setting, having received the opportunity to develop the specific skills that they might need, and having had access to key information to be able to make informed decisions and advocate.

The significance of self-advocacy skills was a recurrent theme across the findings and in the research literature (e.g. Eckes and Ochoa, 2005; Feldmann and Messerli, 1995; Ostrowski, 2016). Similarly, the findings supported research literature which argued the importance of personal attributes such as self-determination, and resilience (e.g. Getzel, 2008; Ostrowski, 2016).

These conclusions mirror the findings of previous studies which have highlighted the significance of the contribution that the student themselves makes to their learning experience (e.g. Getzel and Thoma, 2008; Morina, 2017a and Diquette, 2000), and therefore the necessity to evaluate the experiences of the student in the context of his or her role as an independent learner. This means that it is necessary for there to be a focus on the personal agency that the individual has developed during their life. Personal agency is a term which is used across multiple disciplines, each with their own nuances, and as such is complex to define. Bandura (2006) stated that “to be an agent is to influence intentionally one’s functioning and life circumstances” (p164) while Little (2002) suggested that agency “functions as a personal resource for facing the challenges that emerge throughout development" (p223), and argued that "by explicitly examining the role of agency in development, we can identify those features of both individuals and contexts that maximally contribute to the agentic self and successful development along the life course" (p237). This perspective is echoed by Evans (2002) who noted that there is a "need to reconsider both structural influences and the sense of agency and control displayed by young people as they move into adulthood and various stages and forms of independence" (p246).

This of course should not detract from the HEIs responsibility to provide an inclusive educational experience for students with disabilities and to make appropriate reasonable adjustments, as well as the role of education and society to develop systems which facilitate children and young people with disabilities to become equipped with the skills and experiences that they need to successfully make the transition from school and into adulthood.

10.8. THE BALANCED MODEL OF SUPPORT

The systematic literature search identified possible tensions for HE institutions supporting students with disabilities. Whilst educational support models, including key support models in UK Higher Education (e.g. Department for Education, 2017), focus on removing barriers through inclusive practice, much of the literature identified (also supported by the findings of this thesis) calls on institutions to also make appropriate individualised adjustments. Additionally, these support models tend to focus specifically on the role of the institution without considering the contribution of the learner. To assist the navigation of these tensions, in Chapter 9 I drew on the research findings to develop a new conceptual model, ‘the Balanced Model of Support’. This model calls on institutions to develop support strategies which balance the need for inclusive practice, whilst also recognising the need for individual support at times. Importantly, however, this support should facilitate learners to work as independently as possible, should consider the role of the learner, and should be seen as progressive and mutual. This model offers an important contribution to future debate on how best to support students with disabilities, particularly in the current context in which research evidence, (including this study), demonstrate that students with disabilities still face significant barriers in HE (e.g. Brandt, 2011; Fuller, 2004; Kendall, 2016; Morina, 2017a; Morina, 2017b).

10.9. POTENTIAL LIMITATIONS OF THE STUDY

10.9.1. APPLICATION OF FINDINGS AND RESULTING MODELS

When applying the ‘Bioecological Model of Inclusive Higher Education’ and the ‘Balanced Model of Support’ developed through this thesis, it is important to recognise possible limitations of the underpinning study. Firstly, the study focuses specifically upon the experiences of students with VI in the UK, and therefore the wider experiences of students with disabilities may not be truly reflected in this evidence. Secondly, while the views of some HEI staff have been included through case studies, there is an emphasis towards experiences from the student’s perspective and a lack of interpretation from the perspective of professionals.

While the proposed models have relevance for HEIs supporting students across disability groups and in other countries, further research is recommended to explore these broader contexts to increase understanding of the interactions between the student and the environment in which they are situated.

10.9.2. STUDY DESIGN

A review of literature has identified how valuable longitudinal studies are for investigating transition experiences, as well as some potential pitfalls for using this methodology (Holland et al., 2006; Henwood and Lang, 2003). Positively, Bishop and Rhind (2011) concluded after their investigation into the experiences of young people with VI in HE, that the best way to understand this transition journey was through a longitudinal design. One particular advantage of using a longitudinal approach, as previously identified by Farrall (2006), was that it enabled me to follow the participant’s transition experiences as they occurred, rather than through retrospective accounts. Equally, having access to contextual information has proved extremely beneficial when obtaining the participants reflections on how prepared they were for making the transition to HE. There are also a number of potential weaknesses observed with LQS which should also be taken into account. Positively, most of the weaknesses and challenges observed in Table 15 have been successfully navigated. For example, it has been possible to maintain funding to continue the study for long enough to observe the changes of interest, and to maintain the sample through a successful engagement strategy.

One further potential weakness identified by Farrall (2006), was that whilst there are positives in having the same person collecting data from participants (most notably gaining their trust for discussing difficult topics), this can lead to a loss of objectivity and a partial perspective when analysing and interpreting the findings. This challenge was overcome to a degree by drawing upon the advice of members of a large steering group for assistance in interpreting the research findings and by another researcher independently coding the data collected as part of Stage 2 of the data analysis, to help verify the analysis conducted. It is important, however, to be mindful of these potential limitations when reviewing the evidence presented.

There are also potential researcher effects due to working with the participants over a long period of time (e.g. Yates and McLeod, 1996). This is particularly true of situations where I believed it necessary to make a form of intervention. For example, I chose to inform some students who were unaware of the DSA scheme how to find out further information about it. This I believe to have been the correct ethical action (as supported by the University of Birmingham Ethics Committee), with such compromises forming a necessary part of conducting social research.

10.10. CONTRIBUTIONS AND NEXT STEPS

The comprehensive literature review into the experiences of students with VI in HE has highlighted that this is a unique study, both with respect to the number of students surveyed, but also in terms of the length of time in which the participants were followed. It therefore forms an extremely valuable source of evidence for understanding the complex experiences of this minority group of young people.

The findings in this thesis have implications for policy-makers, specialist services supporting students with VI in compulsory education and HE providers. Firstly, the research findings demonstrate that there are currently many failures in the support model for students with VI. Of particular note is a failure to make anticipatory adjustments, and a lack of understanding of HE staff of their legal responsibilities towards supporting students with disabilities.

Secondly, it is interesting to note that despite so many of the participants experiencing problems on their courses, only one participant brought a formal complaint against the institution that they attended, and instead they were satisfied with the less formal solutions their HEI proposed. A small number of participants who consistently faced challenges during their time in HE expressed fatigue at having to fight battles, and indicated that they did not have the energy required to follow the official complaints process. It is therefore important that when government agencies monitor HEIs to assess how inclusive they are of students with disabilities, the metrics used look at the overall student experience and not just participation rates.

Thirdly, the findings have illustrated the importance of students with VI being empowered through the compulsory education system to develop personal agency, in order to be equipped with the necessary skills and experiences they require to make the transition into HE, and adult life more generally. Positively, the research findings demonstrate the value of an additional/expanded core curriculum, with many of the skills and experiences identified by the young people as important enablers linking directly to the support they received through specialist educational services. However, the findings also highlight that not all of the participants arrived with the skills that they required for participation in HE. This aligns with findings from RNIB (Keil, 2016b) which indicated a ‘postcode lottery’ of support for young people with VI across the UK. In England, the new Code of Practice with its focus on ‘Pathways to Adulthood’ has huge potential for facilitating interventions which ensure that young people with VI leave school prepared with the skills that they need to succeed in HE, and in adulthood in general.

Fourthly, the findings have highlighted how important it is for students to partner with HEIs, to develop strategies of support in the form of progressive mutual accommodations. This was challenging for some of the participants who did not have the necessary self-advocacy skills to work with staff at their respective institutions. There were also challenges where HE staff believed that they did not have the resources or expertise they required to be able to work with the student. In particular there were HE staff who said that they had not received any training to rethink their teaching pedagogy for developing inclusive practice. These findings indicate that HE institutions need to develop new strategies of support, by ensuring that responsibilities towards supporting students with disabilities are reflected in workload models, and also that staff have the necessary training to be able to develop their teaching practice accordingly.

Finally, the findings have been brought together to propose new conceptual models for interpreting the experiences of students with disabilities in HE (the Bioecological Model of Inclusive Higher Education), and for delivering support to students with disabilities (the Balanced Model of Support). These models acknowledge the complexity of the interrelated support systems for students with disabilities and the important role the learner has as an active agent within this system. The Balanced Model of Support investigates how HE providers might find an appropriate balance through the removal of barriers by inclusive practice, while addressing individual needs of learners through reasonable adjustments (where required), all facilitated by the individual learner drawing upon the skills and experiences they have developed during the course of their life. This model builds upon previous models of support by additionally acknowledging the role of the learner, the importance of partnership, and the need for mutual accommodations. For example, despite research evidence highlighting what an important contribution the student makes to their overall learning experience, support models such as Department for Education (2017) have not formally recognised the role of the student. In this respect the proposed Balanced Model of Support broadens the current debate. The model proposed also acknowledges the importance of viewing the support provided as progressive, by allowing opportunities for the student and institution to work together to find appropriate solutions which, over time, allow the student to become progressively more independent.

This conceptual model therefore makes an important contribution to the understanding of the inclusion of students with disabilities in HE. This is particularly relevant to the UK as HEIs respond to government funding reforms that have placed more responsibility on institutions to develop inclusive practice in order to remove barriers to participation. While the findings presented relate specifically to the experiences of students with VI in the UK, the papers and documents reviewed during the literature review have highlighted that there are many similarities in the experiences of students with disabilities across both countries and impairment type.

Positively, the research findings have already led to significant impact in the United Kingdom. Firstly, the research has been used to inform government policy towards Disabled Students’ Allowance. This knowledge exchange originally came about following a response to Department of Business Innovation and Skills who consulted about proposed changes to DSA. This submission led to me being invited to attend a roundtable discussion with civil servants who were consulting on specific changes to DSA which related to students with VI. Parallel to this, Thomas Pocklington Trust drew upon the research evidence to develop a campaign to challenge current government policy (Chattaway, 2019). As a result of this campaign, I was invited to meet with Universities Minister Chris Skidmore MP and to present evidence at a joint meeting between All Party Parliamentary Groups (APPG’s) for Eye Health and Visual Impairment, Young Disabled People and Assistive Technology in Spring 2019. The campaign has since received cross-party support from MPs and Members of the House of Lords. The campaign resulted in a roundtable meeting between civil servants and key stakeholders who work with students with VI and a roundtable event will be hosted by the Universities Minister to hear directly from students with VI on their HE experiences in May 2019.

After hearing about the Longitudinal Transitions Study through project partner RNIB, the Office of the Independent Adjudicator for Higher Education (OIA) invited me to provide a policy brief outlining the key issues faced by students with VI in HE.

The findings presented in this briefing document have subsequently been used to guide OIA staff when reviewing complaints from students with VI and have also been used by OIA to present a case study in a Good Practice Framework for Higher Education providers (OIA, 2017).

As a result of evidence from this study showing that university professionals do not often have the specialist expertise for supporting students with VI in HE, I was commissioned as part of a Department for Education contract to produce guidance resources for HE professionals (NatSIP, 2018). By December 2019 this resource, which uses illustrative case studies from the study, had been downloaded over 1000 times. The resource sits alongside a further resource which was developed for young people with VI who had, or were, intending to make the transition into HE. Again, the contents of this resource draws heavily upon the findings and case studies from the research (RNIB, 2017).

In conclusion, this doctoral study has allowed me to collect a qualitative data set which is unique with respect to both the number of participants represented, and the depth of the evidence collected. The thesis has offered two conceptual models which can be applied by other researchers interested in inclusion in HE. Through the lens of the bioecological model it has been possible to gain a comprehensive understanding of the complex experiences of students with VI when in HE, and then to apply these findings to develop the ‘Balanced Model of Support’, to propose to HE providers and policy makers how best to include students with disabilities in HE in such a way as to ensure they have an equitable experience, whilst facilitating them to become independent learners.

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12. APPENDIX 1: INTERVIEW SCHEDULES

12.1. OVERVIEW

The following sections provide an overview of the questions that were asked at different stays of the investigation into the participations experiences in Higher Education. These are as follows:

- Planning to transition into HE – these questions were posed to participants following their initial applications for an HE course (sub-section of larger interview schedule)
- End of first year interviews – these questions were posed to participants after their first year in HE (standalone interview schedule)
- Follow up interviews with all participants – these questions covered a broad range of topics and were posed to all participants who had entered HE (standalone interview schedule)
- Longitudinal tracking interviews – these questions were posed to participants each year as they continued in HE (sub-section of larger interview schedule)

were semi-structured interview schedules, with appropriate follow-up questions being asked where relevant.

12.2. PLANNING TO TRANSITION INTO HE

Which university are you planning to go to?

Which course are you planning to study?

Have you got a reserve choice university? Which one?

Which course have you chosen as your reserve choice?

Why did you decide to apply to this (these) university and course?

How accessible, in relation to your visual impairment, did you find the application process?

Did you ‘declare’ your visual impairment when you applied to the university?
[‘declare’ here means that you formally stated you had a visual impairment / disability on the university application form]
Yes [ ]
No [ ]

Details:

Did any of the universities make any provision in the application and visiting process in relation to your visual impairment?
Yes [ ]
No [ ]

Details [this might include participant feeling additional provision is not necessary]:

Have you spoken to anyone from your chosen department about your visual impairment and the support that would be made available to you?
Yes [ ]
No [ ]

Details [this might include participant feeling additional support is not necessary]:

Have you spoken to anyone from the disability support office about your visual impairment and the support that would be made available to you?
Yes [ ]
No [ ]

Details [this might include participant feeling additional support is not necessary]:

Do you know if you would be eligible for disabled student allowance?
Eligible [ ]
Not eligible [ ]
Unsure [ ]

[If relevant] Have you started to look into the process of applying for disabled student allowance yet?
Yes [ ]
No [ ]

[If relevant] Could you tell me more about your experience so far of applying for disabled student allowance?

Have you had any support from the Visiting Teacher Service /school of college staff in applying for university (and DSA, if applicable)?

University:
Yes [ ]
No [ ]
Who: ……………….

DSA
Yes [ ]
No [ ]
Who: ……………….

12.3. END OF FIRST YEAR INTERVIEW

12.3.1. CURRENT STATUS

Last time we spoke with you, you said that you were studying [ ] at [ ] University. Is this still the case?

Yes [ ]
No [ ]

[If no] What are you doing now?

Details

12.3.2. FOR THOSE WHO HAVE DROPPED OUT OF UNIVERSITY COMPLETELY

I will ask some specific questions about your university experience shortly, but could you just explain to me briefly what has led you to this decision?

Are you considering going back to university at a later date?

12.3.3. SECTION 1: DISABLED STUDENTS' ALLOWANCE

Note whether they applied for DSA before or not and ask questions as appropriate.

Were you successful in applying for DSA? Could you tell me more about the process you went through in applying for DSA? What was the assessment of needs like? Did you have any problems? Anything that you would like to see changed, or that you thought was particularly good?

What was offered as part of DSA? (Equipment/Assistance/Extras) (Prompt: if equipment were they given sufficient training?) Were you happy with this? How much input did you have in this process? Looking back is there anything that you would change? Were you given any equipment you didn't use? Was there anything that you would have benefited that you have to press to get/get yourself or were unable to access?

12.3.4. SECTION 2: DISABILITY SUPPORT OFFICE

Now I would like to ask some questions about the contact and support you have received from the disability support office

Could you tell me about the contact that you had with the disability support office at the start of your course? For example: did you speak to them before you started on the course? Did you have a meeting with them when you arrived? Did you have any sort of induction programme?

Are you happy with the initial contact that you had? Is there anything that you think should have been done differently? Is there anything that you thought was particularly good?

Could you tell me about the support that you are receiving through the disability support office? (Prompts: Speaking to department on their behalf; mobility; note taker; training/advice in using equipment; anything else they can think of?)

Have you got a particular contact within the office? Could you tell me more about the relationship that you have with the Disability Support Office?

Are you happy with the support that has been providing by the disability support office so far? Is there anything you would change? Anything that has been particularly good?

Is there anything else you would like to say about the Disability Support Office?

12.3.5. SECTION 3: ACCESSING LECTURES AND LEARNING MATERIAL

I'd now like to ask you some questions about how you have been accessing information in both your lectures/seminars and as part of your personal research.

Could you tell me about how you have found it so far in terms of accessing information in your lectures/seminars? What provisions have your department made? Have these arrangements been met? What are your relationships like with your lecturers? Do they respond well to you? What are you personally doing to ensure you can access lectures (e.g. reading material before lecture?)

Have there been any problems with accessing your lectures, however small? Has there been anything that has been particularly helpful for you?

How would you go about accessing lecture material outside of lectures? Does the university use a virtual learning environment? How well are you able to access this? (Prompts: tools used)

Could you tell me how you go about accessing other learning materials, for example, books from the library or journal articles? Have there been any provisions made for you? Have you had any difficulties? Anything that has been particularly good? (Prompts: tools used)

Is there anything else you would like to say about how you access information in lectures/seminars/as part of individual work?

12.3.6. SECTION 4: ARRANGEMENTS FOR EXAMINATIONS AND OTHER ASSESSED WORK

Now I would like to ask you some questions about any arrangements that have been made for any exams or assessments you had.

Could you tell me about how your work has been assessed this year? (Prompts: exams; coursework)

Were any arrangements made for your exams? Could you tell me more about these? Were you happy with the arrangements made? Anything that you would change?

Were any arrangements made for your coursework? Could you tell me more about these? Were you happy with the arrangements made? Anything that you would change?

Is there anything else you would like to say in relation to arrangements for exams and other assessed work?

12.3.7. SECTION 5: GENERAL LIFE AT UNIVERSITY

I am now going to ask some more general questions about your life at university

Could you tell me more about where you have been living in relation to the university? How do you get to university? How would you get to your lectures and around the university? Do you feel confident in doing this? Has anything in particular helped/hindered?

How would you get about outside of lecturers, for example, getting to the supermarket, going into town, going to the cinema? Do you feel confident in doing this? Has anything in particular helped/hindered?

Have you joined any societies/sports teams/music groups at the university?

How have you found it getting to know your peers? Has this changed at all over time?

Have you made any arrangements for where you are going to be living next academic year? Could you tell me about these?

Have you looked into getting a part time job whilst at university?

Is there anything else you would like to say about general life at university?

12.3.8. CONCLUSION

How happy are you with your plans for next academic year on a on a scale of 1 to 6, if ‘1 is very happy’ and ‘6 is very unhappy’

Is there something else you would prefer to be doing?
Yes [ ]
No [ ]

Is yes, what?

Why will you not be pursuing this option?

What are your plans for the summer holidays? (Prompt: Travel; Work; Internship)

Have you anything else that you would like to say about your first year at university? Or maybe something more general that you think would be useful for us to know?

12.4. FOLLOW-UP INTERVIEWS WITH ALL PARTICIPANTS

12.4.1. BACKGROUND INFORMATION

Name of Participant

Course

University/Higher Education Institution

Year of course recently completed

Total duration of the course

Results in this academic year
(Note if final degree classification)

Lived away from home?

Plan for next academic year

Details of any deviations

12.4.2. SECTION 1: DISABLED STUDENTS’ ALLOWANCE

I would firstly like to ask you some questions about Disabled Students’ Allowance. I have recorded that you did/did not apply [delete in advance as appropriate] for disabled student allowance. Is this correct?
Did apply [ ]
Did not apply [ ]

For those who did not apply for DSA:

Could you tell me more about the reason you did not apply? Prompts: advice from others; perceived need; time involved; not wanting to identify as disabled

Do you recall how you identified your DSA assessor? Prompts: local assessor; advice from university/HE institution; advice from friend; advice from school

We have heard mixed reports from participants with regards to how well their DSA assessor was able to provide advice and cater to them as a person with a visual impairment. Some participants were very positive and felt their assessor gave helpful advice and guidance, whilst others were less positive. On reflection, would you be able to tell us more about your experience?

[For those who have had an assessment since previous interview]. Were you successful in applying for DSA? Could you tell me more about the process you went through in applying for DSA? What was the assessment of needs like? Did you have any problems? Anything that you would like to see changed, or that you thought was particularly good?

DSA applications and funding decisions

Did you ever apply to have you initial Disabled Students’ Allowances Needs Assessment Report amended in any way? For example, you may have requested to have more mobility support.
Yes [ ]
No [ ]

Details

The amount of funding available for applicants of Disabled Students’ Allowance is currently capped. Were you aware of this? Do you know if you reached this maximum amount of available funding in your application?
Yes [ ]
No [ ]
Unsure [ ]

Details

[If did reach limit]. Did the university/HE institution assist in any way by "topping-up" this amount, or by assisting you in applying for a separate funding source?
Yes [ ]
No [ ]
Unsure [ ]

Details:

The Disabled Students' Allowance budget is made up of three components:

- Specialist equipment allowance - £5,212 for whole course
- Non-medical helper allowance - £20,725 per year
- General allowance - £1,741 per year

We have spoken with some participants who said that their assessor "borrowed" money from one pot to supplement another pot. For example, taking some of the general allowance to supplement the equipment allowance. Is this something that your assessor did?
Yes [ ]
No [ ]

If yes, further details

[If no] Is this something that you may have benefited from?
Yes [ ]
No [ ]
Unsure [ ]

Details:

With consideration to the funding structure of Disabled Students' Allowance I just described, we are interested in finding out more about your views in how appropriate it has been for you as a student with a visual impairment. If you had the opportunity to speak with a policy maker who has responsibility for Disabled Students' Allowance, do you have any ideas you would like to share with them? Prompts: Positive features of DSA/Negative features

Is there anything else that you would like to say about DSA applications and funding decisions?

Equipment
I would now like to ask some questions specifically about the equipment which you were allocated as part of your Disabled Students' Allowance package.

In previous interviews you informed us that you were given the following equipment: [Complete in advance of interview]

Is this correct? Has anything been missed from the list?

Did you receive the equipment allocation that you were hoping for/expecting? Prompts: correct spec of computer; correct software; correct specialist devices?

Equipment through DSA is provided by different companies across the country who respond to tenders. Would you be able to tell us more about your experiences with the company who supplied your equipment? Prompts: name of company; correct allocation; training; delivery of equipment; support after delivery

Would it be possible to tell us more about your experience of using the equipment which you were given as part of DSA? Prompts: How many participants experienced problems? How many had to send equipment away for repair? How quickly were these repairs made? Were they able to continue working whilst they waited for their equipment to be repaired?

We have also heard experiences from participants who have sought to be given equipment which traditionally DSA would not provide. Examples would include Apple Mac computers or tablet computers. Did you look to apply for anything of this nature? Could you tell us more about your experience of this?

[f not] Would you have benefited of anything of this nature?

Did you do any research prior to your needs assessment to consider the equipment that you would best receive? Looking back, do you think this would have been beneficial to you? Did your needs assessor provide you with an opportunity to review any equipment prior to committing to it?

Is there anything else that you would like to say about your equipment allocation through DSA?

Non-medical support

Finally I would like to ask you some questions about the non-medical support which you received through DSA. Typically non-medical support is provided by an organisation external to the institution which you are studying at.

We have recorded that you received the following non-medical support [Complete in advance of interview]. Is this accurate?
[If participant now receiving non-medical support make a note of these details

How the support was delivered at your university/HE institution, and your experience of this?

[For those who received note-taker support] One of the most common examples of non-medical support received by students with visual impairment is note-taker support. On reflection, how beneficial was this to you in your studies?

We will cover mobility and orientation support in the next section. Is there anything else that you would like to say about your experience of non-medical support through DSA?

12.4.3. SECTION 2: SUPPORT PROVIDED BY HIGHER EDUCATION INSTITUTION

I would now like to ask some questions about the support which is provided to you by your university/HE institution

Previously you informed us that you were receiving the following support/were not receiving any support through your HE institution: [Complete prior to interview]. Is this still accurate?

[For those it applies to] Previously you informed us that you did not make contact with the disability support office. Did this change? Whilst you were not the only participant not to make contact with the DSO, we are interested in knowing more about why you made this decision

How well do you think your disability support office understood and were able to cater for their visual impairment. Would you tell us more about your experiences?

How well do you feel that your disability support office were able to communicate your needs to your department, and how well do you feel the department were able to respond to this?

Would you be able to share more of your experience of receiving accessible copies of any learning material (such as lecture notes, reading material and textbooks), and also share more of how this worked practically in the institution which you attended? How well did this work? Prompts: Positives/Negatives

A challenge to many young people with a visual impairment can be accessing the library and accessing journal articles. Would you be able to tell me about your experience accessing journal articles, and about the support that was available for you to do this? How well you were able to do this independently?

Many participants have spoken of receiving lecture material being made available to them in advance in an electronic format. Is this true in your experience? Could you tell us more about this? Prompts: How would they access the material; How reliable were lecturers in doing this

[For those participants who are unable to access print] We are also interested in how you approached formatting essays and referring? Did this pose any challenges to you, specifically in relation to your visual impairment? Would you be able to tell us more about how you practically went about doing this, and give details of any support which you received, if any? If you did receive support, was this funded by DSA, or by the university/HE institution themselves?

We are also interesting any access arrangements that you may have had when taking examinations. Would you be able to tell us more about:

- Any access arrangements that you had for exams

- How these were access arrangements were coordinated
- The input that you had in developing these arrangements
- How the arrangements worked in practice

According to the Equality Act 2010, education providers should make ‘reasonable adjustments’ to ensure that students are able to access their courses.

Is ‘reasonable adjustments’ a concept which is familiar to you?

A reasonable adjustment is a reasonable variation or alteration made an educational providers processed so that a disabled student can access without disadvantage the educational opportunity of the institution without compromising the expected academic standards. Such reasonable adjustments could apply to:
(i) The process of admission
(ii) The delivery of teaching, consistent with the learning outcomes of a programme or module
(iii) The examination and assessment process

When it comes to your own personal learning needs, what would you consider to be the reasonable adjustments that a university/HE institution should make?

How well do you think your university/HE institution has met the requirements of the Equality Act?

Is there anything else that you would like to share regarding the support that you received through your higher education institution?

12.4.4. SECTION 3: MOBILITY SUPPORT, INDEPENDENT LIVING AND ADULT SERVICES

In this next section I will cover three key areas:

- Mobility support
- Independent Living
- Adult Services

Mobility Support
During your time at university/higher education, did you have any mobility training/support?
Yes [ ]
No [ ]

Was this provided through DSA?
Yes [ ]
No [ ]
Unsure [ ]

Who coordinated the initial provision of your mobility support? Could you tell us more about this? Prompts: When did it start? Early enough?

When did your mobility support start? Were you happy with this? Ideally when would you have liked it to have started? [If started before Freshers, how did this work out practically?]

Who provided the mobility support that you received? Was it someone employed by the university/HE institution, or an outside such as a social services department or Guide Dogs?

What type of routes did your mobility support cover? Prompts: Getting to lectures, campus, library, university/HE institution facilities, outside of campus?

How accessible have you found your higher education institution to be in terms of getting around/navigation? Prompts: Buildings; Outside spaces; Rooms; Positives; negatives

Were there any routes/environments that your mobility support did not cover, which you would have liked it to have done? Prompts: university/HE institution, away from university/HE institution, popular student areas

What would you say was positive about the mobility support which you received? Was there anything negative?

Is there anything else that you would like to share in relation to mobility support at university/HE institution?

Independent Living

I would now like to ask some questions about independent living when at university/HE institution.

Would you firstly be able to give me an overview of where you have lived during your time at university/in HE? Prompts: at home; university/HE institution accommodation; private accommodation

For those who live/lived at home

Living at home and commuting to university/HE is becoming increasingly more common for a variety of reasons. Would it be possible to share the reasons why you made this decision? Prompt: in any way linked to visual impairment?

How did you travel to university/HE each day, and get around campus? Prompts: Mobility support; mobility around campus?

How independently are you able to live at home? Prompts: cooking; cleaning; laundry; food shopping; bills and banking

For those who lived in university/HE institution accommodation:
What type of accommodation were you in? For example, traditional halls, shared flat, studio flat? Did you share any facilities?

How did you decide on the accommodation which you were in? Did you have the opportunity to discuss your accommodation options in relation to your visual impairment? Who was this with?

Did you have the opportunity to move into your accommodation before others did? How was this arranged? Any extra cost? Who met this cost? Early enough?

We have spoken to some participants who required larger rooms for reasons relating to their visual impairment? For example, space for a guide dog or for equipment. Was this true for you? Who met the additional cost for this? For example: DSA/HE institution/yourself?

Did you have any modifications made to your room/living areas to make them more accessible to you? How did this come about?

If you were make recommendations to a university/HE institution who were thinking about how best to cater their accommodation for someone with a visual impairment, what would you say?

For those who did not move out of university/HE accommodation/won't be moving out
We have noted that many of the participants in this study have made the decision to stay in university/HE accommodation, and many have spoken positively of this decision, whilst others have preferred to move into private accommodation. Would you be able to tell us more about your decision to stay in university/HE accommodation, rather than move out into private accommodation?

Did you feel you had enough information at the time to make the best decision? (Did you know where you could get such advice at the time, had you wanted to?)

If you had wanted to move into private accommodation, do you think this would have been a viable option for you? Prompts: Location of private accommodation; Mobility and Travel; Social; Independent living; Cost

Do you think there would have been any advantages [or disadvantages?] to you, if you were to have moved out into private accommodation? Prompts: Explain answer

For those who did move out of university/HE accommodation/will be moving out
Would you be able to tell us more about the private accommodation which you moved into? Prompts: location compared to university/HE institution; how would get to and from university/HE institution; how many sharing; type of accommodation

How familiar were you with the location which you have moved into? Had you had previous mobility support around this area? Have you had mobility support in this area since moving in?

How did you choose the accommodation? Did you have an opportunity to view your room prior to moving in? Did your visual impairment come into consideration? How did you negotiate this with other people you were sharing with?

Did you get any advice or information about your options? (Did you know where you could get such advice at the time, had you wanted to?)

Have any adjustments been made to your living accommodation, in relation to your visual impairment? Prompts: what adjustments were made; specifically who made them; if no adjustments made, would this have been beneficial?

Is there anything else that you would like to share in relation to independent living?

Adult Services

We are also interested in any other services that you might have drawn upon whilst at university. For example, we have spoken with participants who have looked to social services for additional mobility support, or spoken with participants who have used direct payments to help pay for support with their laundry.

Have you looked to draw on any services like this? Could you tell me more about this?

Our understanding from talking with other participants in the study and disability support officers is that mobility support which is unrelated to accessing your course should be provided by Social Services, rather than through DSA. Is this true of your experience? Is this something that you were aware of? Is this something which you applied for, or in hindsight would have benefited in applying for? Could you tell me more of your experience?

Is there anything else you would like to say about adult services?

12.4.5. CONCLUSIONS

One of the key differences between school or college and higher education is becoming an independent learner. To what extent do you think the support provided helps or hinders with this. In particular through:

- Disabled Students’ Allowance
- your university/HE institution
- external services

a) DSA
b) University/HE Institution
c) External services

Thank you for taking part in this interview. Is there anything else that you would like to share that you think would be relevant to this study, before we conclude?

12.5. LONGITUDINAL TRACKING INTERVIEWS

I would now like to ask you some questions about your experience at university last year.

12.5.1. FOR THOSE WHO LEFT UNIVERSITY PRIOR TO THE COMPLETION OF THEIR COURSE

Could you just explain to me what led you to this decision? [Prompts: experiences of complaints process, have they heard of OIA]

Are you considering going back to university or any other form of education at a later date?

12.5.2. FOR THOSE WHO ARE STILL AT UNIVERSITY/HAVE GRADUATED

Could you confirm which year of university you are now in, and how many years your course lasts for?

What are your plans for after you have completed university?

Have you made contact with the careers service at your university yet? Do they offer any guidance specifically for students with disabilities?

Have you applied yet for any graduate roles? Could you tell me a bit more about this? [Accessibility of the application process; Adjustments offered to applicants with disabilities]

Have you had the opportunity to take part in any activities to enhance your CV since being at university? [Internships; Paid work; Voluntary Work; Work experience]

We have spoken previously at length about your experiences as a young person with visual impairments in higher education. Is there anything that you would like to add based on your experiences last year? [Prompts: access to lecture material; access to learning material; online resources; access to exams; social side of university; mentors or equivalent]

13. APPENDIX 2: SUMMARY OF LITERATURE ON THE EXPERIENCES OF STUDENTS WITH DISABILITIES IN HIGHER EDUCATION

13.1. SUMMARY OF LITERATURE ON STUDENTS WITH DISABILITIES IN HIGHER EDUCATION

Authors and themes	Title	Overview of the study	Key Findings
Brandt, S. (2011)	From policy to practice in Higher Education: The experiences of disabled students in Norway	Qualitative study set in Norway In-depth interviews x 19 students and six employees at 4 different institutions	Aim of the study is to investigate the experiences of disabled students in Norway and, in the context of policy, explore barriers faced. Notes that "Knowledge about disabled students in higher education is fragmented. It is therefore difficult to assess whether policy goals actually promote better conditions for disabled students in." (p107)
Duquette, C. (2000)	Experiences at university: perceptions of students with disabilities	Canadian institution 36 participants in total - All took part in a questionnaire - 17 took part in narrative interviews	Structured around Tinto's model of dropping out of persistence. Model is made up of three variables: 1) Background characteristics of the individual 2) Integration into the environment 3) Social integration

		6 took part in a focus group	Findings: Background characteristics and academic integration have the most impact upon drop out/persistence. Important factors to ensure continuation: - Goal commitment - Support of family and friends - Having understanding professors
Fuller, M. et al. (2004)	Barriers to learning: a systematic study of the experience of disabled students in one university	Study at **single UK institution**. Four page survey of 173 students with a mixture of closed and open questions.	Findings: disability a factor for some when choosing course and institution. Some reluctance to access support if disability may otherwise go unnoticed. Barriers: problems with learning away from university environment. Lack of cooperation of lecturers/attitude. Library hard to access. Lack of AT. Problems with nature of assessments – time consuming and stressful. Lecturers not informed that there is a student with disabilities. Four key issues identified: 1) Need for variety and flexibility in teaching 2) Need to ensure quality as well as parity of provision in comparison with non-disabled peers 3) Information needs for students and lecturers – basis for ensuring key principles of variety, flexibility quality and parity can be achieved 4) Significance of attitudes of staff.

Getzel, E. and Thoma, C. (2008)	Experiences of College Students with Disabilities and the importance of self-determination in higher education settings.	Study based in USA – 6 locations across the same state Focus group with 34 participants and a range of disabilities Exploring the importance of self-determination for positive experiences in higher education	Key findings: • Self-determination is important for success • Participants faced problems due to not disclosing their disability • Key skills identified were problem solving, learning about oneself (including disability), goal setting and self-management • Students need to understand strengths and weaknesses • Importance of learning and experimenting to develop strategies • Importance of high expectations when setting goals • Important to organise time well Essential advocacy or self-determination skills (a) Seeking services available (b) Forming relationships with professors and instructors (c) Developing support systems on campus (d) Gaining a self-awareness and understanding of themselves to persevere
Hill, J. (1992)	Accessibility: Students with disabilities in universities in Canada	Survey of DSOs in Canada – analysis of support provided by 27 Canadian universities. Survey sent to 47 institutions and 27 responded. Three part questionnaire: 1) characteristics of the institution 2) specific student services from DSO 3)	Students with disabilities can be attracted to particular types of institutions, e.g. in this study they were attracted to smaller institutions. This can put a strain on resources if you have an overrepresentation.

		accessibility of university. The content of this survey was informed by literature.	
Hopkins, L. (2011)	The path of least resistance: a voice-relational analysis of disabled students' experiences of discrimination in English universities	UK study. Combines two methodological approaches – a life story approach and a voice-relational analysis. Study explores the barriers faced by students with disabilities by listening to first person accounts. Six participants from four English universities.	Despite legislation protected students with disabilities, research evidence highlights that they still face barriers. Findings: - Students with disabilities have to work harder than their peers, due to a range of barriers. - Students with disabilities are making choices to minimise these barriers, thereby restricting their range of options.
Kendall, L. 2016	Higher education and disability: Exploring student experiences	UK based study. Small qualitative study of 13 participants. Sought to listen to the student voice.	Findings: - Reluctance to disclose – perceived stigma - Disability services a positive resource - Learning support plans too generic Barriers identified: - Staff being unaware of a student's disability - Unwillingness to make reasonable adjustments - Lack of assessment choice Recommendations: Institutions should encourage students to disclose and should provide opportunities to do so Training around disability awareness important Individualised learning support plans
Kilpatrick, S. et al. (2017)	Exploring the retention and success of students with disability in	Australian study. Two parts: 1. Secondary data analysis of	Makes some recommendations, but limited evidence presented on the student experience. This include:

	Australian higher education	performance data (success, retention) 2. Interviews with DSOs Recommendations drafted and circulated to participants for validation	- The need for an institution wide approach to inclusion - Ensuring that policy is flexible enough to meet the needs of disabled students in all contexts. - Ensuring support services are integrated into mainstream. - Training for staff and clear communications. - Discrete and ongoing opportunities to disclose. - Support for students with disabilities to develop self-management and resilience skills. - Anticipatory approach to learning materials – e.g. audio capture/description.
Knight, W. et al (2018	Persistence to graduation for students with disabilities: implications for performance-based outcomes	USA study Secondary data analysis of data collected on over 32,000 students	Study found that it can take students with disabilities longer to graduate than non-disabled peers.
Lopez-Gavira, C., and Diez, M. (2017)	The ideal university classroom: Stories by students with disabilities	Spain Qualitative study with 44 participants – longitudinal approach – group and individual interviews. The research questions considered were: What changes can be made in methodologies to support the inclusion of students? How can the attitudes of lecturers	Findings – the ideal university classroom: - Inclusive teaching: range of options, cater for different characteristics, lectures accessible to all, opportunity to develop key skills for employment - Lecturers attitude: need for lecturers to take on "an active and committed role with a view to full inclusion of students with disabilities at university" (p152). Curriculum designed with all students in mind.

		facilitate the learning of students? What should essential teacher training on disability include?	- Awareness training: a gap in knowledge for lecturers, important for them to be resourced to understand the diverse needs of students
Mamiseishvili, K. and Koch, L. (2011)	First to second year persistence of students with disabilities in postsecondary institutions in the United States	USA study Secondary analysis of data collected through the Beginning Postsecondary Students Longitudinal Study. Nationally representative sample of students, 18,640 individuals	Significant predictors of persistence of students with disabilities were: - On-campus living - Full-time enrolment - Degree expectations - First year GPA - Net price of attendance
Morina, A. (2017a)	Inclusive education in higher education: challenges and opportunities	Review of literature on experiences of students in higher education Purpose of the article is to address the current state of inclusion in higher education with regard to students with special educational needs, specifically students with disabilities.	*Inclusive education in higher education: ensuring students' access, participation and success* Recent shifts in policy have led to greater focus on inclusion in higher education, reflected in increased participation rates. In response to these changes in laws, institutions have established offices aimed specifically at supporting students with disabilities, introduced new technology and sought to implement inclusive educational practices (p5). Argues that have to go beyond this and put in place appropriate support in order to ensure the inclusion of students with disabilities. Argues that need to put into place the principles of inclusive education and universal design for learning into institution policies and to adopt the principles of the social model of disability. *Current research on higher education, inclusive education and disability*

			Review looked at specific journals and at investigations into student and faculty experience after 2000. Three primary areas relating to student experience were examined: - Barriers and aids identified by students with disabilities - Transitions - Disclosure Barriers: - Negative attitudes displayed by faculty members - Architectural barriers - Inaccessible information and technology - Rules and policies that are not enforced - Methodologies that do not favour inclusion “These students’ paths are frequently very difficult, somewhat like an obstacle course and students even define themselves as survivors and long-distance runners. Their eventual performance is similar to that of the rest of the students, but in all cases, they reported that this implies a greater investment of effort and time.” (p6) Facilitators: - Family support - Friendships and peer support networks - Help from certain faculty and staff who believe in them - Disability support offices

			- Personal strategies Transition: “studies concluded that, for people with disabilities, the transition processes to the university are fragile and can easily be compromised. The transition to post-secondary education is a period when more vulnerabilities are revealed which can lead to students dropping out of the university.” (p8) “The main source of difficulty in the lies in the fact that the student must often adapt to new organisational, educational and social contexts. When they arrive at the university, the needs of students with disabilities are similar to those they had in high school, except now they have to be more self-directed in managing their own lives” The transition experience appears to be critical to the student’s retention and success in HE – first 6 weeks particularly important. Factors which help the transition process: - Self-awareness - Self-determination and support - Self-management - Adequate preparation for university and assistance tech - Networking and relationships with fellow students - Mentoring

			- Faculty staff with understanding of characteristics and needs of students with disabilities - Universal design - Communication with staff Disclosure: - Evidence that students feel the validity of their disability is questioned because it is not visible - Chose not to declare because want to be considered and treated with normality - Reluctance to disclose in case of being stigmatised or labelled Studies about faculty members addressed three topics: - Analysing the attitudes of faculty members towards students with disabilities - Faculty members need for training - Use of universal design for learning Faculty’s response to students with disabilities: - Three main topics appearing in literature: attitudes of lecturers, training in disability matters and inclusive education, application of principles of universal design for learning Definition of Universal design for learning: “Universal design for learning is an approach to teaching that is characterised by the proactive design and use of inclusive strategies that benefit all

			the students.” (p11). Studies demonstrated that if UDL principles applied, many adaptations would no longer be necessary. *Recommendations (p13)* University spaces should be fully accessible – applying UDL principles Universities should be proactive in providing support to facilitate the transition Higher education institutions should support training the faculty in inclusive pedagogy and UDL
Morina, A (2017b)	We aren’t heroes, we’re survivors: higher education as an opportunity for students with disabilities to reinvent an identity	Spanish study Biographical narrative method – in-depth interviews, observations, photos, interviews with associates. Aim of the study was to “discover from listening to the students themselves, barriers and aids they identified as affecting access, academic performance and overall perception of their higher education experience” (p215).	Findings: “All interviewees concluded that they had encountered more barriers to than sources of support for their university studies. To move towards inclusion in HE, they felt that substantial changes in practices and attitudes were necessary.” (p218) - Students with disabilities want to be treated the same as everyone else, with minimal individual support - Students with disabilities need a good understanding of what they can and can’t do, and be able to articulate this - To succeed as a student with disabilities it is necessary to put in substantially more work than the typical student - It is important for students with disabilities to develop resilience

Riddell, S. (1998)	Chipping away at the mountain: Disabled students' experience of higher education	Draws on findings from two **UK** studies to draw out evidence of the experiences of students with disabilities in HE	Studies identified five barriers to participation for disabled studies: - Environmental barriers - Problems with typification – narrow focus of individualised adjustments - Equality and not recognising that people don't start from the same position - Reluctance to disclose disability/internationalisation
Tinklin, T. and Hall, J. (1999)	Getting round obstacles: Disabled students' experiences in higher education in Scotland	Scottish study Review of policy and practice in all Scottish unis 12 in-depth case studies	Findings Identified 5 types of obstacle (barrier) faced: - Physical environment - Access to information - Entrance to higher education - Assumptions of 'normality' and levels of awareness Argue that "While support is available, in some case students are being provided with assistance to get round obstacles that ideally should be removed" (p183).
Vickerman, P. and Blundell, M. (2010)	Hearing the voices of disabled students in higher education	UK based study Phase 1 was a survey of all students (disabled and non-disabled) looking at learning support services Phase 2 was face to face interviews with four participants	Findings: Still much to do in levelling HE experiences for disabled students Five key issues that should be addressed: - Pre-course induction support - Commitment by institution to facilitate barrier free curricula - Consultation with disabled students

			- Institutional commitment to develop support services - Embedding of personal development planning
West, M. et al. (1993)	Beyond Section 504: Satisfaction and empowerment of students with disabilities in Higher Education	Large quantitative study in one state in USA Survey of levels of satisfaction	Barriers: - Lack of understanding and cooperation of administrators/faculty/staff/students - Lack of assistive technology - Inaccessibility of environment Recommendations - Information about services available - Students need to be better prepared to understand rights - Support groups and clubs for students with disabilities
Yssel, N. et al. (2016) ***Themes:***	A door must be opened: perceptions of students with disabilities in Higher Education	Qualitative study at **one USA institution** Interviews with 12 participants	Two overarching themes identified: 1) Importance of faculty student relationship 2) Independence/self-determination and a desire to be like any other student

13.2. SUMMARY OF LITERATURE ON STUDENTS WITH VISION IMPAIRMENT IN HIGHER EDUCATION

Authors and themes	**Title**	**Overview of the study**	**Key Findings**
Argyropoulos, V. et al. (2017) ***Themes*** Preparation	Verbal working memory and reading abilities among students with visual impairment.	Tested 75 participants through a standardised reading test	When considering preparation of a student with VI, the findings of the study highlight how important braille is for developing the literacy skills that the student will need in higher education.
Armstrong, H. (2009) ***Themes*** Inclusive design	Advanced IT Education for the Vision Impaired via e-Learning.	Describes a method of developing a fully accessible e-learning environment - noting that e-learning material can be extremely visual. Designed around a pilot project (2 years), which led to recruiting VI instructors for the full project (4 years)	Positive outcomes for students with VI. Notes that lack of accessible content poses a huge challenge for students with VI, particularly due to a focus on visual content. Outcomes: with appropriate adjustments, the grades of VI students were comparable to their peers. Working with VI specialists led to the development of ‘innovative approaches to accessible teaching methods and delivery of the curriculum’ (p243).
Baggett, D. (1994)* ***Themes*** Challenges of supporting minority groups	A Study of Faculty Awareness of Students with Disabilities	Survey of staff at institution – 422 faculty, 11 deans	Faculty reported that they had worked with only a small number of students with disabilities Study found that: - Respondents lacked experience of working with students with disabilities - Unfamiliar with disability laws - Challenge when supporting students with vision impairment as it is so low incidence.

Betts, L. and Cross, A. (2010) ***Themes*** Specific accommodations Progressive mutual accommodations	Reflections on Supporting a Visually Impaired Student Complete a Biological Psychology Module.	Reflective pieces discussing their experiences of supporting a vision impaired student to access a biological psychological module. Approached with philosophy that all students should be sorted to reach potential	Argued for a student-centered approach to teaching (thinking about specific adjustments, e.g. lighting, giving detailed descriptions, 3D diagrams etc.) Importance of reflective dialogue (link to progressive mutual accommodations). Relationships must be facilitated – e.g. necessary resources need to be in place.
Bishop, D. and Rhind, D. (2011) ***Themes*** Role of student Institution policies External Policies	Barriers and Enablers for Visually Impaired Students at a UK Higher Education Institution.	Semi structured interviews with nine participants with vision impairment in HE in the UK, using Interpretative Phenomenological Analysis	Analysis revealed four higher-order themes: - Students attitude (identity, positive aspects of being VI, engagement with support) - Institutional provision (i.e. campus accessibility, central services support, school-level support) - External support (travel, financial support) - Others' attitudes (parental attitudes, staff attitudes)
Boyd-Kimball, D. (2012) ***Themes*** Inclusive design Specific accommodations Role of student Progressive mutual accommodations	Adaptive Instructional Aids for Teaching a Blind Student in a Non-majors College Chemistry Course	Describes the use of adaptive tools and techniques in lectures to enable a student with VI to engage in mathematical parts of a chemistry course.	The paper came about because of what the authors observed to be a lack of pedagogical guidance for supporting students with VI with STEM subjects. Paper discusses the significance of learning objectives of the course: important to consider what are you seeking for the student to learn from the course. Paper identifies the importance of adjustments used drawing on technology and the role of the students existing skills in using that technology. Staff developed tactile diagrams – learned as they were making them. Highlighting the importance of anticipatory adjustments/progressive mutual

			accommodations. Authors argue that it is important to see students as individuals.
Brazier, M., et al. (2000) **Themes** External policies Progressive mutual accommodations Specific accommodations Preparation	Blind Students: Facing Challenges in a College Physics Course	Article describes accommodations made for students with VI and also the differences in accommodations that they needed	Articles discusses how the American Disabilities Act requires colleges to make reasonable adjustments – this acts as an enabler for students to take courses which might otherwise have been deemed inaccessible to them. Describes how adjustments are often a case of 'trial and error'. Describes how different students approached accessing the course – one student more independent than the other. Draws on these experience to highlight the importance of being able to draw on previous experience to develop the skills necessary to access the course – e.g. ability to interpret diagrams. Highlights the importance of considering the individual – e.g. level of vision impairment and whether previously had sight.
Brown, L, et al. (2013) ***Themes*** Preparation Role of student	Improved Transition Outcomes for Students with Visual Impairments Through Interagency Collaboration	Reflecting on a summer transition programme to better prepare students with VI for transition from school into college (as in university)	Talks about the importance of interagency planning, thinking ahead and ensuring that different agencies take on their professional responsibilities. Talks about the importance of young people being prepared for adulthood. Article identifies problems with young people with VI being academically able but not having the skills that they require for study beyond school. Investment of the transition programme meant students were better prepared for the transition with skills such as O&M. Argues the importance of collaboration including families too.
Butler-Nalin, P., et al. (1989)	Making the Transition: An Explanatory Model of	Analysis of the National Longitudinal Transitions	Secondary analysis showed that participation rates by students with disabilities in postsecondary

Themes Policies	Special Education Students' Participation in Postsecondary Education	Study – large proportion of students with VI or HI continued into postsecondary education. Multivariate analysis – series of logistic regression models.	education were very low in comparison to other disability groups. Also more likely to take vocational courses and shorter courses. However, students with VI and HI more likely to transition into HE than other disability groups. Characteristics identified as contribution to participation included: head of households educational level, graduation from high school, participation in groups and length of time since high school. These findings are significant with regards to policy and encouraging participation from learners with VI in HE.
Byrne, B. (2014) ***Themes*** Institutional policies	Getting In and Getting On? The Experiences of Young People with Visual Impairments and Hearing Impairments in Third-level Education." International	Draws on Bourdieu's social theory of habitus, capital and field to explore the practices of domination and oppression that have made it difficult for young people with VI and HI to participate in HE on the same basis as non-disabled people. Qualitative study: 20 students with VI/HI were interviewed about their educational experiences. 31 interviews with professionals (e.g. course providers, policy-makers, non-government organisations).	Paper argues that whilst providers are seeking to widen participation and be more inclusive, they are taking 'safe' options, which attract students that can fit within existing structures. Highlights the responsibilities which are placed on the student and questions these. Argues that the systems which have been introduced to support students with sensory impairment instead of being empowering can actually cause feelings of powerlessness and inadequacy. Disabling rather than enabling. Inadequacy of support quality due to inflexible nature of institution policies. Challenges of identity as a student with disabilities.
Cole, R., and Slavin, A. (2013)	Use of a Video Assistive Device in a University	Practice report – article addresses the use of modern	Investigates the challenge of the VI student needing to be able to use assistive tools to be able

Themes Specific accommodations Progressive mutual accommodations Independent learner	Course in Laboratory Science: A Case Study.	video technology to allow a student with low vision to participate in a lab environment	to see lab equipment, but also needing to have hands free to manipulate it. Paper emphasises the importance of students being supported to work independently. Intervention used assistive device to zoom in and focus on equipment Provided as an example of how it is possible to use specialist equipment to enable students to overcome challenges faced. Important not to just default to human support. Argues that need to make accommodations to allow student to set up equipment. Provides a good example of progressive mutual accommodations.
D'Andrea, F. (2012) ***Themes*** Preparation	Preferences and practices among students who read braille and use assistive technology	Method: mixed-method study that was conducted to investigate the current use of paper braille and assistive technology amongst students aged 16-22, and students' attitudes toward braille and technology as tools for classroom learning in high school and college. Phase 1: 12 structured interviews of students across US. Investigated how advances in technology have influenced literacy practices for young adults who are blind and use braille and assistive tech.	This article is important for illustrating the value of having a wide range of strategies for accessing information, and therefore as broad a preparation for life after school as possible. Results of the study indicated the changing nature of how students use various tools and how they select approaches to completing their class work, and the importance for students of being able to make choices regarding tools and strategies. Key findings: themes suggest that for students to take advantage of the many choices available to efficiently complete school tasks, they must be proficient in multiple methods and tools for learning.

Dermody, K. and Majekodunmi, N. (2011). ***Themes*** Inclusive design Preparation	Online databases and the research experience for university students with print disabilities.	Qualitative study into the experiences of ten participants using screen-readers to access online databases to access diagrams. Baseline survey, follow up survey, video recording and observations.	The results showed that students' ability to locate articles is compromised by two factors: (i) The design barriers in databases and limitation of screen reading software; (ii) Lack of training and knowledge on how to be effective searchers while using screen readers.
Eckes, S. and Ochoa, T. (2005) * ***Themes*** Institutional policies Preparation/Transition support	Students with Disabilities: Transitioning from High School to Higher Education	Analysis of legislation with some case studies to illustrate the importance of transition and understanding of legal responsibilities. Paper examines the challenges students with disabilities face in college, reviews relevant law regarding the transition for students with disabilities from high school to higher education, and provides suggestions to assist high schools and universities in forging programs to better serve students with disabilities. Focuses on improving the transition experience into HE.	Argues for greater support between high schools and postsecondary education. States that many young people with disabilities leave high school without the self-advocacy skills that they require. Evidence of staff not fully understanding their legal obligations. Recommendations: 1) Students need to understand the laws 2) Students need to strengthen self-advocacy skills 3) Formal system required to support the transition from high school to postsecondary education 4) University staff need to be more knowledgeable on law "Transitions, by nature, are difficult and require time for adjustment and efforts to minimize the impact of the problems that will inevitably be confronted" (p7). Especially difficult for students with disabilities. Notes that students with disabilities need to understand the laws which prescribe what

			adjustments should be legally made for them. Also notes that laws are progressive as cases go to court.
Erhardt, R. and Shuman, M. (2015) ***Themes*** Role of the student Progressive mutual accommodations Policies –anticipatory adjustments	Assistive Technologies for Second-Year Statistics Students Who Are Blind	Article describes reasonable adjustments made to enable a blind student to access a braille course	Identifies the importance of the student making their own adjustments and for finding practical reasonable adjustments – electronic rather than paper braille, for example. Illustrates the significance of progressive mutual accommodations – significance of partnerships between students and staff across the institution.
Erickson, W., et al. (2009). ***Themes*** Inclusive design	Web Accessibility Policies and Practices at American Community Colleges	Analysis of the accessibility of college websites to see whether inaccessible websites can be a barrier to students with visual disabilities.	Thirty college websites evaluated in terms of web accessibility and usability. Testing revealed that less than 1% of pages evaluated met Section 508 web accessibility standards. Over half of the users found the online admissions application process frustrating, and less than a third of all users could complete the online application without assistance.
Erickson, W., et al. (2013) ***Themes*** Inclusive design	The Accessibility and Usability of College Websites: Is your Website Presenting Barriers to Potential Students?	Investigation into the accessibility and usability of college websites.	Investigation looked specifically at admissions – identified significant issues with regards to the accessibility and usability of admission pages, acting as a barrier to potential students. Obvious implications for students with vision impairment.
Feldmann, E. and Messerli, C. (1995). * ***Themes*** Preparation Transition support Role of learner	Successful Transition: The Students' Perspective	Paper looks at the difference between high school and postsecondary environments. Considers student independence.	Article discusses the significance of preparation – e.g. in terms of self-advocacy. Identifies important skills needed for certain tasks, e.g. self-reporting of disability, articulating accommodation needs, coordinating assistance, making living arrangements. Highlights the importance of preparation and partnerships between agencies to

			ensure smooth transitions. Argues that ‘those students who choose postsecondary institutions must be able to access and advocate for the accommodations that they need in order to be successful’ (p151). Students need to be prepared to be independent thinkers and problem solvers, and responsible for determining and advocating for their own needs.
Ferrell, K., et al. (2017) ***Themes*** Inclusive design	Audible Image Description as an Accommodation in Statewide Assessments for Students with Visual and Print Disabilities.	Compared student outcomes when working with test papers with and without standardised description of graphic images. Large sample size (n=117) with print disabilities and (n=178) with vision impairment.	Study found that students who read braille have better outcomes in the event of audible image descriptions for images in test papers, suggesting that this should be an accommodation which is put in place more widely.
Fichten, C, et al. (2009) ***Themes*** Inclusive design Technology	Accessibility of e-Learning and Computer and Information Technologies for Students with Visual Impairments in Postsecondary Education	Article presents the results of two studies on the accessibility of e-learning materials and other information and computer and communication technologies for 143 Canadian college and university students with low vision (29 who were blind). Study 1: examined adaptive computer technologies used by students and the extent to which the information and communication technology	Highlights the increased use of e-learning to support teaching activities. Acknowledges that e-learning has potential to facilitate the inclusion of students with vision impairment. Found that campus based assistive technology not up to date. Identifies a number of problems including a lack of training, components on e-learning systems not being accessible, and material being loaded on e-learning sites (e.g. PDFs not in text form). Recommendations: HE providers should offer training for students with regards to using assistive technology. Universal design needed for sites and materials (but research is needed to facilitate this).

		met their needs on and off campus. (N=139). Study 2: surveyed students on their views of the accessibility of 18 types e-learning materials used by professors. (N=33)	
Getzel, E. (2008) * ***Themes*** Transition support Preparation Role of student Institution policies	Addressing the persistence and retention of students with disabilities in higher education. Incorporating key strategies and supports on campus.	Virginia Commonwealth University developed a model of support that integrated services and supports with already existing services on campus, helping to expand the service delivery system by testing new approaches or strategies to assist students with disabilities. As the model was created and refined, efforts were implemented to continually explore what other colleges and universities across the country were developing around services for students with disabilities.	Based on what was learned a number of key factors emerged as critical for college students with disabilities. These included: - Increasing self-determinations skills beyond those needed for transition to college - Utilising self-management skills - Exposing students to technology - Providing access to internships or other career-related experiences In conjunction with student support services, there are two components involving professional development activities for instructional faculty that are also critical to the persistence of college students with disabilities. 1. Increasing the awareness of instructional faculty on students with disabilities 2. Incorporating concepts of universal design into faculty's instruction and curriculum that benefit all students in their learning process. Article highlights the importance of preparation. Students need to be prepared for the transition, but institutions also need to be prepared to receive the student (e.g. awareness training, universal design).

Gilson, C., et al. (2007). ***Themes*** Policies Anticipatory adjustments	Gaining Access to Textbooks for Postsecondary Students with Visual Impairments	US National survey of experiences in postsecondary education of students with VI gaining access to textbooks.	Authors called for: - Quicker access to textbooks - Differing formats for electronic versions - Changes in how electronic texts are structured - Improvements in assistance in accessing texts
Godfrey, A. and Loots, M. (2015). ***Themes*** Preparation	Advice from Blind Teachers on How to Teach Statistics to Blind Students	Authors draw on their experience to write a reflective piece on how best to approach teaching statistics to blind students.	Notes that whilst students with VI are expected to explain accommodations needed, they may not have a good enough knowledge of the options to make the best choices. Note that many apparent access challenges can be overcome if the student knows about the right tools and also ***learns*** how to apply them. Argue that whilst making adjustments for students with VI will result in more work for teaching staff, the quality of their teaching will improve as a consequence. Offer a gold standard of expected qualities for a statistics course to be accessible
Gorlewicz, J, et al. (2014). ***Themes*** Independent learners Specific accommodations	Initial Experiences Using Vibratory Touchscreens to Display Graphical Math Concepts to Students with Visual Impairments	Presents the results of a pilot study investigating the experiences of students with vision impairment using assistive tools for accessing graphical maths content. Article looks at experiences of students with vision impairment using *vibratory* touchscreens and *audible* sounds to communicate	Paper identifies the importance of students being facilitated to work independently – some adjustments can leave the student feeling very dependent on others. Notes that it can be expensive creating tactile solutions. Designed a system which was found to be beneficial for students who piloted it. Reduction in teacher workload and promoting independence for the student. Proposes utilising readily available

		graphical concepts in mathematics education to students with vision impairment.	equipment, e.g. Apple or refreshable braille devices.
Gray, G. and Wilkins, S. (2005a) ***Themes*** Specific accommodations Challenges	A "Psychology Core Graphics Resource Pack" for HE: The Development of a Resource to Support Blind and Visually Impaired Students in Higher Education.	This project investigated the provision of a set of core tactile and large print diagrams and supporting materials for degree level psychology study, containing diagrams that are central to the majority of UK psychology courses, as an alternative to providing many different bespoke diagrams for individual students.	Interviews with 12 students with VI found that they found these packs beneficial. Argues that some diagrams should be described and others should be provided tactically – necessary to think about the information needed to interpret a diagram. Argues importance of provided diagrams in advance. Study recognises that a lack of experience of supporting students with VI can be a barrier and it is advantageous for resource materials to be produced which can be adopted by lecturers (a learning resource).
Gray, G. and Wilkins, S. (2005b) ***Themes*** Context Challenges	A Snapshot of 2003-4: Blind and Partially Sighted Students in Higher Education in England and Northern Ireland	As part of a HEFCE/DELNI funded project, all 134 disability offices in Higher Education Institutions (HEIs) in England and Northern Ireland were contacted by telephone and email, to collect information about the numbers of students, subjects and level of study for each of the student groups; and for blind braille readers also their year of study.Information collected through a telephone survey.	Of 114 HEIs responding to the survey an estimated minimum of 1538 blind and partially sighted HE students in England and Northern Ireland were identified, representing 0.13% of the total undergraduate student population of these HEIs. Of these students 90.8% are partially sighted, and 9.2% blind. Of the blind students, two-thirds read braille. Study found that actual number of students with VI and the number according to HESA stats differed. However, concluded that the number of students with VI in HE is increasing. Paper argues that students should be able to specify if they are blind or partially sighted when applying to make it easier for HEIs to estimate the amount of support that will be required.

Harshman, J., et al. (2013) ***Themes*** Specific accommodations	Seeing Chemistry through the Eyes of the Blind: A Case Study Examining Multiple Gas Law Representations	Case study of one student – five interviews to inform the development of learning materials. Led to the production of guidelines for how to produce appropriate learning resources for students needing tactile diagrams.	Argues that most literature talks about accommodations in a broad sense, but guidance is needed for more specific accommodations. Identifies particular challenges for VI students needing to access STEM content. Argues that lecturers must see the potential in VI students and be willing to make the necessary accommodations for instruction and assessment. Students need access to accessible models etc. in teaching sessions. Need for a specialist knowledge of the subject to be able to produce the material. Institutions need to allow time resource for the development of accessible material
Henson, D. (1997) ***Themes*** Inclusive design Policies – anticipatory adjustments	Setting Up a Library Accessible Area for the Blind or Visually Impaired: Considerations	Reports on experiences of facilitating students with VI in a library	Paper argues for the need to plan for students with VI – adjustments made do not need to be complicated, just given consideration in advance and provides some questions to consider to help with this.
Keil, S. and Crews, S. (2008) ***Themes*** Preparation Support through transition	Post-16 and Post-18 Transitions of Young People with Visual Impairment in Wales	Qualitative study, case studies, based in Wales. Tracked 5 young people with VI through post-16 transition.	Study highlighted the importance of the role of the QTVI in supporting YP with VI through post-16 transitions, including the transition into HE. Important article in general for post-16 transitions.
Klinkosz, W., et al. (2006).	Academic Achievement and Personality in University Students Who Are Visually Impaired	Quantitative study of YP with VI in HE in Poland. Matched pairs with sighted students, matching for: age; gender; course of study; year of study.	Study found no main effect of visual status on academic achievement. Significant differences between personality traits of visually impaired and sighted groups and outcomes. Found a significant effect of gender on academic achievements.

		N=105 students with VI Made comparison of grades Made comparisons of responses to two short personality questionnaires: - NEO-FFI Personality Inventory - Delta questionnaire for measuring local of control	
Kugler, P. and Andrews, K. (1996) ***Themes*** Specific accommodations Policies – anticipatory adjustments	Graphical analysis and the visually impaired in undergraduate economics courses	Paper reports on experience of developing accessible tactile material for economics students to ensure graphical details were accessible to them.	Notes the importance of preparing in advance so that the student has access to material during the lecture. Acknowledges that this puts time pressures on lecturers. Acknowledges responsibility as part of legal legislation. States that it is not appropriate to reduce the amount of diagrams as this would impact upon the learning experience of sighted students.
Lee, B. (2014) ***Themes*** External policies	Students with Disabilities: Opportunities and Challenges for Colleges and Universities	Article talks about the developments in HE with respect to legislation regarding equal access to education for students with disabilities. Gives an overview of ways in which institutions might be in breach of the law, including examples of law suits. Specific findings for students with VI.	Acknowledges that e-learning and access in advance to lecture notes promotes opportunity for students with disabilities, but this can prove a barrier to students with VI if the systems are not accessible. Identifies different lawsuits in the US where students with VI were restricted from participating in different courses. States that any systems which are used must be accessible to students with VI to not break the legislation.

Lewin-Jones, J. and Hodgson, J. (2004) ***Themes*** Preparation Progressive mutual accommodations Policies – anticipatory adjustments Challenges – need for specialist advice External policies	Differentiation Strategies Relating to the Inclusion of a Student with a Severe Visual Impairment in Higher Education (Modern Foreign Languages)	Qualitative case study approach investigating the provision of support for a student with severe VI - Considers both the needs of the student and the teacher - Provides ‘insight into the process required to maintain academic standards while fully including the student in the course’	Identified problems with lack of preparation from both the institution and the student: - Staff unaware of the student until just before he started - Student without some important skills (MFL braille user and limited use of speech software) Sought advice from a QTVI. Identified adjustments that need to be made by both staff and peers when undertaking group work. Concludes that access to material in advance is important. Highlights importance of giving information verbally that the student would otherwise miss out on. Notes that if visual content in exams, should offer alternative means for assessment. Notes that important that the reasonable adjustments aren’t to the detriment of the other students. E.g. replacing visual material with descriptions which results in poorer learning material. Argues that the advice available from the disability support office would not have been sufficient and instead guidance is required from a QTVI.
Lewin-Jones, J., et al. (2006) ***Themes*** Specific accommodations Progressive mutual accommodations External policies – law can be unclear	Students with a severe visual impairment taking modern foreign language modules: the role of the support worker.	Paper investigates the role of the support worker in ensuring the successful inclusion of students with severe vision impairment	Identifies that the role taken on was different from that of note-taker: more specialist. Importance of support worker having specialist knowledge of the subject, to ensure that lecturer does not need to compensate for a gap in knowledge. Suggests that when group work is being undertaken, support could instead be provided by other group members, rather than a support worker. States that

			the role of the support worker is to ensure that the student is not excluded from group work because of VI. With sessions which involved discussion as a whole group, the lecturer engineered ways to ensure all students introduced themselves so that the VI student knew who was present. Noted the importance of verbal cues to include student. Interpreting verbal cues should not be the role of the support worker. Giving verbal information during teaching (e.g. what was being written on the board) was seen to be of benefit for all students, not just the VI student. Conclusions – for some courses a specialist support worker is essential.
Liakou, M. and Manousou, E. (2015) ***Themes*** Inclusive design Policies - internal Technology	Distance education for people with visual impairments	Purpose of article is to "define the standards of higher education for people with a visual impairment, so that education becomes fully accessible and contributes to the limitation of social exclusion" (p72). Focusing primarily on distance learning opportunities. Set in context of Greek higher education [specifically distance learning]. Concerned about widening participation. RQs:	Noted that equal access to information important to ensure equal opportunities in life. Findings: Factors that should be considered for VI students: - Accessibility of course content - Support (practical but also psychological) - Facilitation in developing social connections Ways to meet needs of VI students: - Provision of material in an electronic format - Material compatible with assistive tech - Opportunities to communicate with staff - Alternative assessments - Specialist equipment available in learning space

		1. Accessibility factors to consider for VI learners 2. Educational needs of VI learners 3. Institution policies towards accommodation students with VI Data gathered through non-structured interviews with six participants. Entry criteria: distance learning student with a VI	- Provision of specialist equipment to individuals
Lourens, H. and Swartz, L. (2016) ***Themes*** Inclusive design – inclusive environment for all	Experiences of visually impaired students in higher education: bodily perspectives on inclusive education	Seeks to investigate an “embodied understanding of their lives”(p240) through the findings from 15 in-depth interviews of students with VI at the same institution. Phenomenological study investigating the day to day lives of these 15 students. Individual and focus group interviews. Analysed using IPA.	Shows “prevailing gaps in provision for disabled students” (p240). Three themes identified: 1. Disabled bodies and the physical environment – experiencing wide-open spaces of an unfamiliar university campus which was foreign to them and not designed with their body in mind. Had experiences which they considered to be dangerous (e.g. cars) or faced obstacles (e.g. low hanging branches). 2. Embodied experiences of reading – problems with reading, needed extra time, extensions on assignments caused added anxiety, eyestrain. 3. Shameful and confusing bodies and the social world – not feeling accepted by

			peers, experienced misunderstandings in social understandings due to disability not being obvious, viewing themselves as inferior to sighted peers (p244). Makes recommendations to improve the lives of VI students on tertiary campuses. Inclusion should be beyond simply increasing student numbers.
Marson, S, et al. (2013) ***Themes*** Specific accommodations Challenges – accessing visual material	Teaching Introductory Statistics to Blind Students.	Draws on personal experience to provide practical advice for teaching vision impaired and blind students statistics.	Notes that much content is visual in nature, will need to consider appropriate reasonable adjustments: - Use of Nemeth code converted into Latek - Tactile diagrams - “Overcoming the visual limitations of students requires unique and individual strategies based upon students’ particular impairments and their skill of communicating their understanding. - Consider alternative assessments - Important to see student as an individual
McCarthy, P. and Shevlin, M. (2017) ***Themes*** Preparation External policies	Opportunities and challenges in secondary education for blind/vision-impaired people in the Republic of Ireland	A life-history approach was used to examine in depth the educational experiences and transition choices/opportunities of 14 blind/vision-impaired people in the Republic of Ireland. Participants aged 17-26. Data collected over a period of time. Shortest duration was 11 months, longest duration was 25 months. Unstructured	Paper argues that “in terms of policy development and practice, it is paramount to ensure both effective curriculum participation and transition opportunities are enabled rather than disabled for these students” (p1007). Points of interest from the research: - changes to teaching and learning methods are important and should be flexible and supportive in nature - when thinking about post-primary transition pathways for blind/vision-impaired young people, it is necessary to

		interviews conducted face to face. Thematic analysis guided by the life-course approach (Priestley 2003) was utilised to analyse the data gathered. Article has particular relevance to the transition into higher education: How well were they supported in school, how did experience at school impact upon the opportunities available to them when making the transition into higher education.	use an individual approach to transition planning Argues for importance of careers education early enough to make appropriate decisions for the future. Themes identified: 1) How the school curriculum is experienced by blind/vision-impaired young people: barriers in accessing core curriculum can have a negative effect on longer term outcomes. Particularly noted problems in accessing maths. 2) Expectations and aspirations of blind/vision-impaired young people: availability and practical usefulness of formal careers guidance and advice received – insufficient knowledge for decision making, inappropriate advice, restrictive expectations.
Minkara, M, et al. (2015). ***Themes*** Specific accommodations Policies – anticipatory adjustments	Implementation of Protocols To Enable Doctoral Training in Physical and Computational Chemistry of a Blind Graduate Student	Provides an overview of experiences of a doctoral student who is blind in accessing STEM. Aims of article: “(1) to document methods used to deliver large volumes of audio and visual information to Mona, (2) to point out considerations that have or should have been implemented to facilitate her work, and (3) to offer suggestions to future blind	Acknowledges the importance of mutual accommodations. Identifies anticipatory adjustments as most significant adjustment needed.

		graduate students and their advisors." (p1280)	
Orsini-Jones, M (2005). ***Themes*** Policies – anticipatory adjustments Inclusive design Specific adjustments	Supporting foreign language learning for a blind student: a case study from Coventry University	Outlines adjustments made to provide an accessible learning environment. Provides a discussion of challenges faced, provides an action plan for future adjustments	Argues for the importance of anticipatory adjustments and the need for collaboration between all staff and all students.
Ostrowski, C. (2016). ***Themes*** Institutional policies Role of student Preparation Transition support Inclusive design Technology External policies/legislation	Improving Access to Accommodations: Reducing Political and Institutional Barriers for Canadian Postsecondary Students with Visual Impairments.	Paper reviews literature on experiences of students with VI in HE. Based in Canadian context.	Argues that: Accommodation strategies must comprehensively address the pragmatic needs of students and move beyond simply meeting policy and legal requirements. Recommendations made: 1) Offer students transition, self-determination, self-advocacy and self-management programs to ensure they are aware of the processes and procedures to obtain accommodations 2) Offer accessible recruitment materials, train admissions staff 3) Pass legislation to promote greater access to texts 4) Training for staff 5) Policies for inclusion embedded into organisations.
Pence, L. (2003). ***Themes*** Specific accommodations Independent learners	Effective Laboratory Experiences for Students with Disabilities: The Role of a Student Laboratory Assistant	Reflects on experiences of employing personal assistants to help two students with disabilities (one of whom had a visual impairment) access as much of laboratory	Key points noted included the need for advanced preparation by institutions when delivering lab sessions, the need for: staff to be familiar with relevant institution policies, the requirement for staff to be active and investigate the type of adjustments that may be needed, individualised

Policies – anticipatory adjustments Progressive mutual accommodations – role of the learner		sessions independently as possible.	solutions, the careful selection of an appropriate laboratory assistant, an audit of health and safety, and students to be facilitated to be as independent as possible.
Poon, T. and Ovadia, R. (2008). ***Themes*** Specific accommodation Progressive mutual accommodations	Using Tactile Learning Aids for Students with Visual Impairments in a First-Semester Organic Chemistry Course	Paper explores how best to provide tactile learning aids for students with visual impairment. Notes that whilst there may be descriptions of diagrams available, these may be insufficient for students with vision impairment who have no prior reference point.	Outlines specific examples of tactile material. Emphasises the importance of trial and error and experimentation.
Reed, M. and Curtis, K (2011) ***Themes*** Preparation Internal policies – knowledge of staff Transition support	High School Teachers' Perspectives on Supporting Students with Visual Impairments Toward Higher Education: Access, Barriers, and Success	“The objective of this study was to examine the perspectives of teachers of students with vision impairment, classroom teachers, and other specialist teachers on their role of supporting students with vision impairment to attend institutions of higher education” (p548). The idea being that improved support could lead to better transition outcomes for students with VI.	Notes that lack of professional development means that educational professionals are limited in how well they can support students into HE. Notes a need for individualised planning for the transition into HE, in order to reduce anxiety and improve independence and ability to be successful.

		Participants: 66 teachers and 2 educational assistants in Canada. Method: online survey with 15 questions which included rating questions, open-ended questions, choice questions and yes or no questions.	
Reed, M. and Curtis, K. (2012). ***Themes*** Challenges – low incidence Transition support Preparation Progressive mutual accommodations	Experiences of Students with Visual Impairments in Canadian Higher Education	Students with vision impairment (n-70) and the staff members of disability programs (n=55) were surveyed and interviewed (primarily by telephone) regarding the students' experiences in entering higher education and completing their higher education requirements. Interview for students available via telephone and online). Interview focused on experiences the students had in entering their institutions, and completing HE requirements. Staff survey focused on the current status of disability services and the experiences that the disability program staff had in assisting students	Argues that "given that students with vision impairment likely make up only a small proportion of those with disabilities who are registered, accommodation practices that developed to meet the needs of the majority may not meet the needs of students with vision impairment" (p415). Key findings: "Although the reported graduation rates were high, the students took more than four years to complete their studies. They thought that heavy reading requirements, work in groups, and an inability to participate in some activities were barriers to their full participation in higher education" (p414). - Lack of knowledge of available support in HE proved a barrier to applications. - Staff noted that fears of isolation, workload concerns, low self-esteem, and the lack of self-advocacy skills led to low confidence. Noted idea of 'learned helplessness'. - Lack of adjustments made to bridge the gap between institutions and the VI student. However, once applied around half offered special assistance for students with VI to make the transition.

		with visual impairments to meet higher education requirements. Survey available online or by telephone interview. Study investigated experiences of enrolment, recruitment, application and transition services, accommodations and barriers.	- Barriers noted by students: alternative formats not provided in a timely way, materials not accessible, note-takers not reliable, accommodations denied by staff, learning environment (lighting, signs, difficulty using adaptive technology in class), feeling excluded in group work. - Social barriers: could not participate because of the ‘effort and planning’ involved to do so. Difficulties in relating to peers. Some staff and students called for better community awareness to improve experiences. Students also believe barriers could be reduced by their learning advocacy skills and systemic planning by institutions. - Students noted that reading was one of the largest academic challenges: takes longer than sighted peers, many materials not in an accessible format, eye strain. - Conclude that students with vision impairments have challenges that require unique preparation for higher education. - Key finding: whilst students complete their degrees, barriers exist which mean that students can have a negative experience, notably taking longer to complete course.
Wolffe, K. and Kelly, S. (2011). ***Themes*** Preparation	Instruction in Areas of the Expanded Core Curriculum Linked to Transition Outcomes for Students with Visual Impairments	Authors were interested in exploring whether there was empirical evidence to support the importance of providing instruction in areas of the ECC by virtue of enhanced	Notes challenges for implementing the ECC due to time constraints during the working day. Significant relation between the receipt of instruction in ECC-like content area and positive outcomes in higher education.

		outcomes for the students who received such disability-specific instruction. Methods: Secondary analysis of measures relating to the ECC using Transition Study 2 (NLTS2 data). Data analysis: Tested the significance of relationships between the ECC- and meaningful outcomes in adulthood, including outcomes in higher education.	
Yoon, K, et al. (2016). ***Themes*** Inclusive design – web accessibility Preparation	An exploratory study of library website accessibility for visually impaired users	Six participants with vision impairment who use screen-readers were recruited to test library websites for usability and accessibility.	Overview of findings: Found that library websites are not accessible for VI screen reader users. However, also observed that some of the participants were not using their software effectively.

* = does not specifically relate to the experiences of students with vision impairment, but retained in the review as it provides important context for the thesis.