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"They were questioning whether I would even bother coming back". Exploring evidence of inequality in "access", "success" and "progression" in higher education for students with vision impairment

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Due to the nature of this research, participants of the Longitudinal Transitions Study did not

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made at https://www.ucas.com/data-and-analysis/data-products-and-services and
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"They were questioning whether I would even bother coming back". Exploring evidence of inequality in 'Access', 'Success' and 'Progression' in higher education for students with vision impairment

Abstract (250 words)

Drawing upon a unique longitudinal study, which has followed the experiences of students
with vision impairment (VI) in the United Kingdom (UK) through the full university student
lifecycle, we report the findings of an original analysis that seeks to broaden understanding of
the lived experiences of students with disabilities in higher education (HE) by critically
assessing student outcomes with respect to 'access', 'success' and 'progression'. The paper
presents evidence collected from 40 participants, captured through 205 interviews over a 7-
year period, and uses this evidence to assist with interpreting patterns observed in national
equality data, and in identifying hidden inequalities which these datasets do not capture. We
examine how well this equality data represents the reported experiences of students with VI.
We do this by firstly considering where the data might not fully represent the experiences of

the student, and secondly by interpreting why some of the observed inequalities persist. We take a holistic view of the student experience, by examining factors that might impact upon the student at different levels through the perspective of the Bioecological Model of Inclusive Higher Education. The findings show that whilst national equality data in the UK captures improved access and attainment for students with VI in HE, it fails to capture poor lived experiences, and restricted choice. The findings also identify barriers to successful transitions into the labour market, in some cases intrinsically linked to barriers faced during their courses.

Keywords

Higher education, inequality, inclusive learning and teaching, vision impairment, disability

Introduction

In this paper we explore and interpret evidence of inequality for students with vision impairment (VI) in higher education (HE), with respect to access, participation and progression. We commence by presenting an analysis of literature into the barriers faced by students with disabilities in HE. We focus on steps taken, through both policy and practice, in addressing these barriers, and emphasise the importance of investigating the student experience through an ecological perspective. Two types of data are drawn: qualitative data collected through a unique longitudinal study which tracked the experiences of 40 students with VI in HE over a 7-year period, and quantitative data extracted from national datasets in the UK. Findings from a comparative analysis are presented in terms of 'access', 'success' and 'progression' as we use the qualitative data to interpret evidence of inequality in the national data sets, and to identify situations where these metrics might not reflect the true

experience of students with disabilities. Findings are discussed using the Bioecological Model of Inclusive Higher Education as a conceptual framework.

Barriers to Access, Participation and Progression in HE

Societal shifts have led to the introduction of legislation across the world that require educators to identify and remove barriers to learning and participation for students with disabilities. As an example, the most significant development in the United Kingdom (UK) in recent years has been the introduction of the 'Equality Act 2010'. In relation to education and disability, this Act of Parliament requires providers to make 'reasonable adjustments' for disabled students so that they are not put at disadvantage when compared to their non-disabled peers. These reasonable adjustments apply to admissions, curriculum delivery and examinations (Hewett, et al, 2015). In other Western national contexts similar legislation has been enacted. As an example, Kilpatrick et al. (2017) refer to 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). Similarly, Yssel et al. (2016) references 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 (2017) acknowledges these worldwide shifts in policy, reporting that these have led to an increased focus on inclusion within HE, which in turn this has led to higher participation rates for students with disabilities.

There is a wealth of research literature exploring the barriers faced by students with disabilities in accessing, participating and progressing in HE. Drawing on language from the WHO International Classification of Functioning Disability and Health (ICF) Framework these barriers can be broadly categorised as being 'physical environmental' barriers, or 'social/attitudinal barriers' (Douglas and Pavey, 2007). Physical environmental barriers' include inaccessibility of learning environments, difficulties accessing library facilities, and flaws in architectural design (Riddell, 1998; Tinklin and Hall, 1999; Fuller et al. 2004; Morina, 2017). Studies also identified barriers resulting from limited knowledge and expertise of staff and other stakeholders, highlighting a lack of training of how best to support students with disabilities and incorporate inclusive pedagogy (West et al, 1993; Morina, 2017; Brandt, 2011; Riddell, 1998; Kendall, 2016; Fuller et al. 2004). Fuller et al. (2004) identified that some students faced barriers due to a lack of cooperation of lecturers. Kendall (2016) provided examples of an unwillingness of staff to make reasonable adjustments, such as staff questioning the students need for support, and Morina (2017) evidence of negative attitudes from faculty members, such as questioning the student's ability if they were to ask for adjustments. With regards to facilities, West et al (1993) and Fuller et al (2004) found that students with disabilities can be limited by a lack of assistive technology within institutions, while Hill (1993) found that students with disabilities can be attracted to a particular type of institution, which in turn puts strain on available resources.

Several studies identified a reluctance of students to disclose their disability as a significant barrier to participation. Riddell (1998) found evidence of students internalising the challenges they faced, while Fuller et al. (2004) found 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 (2017) who found evidence of students being questioned about the validity of their disclosure.

Improving outcomes for students with disabilities

Analysis of data collected through the UK Labour Force Survey, a quarterly government survey which captures activity in the labour market, shows the likelihood of a person with disabilities being in employment greatly increases if they have higher qualifications, illustrating how important access to HE is for young people with disabilities (Hewett and Keil, 2015). This highlights the importance of ensuring access to HE for students with disabilities. However, recent studies such as Knight et al. (2018) and Morina (2017) provide evidence of ongoing inequality in HE, and argue that there is still much work required in "levelling" HE for students with disabilities, despite the introduction of new equality legislation.

Positively, research evidence shows there are many ways HE providers can change practice to facilitate improved outcomes for students with disabilities. For example, several studies found positive evidence of offering targeted support at the point of initial transition, while other enablers include adopting an inclusive approach to education, making individual adjustments to overcome specific barriers, and supporting students to develop the broad range of skills they require (e.g. time-management and self-determination) to thrive in an HE environment (Fuller et al, 2004; Vickerman and Blundell, 2010; Tinklin and Hall, 1999; Morina, 2017; Kendall, 2016; Ysell et al, 2016; Getzel and Thoma, 2008; Diquette, 2000).

Mapping out the Higher Education landscape

When interpreting the outcomes of students with disabilities such as VI, it is important to consider these within the wider HE landscape and any policy drivers which may impact upon the student. One significant development has been the marketisation of the British HE system, which has been stated to have led to students taking on the role of consumer, having greater expectations for their HE experience (Molesworth et al, 2009; Furedi, 2010). Brown (2018) argues that marketisation is leading to greater inequality within the HE system, mirroring observations by Lynch (2006), who describes universities as having become 'powerful consumer-orientated corporate networks' (p1) when discussing wider implications of neo-liberalism. As the focus of HE institutions switches increasingly to maximising revenue (Brown, 2017), this raises concerns for potential implications to students with disabilities, particularly in the context of Disabled Student Allowance (DSA). The DSA scheme is designed to remove barriers to participation for students with disabilities, by providing technology, non-medical support and, where required, fund transportation. However, recent reforms have placed increased obligation on HE providers to fund some of the individual support and reasonable adjustments, raising concerns of whether students with disabilities will still receive the extent of support required, due to the financial implications involved (Hewett et al, 2017).

A further development has been an increased focus on widening participation, which seeks to address socio-economic inequalities in participation and achievement for underrepresented groups (Chowdry et al, 2013; Lewis, 2002). In the UK, a report published by the Department for Business, Innovation and Skills (BIS, 2014) provided an important driver for improving access to HE and also for monitoring and improving the outcomes of HE students across the student lifecycle. Outcomes of interest were:

- Access – improve the entrance rates of disadvantage groups into HE, thereby narrowing the gap in participation between advantaged and disadvantaged groups (p16).

- Participation – address gaps in retention rates and attainment gaps between the most advantaged and disadvantaged groups (p45).

- Progression – improve access to postgraduate study and improve employment outcomes for those from disadvantage groups, thereby narrowing gaps in progression outcomes for graduates from advantaged and disadvantages groups (p66).

The ongoing need to provide equal opportunity for disabled learners and students from other underrepresented groups has since been recognised by the Office for Students, the independent regulator of HE in England, who currently require HE providers to set out how they will ensure equality of opportunity for underrepresented groups, such as disabled students and students from ethnic minorities, requiring institutions to examine the outcomes of students throughout their HE journey (OfS, 2019). Commitments for improvement are monitored by Office for Students to ensure that they are adhered to, with financial penalty for those providers who do not. These objectives sit alongside broader strategies for widening participation in HE (Thompson, 2019).

An ecological investigation of student experience

Perhaps unsurprisingly in the context of marketisation and the focus on improved outcomes for underrepresented groups, there has also been an increased focus on the student experience across the student lifecycle (Temple et al, 2014; Jones, 2018). Hewett et al (2017) conceptualised the experiences of young people with VI in HE through use of Bronfenbrenner's bioecological model of human development, to outline a 'Bioecological

Model of Inclusive Higher Education'. This model takes account of the broad range of factors that have influence on the student experience, situated in five interrelated systems – the *Macrosystem* (factors external to the HE institution, such as disability legislation and societal perceptions), the *Exosystem* (factors outside the learner's immediate environment, such as institution policies on inclusion), the *Mesosystem* (the interactions that take place between and within the different systems, e.g. interactions between lecturers and disability support staff), and the *Microsystem* (factors that directly impact on the learners experience, e.g. lecturers and institution infrastructure). At the centre of the model sits the learner, who is conceptualised as an active agent in learning and development. Bronfenbrenner draws on the term 'progressive mutual accommodation' (Bronfenbrenner, 2005) to acknowledge how "different factors within and between systems mutually accommodate one another to ensure successful inclusion and development of the individual" (Hewett et al, 2017, p107). Significantly, the bioecological systems based model outlined by Bronfenbrenner also incorporates the element of time, through the C*hronosystem*. This system acknowledges the development of the individual and the influence that their previous life experiences have upon their experience in HE. This might include, for example, the technology skills that they have learned, or the educational settings in which they have previously been situation. The bioecological systems model therefore offers important justification for taking a holistic perspective when investigating the experiences of students with disabilities in HE across the student lifecycle.

Post school transitions and agency

Whilst equality data tends to focus on the role of providers and associated agencies, it is also important to consider the contribution of the student themselves. When discussing transition from school to adulthood, Cobb and Alwell (2009) defined the process as 'a change in status

from behaving primarily as a student to assuming emergent adult roles in the community'
(p71). As such, an increased expectation is placed on students in HE to take responsibility for
their learning (Ostrowski, 2016). However, studies also note that young people with
disabilities face significantly more barriers during key transitions than their peers (Ward et al,
1994), leading to calls for appropriate targeted interventions and partnerships between
institution and the learner (Mazzotti et al, 2014; Winn and Hay, 2009).

Through a bioecological perspective, the transitioning learner is viewed as being a potentially
active 'agent' at the centre of a multilayered and complex ecology. The concept of 'agency'
is commonly drawn upon to describe an individual's perception that they have control over
their life to influence events (e.g. McLinden et al. 2020). Given the limitations and
implications arising from reduced access to visual information, learners with vison
impairment require appropriate opportunities within different environments to access the
world through a curriculum balance that seeks to emphasise and sustain personal agency
through promoting independence access skills (e.g. Douglas, McLinden et al. 2019), which
will be essential in helping them to navigate HE systems and to know how best to advocate
for and draw upon targeted interventions. The significance of focusing on promoting such
agency throughout a learner's educational pathway can be illustrated through research with
older learners highlighting the potential barriers to development that can result from VI. This
work emphasises the importance of ensuring learners with VI have opportunities to develop
their independence access skills from an early age and throughout their educational pathway,
to suitably prepare them for adulthood (e.g., Douglas et al., 2018; Hewett et al., 2017).

Research questions

We investigate evidence of inequality in HE for students with VI, through the following research questions:

1. To what extent is there evidence of inequality for students with VI in HE in terms of *access, success* and *progression*?

2. How well do current metrics used in UK HE capture the true experiences of students with VI across the entire student lifecycle?

3. How might policy and practice ensure that students with disabilities have equitable experiences in HE?

These research questions were explored by making comparison between national metrics which are used by the UK government to ascertain equality in HE for students with disabilities, and data collected through case studies of 40 students with VI who took part in a 10-year longitudinal qualitative study. Significantly, the equality data collected by organisations such as Office for Students and Higher Education Statistics Agency does not just focus on whether students with disabilities are successful in their academic achievements, but also investigates how successful they are in continuing into paid employment upon graduation.

Method: Evidence of outcomes for students with vision impairment

Using students with VI in the UK as a case study, we draw upon two types of data in order to identify evidence of inequality of experience across the full student lifecycle:

(i)   Qualitative data from the Longitudinal Transitions Study: a ten-year study following the transition experiences of over 80 young people with VI from

school to employment, which has included tracking participants through the full undergraduate HE journey.

(ii)   Quantitative data collected by Universities and College Admissions Service (UCAS) and the Higher Education Statistics Agency (HESA) in the UK which monitor inequality in the HE sector.

Longitudinal Transitions Study

The Longitudinal Transitions Study (LTS) is a unique qualitative study led by researchers at Vision Impairment Centre for Teaching and Research, University of Birmingham. The objective of the project is to identify enablers and barriers in the experiences of young people with VI as they make the transition from school through to the labour market, in response to concerns about poor employment outcomes for this population. Longitudinal qualitative studies are a commonly used methodology for investigating transition experiences, allowing the researcher to observe changes as they happen, rather than relying on retrospective accounts (Holland et al, 2006).

The project commenced in 2010 and has been tracking the post-16 transition experiences of a group of young people with VI through the different pathways they have followed since leaving school, including further education, apprenticeships and employment, with over half of the participants applying for or making the transition into HE.

Eighty-six participants were originally recruited into the study (2010) and over 50 still involved in the project at the time of writing. Participants were recruited when aged 14-16 through local authority specialist educational services. Entry criteria for inclusion in the project were that potential participants were (i) supported by their service for their VI and (ii)

able to independently complete a questionnaire. As part of the recruitment process, an overview was obtained of the key characteristics of the overall population from which we were recruiting, with the final sample being found to be broadly representative of the population. It is worth noting, however, a slight overrepresentation of participants with severe VI and an underrepresentation of those from ethnic minorities (Hewett et al, 2012). All recruited participants returned signed consent forms from themselves and a parent/carer. The project originally received ethical approval from University of Birmingham Ethics Committee in 2010, with amendment applications being made for each individual data capture.

The study has a longitudinal qualitative design, with participants being interviewed at regular intervals through semi-structured telephone interviews, which, with the individual's permission, have been audio recorded and transcribed verbatim. The interviews varied in length, but averaged around 60 minutes per interview.

The data included in this paper comes from a series of interviews with 40 participants who followed an HE pathway, and are still involved in the longitudinal study. The data represents experiences at 27 different HE institutions across the UK, studying across a range of disciplines. All of the participants entered HE between 2012 and 2015, with all but two participants applying for DSA prior to the 2015 reforms. Table 1 outlines some of the key characteristics of the participants who applied for a place in HE. Preferred reading format is used as an indicator of level of VI, with 36 of the participants requiring either large print, Braille or electronic material.

<INSERT TABLE 1 HERE>

In keeping with the longitudinal design, interviews were conducted with the participants at multiple stages of the HE student lifecycle, including: initial application; transition into HE; at the end of each academic year; upon graduation and post-HE. In total the data from 205 interviews have been included in the analysis for this paper.

The multi-stage process of the analysis was as follows:

- Stage 1: Ensuring familiarity with the data during the course of the study. This was achieved through the first author conducting all the interviews and transcribing the recordings, allowing opportunity to start considering emerging themes in the data.

- Stage 2: Merging together all the relevant interview data into individual files in MS Word for each participant.

- Stage 3: Drawing upon national recognised measures of 'Access', 'Success' and 'Progression' as a framework, and being informed by earlier analysis of the experiences of the participants in HE (e.g. Hewett et al, 2015, Hewett et al, 2017) to identify key outcomes of interest to be explored within the datasets, as summarised in Table 2.

<INSERT TABLE 2 HERE>

- Stage 4: Analysis of data to investigate outcomes in relation to the variables identified, including qualitative analysis in NVivo and the derivation of new variables in SPSS, using the Bioecological Model of Inclusive Higher Education as a lens through which to interpret the different barriers and enablers identified.

- Stage 5: Making comparison between the evidence of student outcomes revealed by the LTS data and the national equality data.

National Equality Data

A description of the national data sources drawn upon for the analysis and the methods used for data extraction are as follows:

Universities and Colleges Admissions Service (UCAS)

UCAS collect and publish a broad range of data about students who apply through their system. When applying through UCAS, applicants have the opportunity to disclose whether they have a disability and also to state the nature of that disability. We requested UCAS through a bespoke data request in February 2019 to provide a breakdown by year of applicants who declared as having VI when applying for and accepting places at UK HE institutions. They were also requested to provide contextual information by providing a breakdown for all students who declared a disability, as well as data from all applicants.

HESA and Advance HE/ECU

Equality data collected regularly by HESA from UK HE institutions is published by Advance HE (previously ECU) as part of a series of annual reports and data sheets which explore equality in HE in the UK. Box 1 summarises the original source of the data. We obtained this data from an accompanying MS Excel spreadsheet to the Advance HE (2018) technical report. The data contained in this spreadsheet was collected between 2003/04 to 2017/18.

<INSERT BOX 1 HERE>

Destination of Leavers from HE Survey (DLHE)

The DLHE is an annual survey which is administered to graduates the January after completion of their degree courses. The primary purpose of the survey is to ascertain what the economic status of graduates is, following completion of their degrees. As Advance HE publishes only a limited breakdown of data in relation to student progression, we obtained data specific to students with VI through a bespoke data request to HESA. Variables of interest were identified from the DLHE 2016/17 survey and a request for bespoke tables was made to HESA in February 2019. HESA responded by providing summary tables which compared the outcomes of students with VI with other disability groups, as well as the whole student cohort.

Findings

The findings of the analysis are presented sequentially, by following the student lifecycle of *access into, succeeding within,* and *progression from* HE. For each stage of this student lifecycle, comparison is made between the evidence from the national data sets and from the LTS. The purpose of this comparison is to ascertain how well national data represents the experiences of students with disabilities, as well as informing understanding of why national data often reveal poorer outcomes for students with disabilities, despite improved participation rates. Reference is made to the bioecological model and the different systems in which factors sit.

Access into Higher Education

Firstly we consider evidence capturing the outcomes of students with disabilities as they seek to enter into HE. This includes entry rates, choices of institution and the various administrative processes followed. Secondary data show the number of students declaring as

having a disability in the UK has steadily risen. For example, HESA data shows that between 2003/04 and 2016/17, the proportion of first time students declaring as having a disability in the UK rose from 4.7% (n=47,965) to 10.5%. (n=106,115). Positively, none of the participants with VI in the LTS expressed any concerns about whether HE was an option to them. However, on a micro-level, thirteen participants identified ways in which they felt their *choice* of institution was restricted due to their disability. This included discounting specific institutions after interactions with staff led them to doubt whether the institution had the expertise needed to facilitate them.

> [Chosen institution] had a good disability department, one of the best that I have seen. The disability department really made [chosen institution] attractive, because they are very, very, very good. Especially compared to other universities that I saw. Some of them weren't particularly brilliant. (Young person with severe VI, studying at a pre-1992 institution)

Thirteen participants identified difficulties when applying for courses through the Universities and Colleges Admissions Service (UCAS), due to the inaccessibility of the online form. This included problems with website layout making it difficult to use with magnification software, and the website not working with their screen-reader, resulting in difficulties navigating between sections. This led to participants not being able to complete the form independently, and in one case, a participant almost missed the deadline as a result.

> Quite inaccessible because I had to be assisted to apply – basically I couldn't do it on my own. I had to have someone there. It was inaccessible in the sense that it was too

visual and it wasn't compatible with my speech software. (Young person with severe VI who access computers using a screen-reader)

Of the forty participants who applied for HE, 38 reported that they declared their VI on their application form, while one participant who did not apply until Clearing (a period shortly before courses commence to fill remaining places) did not recall having the opportunity to do so. This is significant, as declaration of having a disability has been linked to more positive outcomes in HE (Fuller et al., 2004; Getzel and Thoma, 2008; Kendall, 2016; and Morina, 2017), and acts as a catalyst for engagement with DSA and institutions on the types of adjustment which may be required.

Applications for DSA typically take place prior to the student starting in HE, in parallel to applications for Student Finance. The aim is that support be in place prior to the student commencing their course. Of the 33 participants that applied for DSA, 14 experienced problems across the various stages of the application process. This included delays in their initial application being processed (including their application being lost entirely), delays in their reports being processed, inaccessible forms, and difficulties in obtaining the necessary evidence. One participant described how his promised support was not delivered, although he did not follow this up with his DSA needs assessor. This interaction highlights the reliance on the agency of the learner upon managing their learning experience, and exposes weaknesses in the DSA application process.

I had the assessment and they basically told me what I was entitled to, and they said this is what we are going to get you. Interestingly enough, none of that actually happened, which was a bit weird. In the first year there was a laptop that was meant to

materialise. I didn't hear anything back from them. (Participant with sight

impairment, who uses magnification software)

The participants also experienced a range of problems with the delivery of their DSA funded support prior to the start of their courses. Fifteen of the participants experienced delays in receiving their allocated technology, while a further 16 judged the technology received not 'fit for purpose'. Six of 16 participants who had been allocated mobility and orientation support to ensure they were able to navigate their new environment safely did not have this in place at the start of the academic year, and 12 participants had problems accessing the human support they had been assigned. These challenges caused strain to the students before the academic year had even begun. In each case, the participants explained how the failure of DSA to deliver this support impacted upon their transition experience into HE, negatively affecting both their educational and social inclusion and creating an additional administrative burden during their entry into HE.

It was meant to be delivered the day after I arrived at uni, and then it didn't arrive for

the next three weeks. Even then they didn't deliver everything when they arrived. The

guy who delivered it was meant to set it up and he didn't, he just left. I got really

behind in lessons because I just couldn't do anything, I couldn't access anything.

(Participant with sight impairment, who uses magnification software)

Other delivery problems were as a direct result of organisations such as technology trainers and Local Authority Social Services failing to operationalise their support correctly. This highlights barriers due to the vast number of organisations involved in facilitating students

with disabilities as they enter HE, and a lack of any one single person or organisation having oversight of the coordination of this support.

> The social services in the area didn't know that I was going to be there. They weren't aware of me, and that was my disability officers responsibility to make them aware that I would be coming. I didn't start getting mobility until a month after I started. (Young person with severe VI who uses a long cane)

Whilst many participants faced barriers accessing the support to which they were entitled in preparation for their studies, these are somewhat balanced by positive accounts from those who received the support they needed in time for the start of their course. Although literature suggests that marketisation in HE has described students as 'consumers' with increased demands (Molesworth et al, 2009; Furedi, 2010), these accounts suggest an alternative attitude of young people with VI, that by receiving the allocated support when scheduled, they may be considered 'lucky':

> I was really lucky, I had it straight away. I think it was the third day I had been there and I was having mobility training. I know my friends, they had to wait months sometimes which would have been a nightmare, so I was really lucky. (Young person with severe VI who uses a long cane)

Success in Higher Education

Secondly we consider evidence of the outcomes of students with disabilities as they participate in HE. This includes continuation rates, evidence of inclusion and academic achievement. HESA data monitoring continuation rates for first-degree entrants for academic

year 2016/17 shows that disabled students were more likely to leave HE than non-disabled students (8.6% compared to 7.3% withdraw rates). Similarly, as shown in Table 3, students with disabilities (and in particular VI) achieve lower degree classifications than their non-disabled peers. The accounts of the participants in the longitudinal study can assist with understanding why this is the case.

<INSERT TABLE 3 HERE>

Disability support in universities is typically managed by dedicated teams, while smaller institutions may have individual members of staff assigned to meet with students who declare a disability. At a micro-level, of the 40 participants who entered HE, 35 of them met with dedicated staff to discuss their disability and the reasonable adjustments that they might need, in line with local policies. Reasonable adjustments agreed included transcription of lecture notes, digitalisation of textbooks, being allowed to record lectures using a Dictaphone, special arrangements for exams and advanced access to timetables to facilitate mobility and orientation. Despite having reasonable adjustment plans (in line with legislation at the macro-level), 17 participants experienced problems in accessing their course content. Barriers identified included not being able to obtain accessible lecture material, parts of the curriculum not being accessible to them (with no alternatives put in place), and agreed adjustments not being operationalised or understood correctly.

> Basically I withdrew because I felt they had (1) failed to understand my eye condition and (2) they failed in doing anything to support me with that. Simple things like textbooks. I didn't have any. (Young person with sight impairment who uses magnification/large print)

Further, 41% (n=13) of the participants who reported on their exam experiences noted that they weren't able to access their exams as intended. This included papers not being prepared correctly in an accessible format (e.g. Braille papers which contained mistakes), agreed technology not being made available, and not receiving agreed extra time to complete the exam. Unfortunately, two participants did not challenge when they did not receive their exam arrangements they were expecting, which meant that these problems persisted.

> I was meant to have everything provided in Ariel 18, but yeah, that wasn't done at all. (Young person with sight impairment who uses magnification/large print)

Many of the barriers identified seemed to stem from an overreliance on individual adjustments, rather than the institutions have appropriate inclusion policies in place. Of particular concern is that this appears to have had negative consequences on the students final outcomes. Of the 40 participants who initially entered HE, at least six left before completing their course, five of whom linked this specifically to their VI. Twelve participants were either delayed in completing their degree, or delayed in completing an academic year. This included five participants who found it necessary to retake entire years of their courses due to consistent challenges with the accessibility of the course material that they were given.

> Well, to be honest, it's been a bit of a complicated year. To sum it all up, when I went back nothing was really in place properly. I tried to get it sorted, lecturers and stuff, and nothing was ever happening. So I went to the disability officer, and she gave me the option saying you can redo it if you are not happy with your grades and you think

you have been cheated a bit. So I am redoing my first year next year. (Young person

with sight impairment, studying for degree in sciences)

The most positive accounts came from participants who noted inclusive practice embedded

into the day to day running of the university, such as accessible virtual learning environments

and clear inclusion policies for delivery of the curriculum.

Whilst having identified ways in which their course provider continually failed to make

reasonable adjustments for their VI, only one of the young people in the study made a formal

complaint to their institution (following institution policy at the exo-level). One participant

described how that despite not being able to access essential course material, he did not wish

to take this any further as a matter of loyalty to the lecturers who had supported him. In the

case of three participants, they have now used two years or more of government funding

towards their degree, and therefore according to policy at the macro-level it is unlikely they

will be able to access funding to study for a different degree, reducing their opportunity to

obtain a degree in the future.

At a meso-level, it is important to note that the problems faced by the student were not

always within the control of the institution, and rather due to interactions of a range of

factors. For example, one participant failed a module citing in the interview challenges

relating to their VI. However, the institution were unaware of these challenges as the young

person had not disclosed their VI, meaning reasonable adjustments had not been put in place.

Despite the various challenges noted in this section, 24 participants in the longitudinal study

who have completed their degree courses achieved grades comparable to national average,

with 75% (n=18) achieving a First or 2:1 degree classification. Four participants who completed their degrees expressed dissatisfaction with their final grade, with all linking this back to their VI. Despite positive attainment outcomes, one participant who passed his degree with a First reflected back on just how close he was to withdrawing from his course at the end of the first year.

> By the middle of the second term things had got so bad, I had lost all motivation to even keep going. But I am quite a stubborn person. A few people said before I left in June, they were questioning whether I would even bother coming back in September. That made me more determined to go back, because I don't want to prove people right! (Participant with severe VI studying at a pre-1992 institution)

This dissatisfaction despite high achievement illustrates the need for caution when using grades as an indicator of the quality of student experience.

At a macro-level, receipt of the UK government funded 'Disabled Students' Allowance (DSA) has been linked to positive outcomes for students with disabilities. HESA reported that in 2016/17 73.9% of disabled students who received DSA achieved a First/2:1, compared to 72.5% who did not. However, HESA statistics found that only 40% of students who declared as having a disability were in receipt of DSA (with the proportion who declared as VI being slightly higher at 41.4%) (Advance HE, 2018). These statistics highlight the value of the support offered by DSA and how important it is to ensure that those who may benefited from such targeted support are able to access it. A much larger proportion of the participants applied for DSA, with 33 (83%) reporting that they had applied and were found eligible. This can be explained by the large proportion of participants with severe VI who

went into HE, and also the fact that the participants were informed about DSA through the telephone interviews, demonstrating how uptake of DSA might be improved through direct marketing to students. Seven participants chose not to apply - in each case they stated that they chose not to as they did not believe DSA would be of benefit to them. However in later interviews, two participants identified specific barriers that they faced in relation to their VI that they felt negatively impacted on their grades, which potentially could have been overcome through DSA funded assistive technology had they been encouraged to apply.

Whilst equality data tends to focus on academic achievement, it is also important to consider the social inclusion of the student as part of the broader HE experience. This often depended upon the level of severity of VI, and those participants who were not restricted in getting around independently by their VI tended to present more positive accounts. A key barrier for those students requiring mobility and orientation support were DSA policies which dictate that funded support may only be provided for activities directly related to learning. This meant that students often were unable to access recreational facilities and the local area surrounding their institution. Subsequently it was common for students with severe VI to stay living in Halls of Residence, rather than to move into private accommodation with friends. Further, several of the participants experienced barriers in accessing student societies, who did not appear to have policies in place to ensure the inclusion of students with disabilities.

Progression from Higher Education

Finally we consider evidence of the outcomes of students with disabilities as they transition from HE. This includes a review of post HE destinations and an assessment of the quality of employment outcomes.

<INSERT TABLE 4 HERE>

Table 4 provides a summary of the destinations of students from HE in 2016/17. The data from the DLHE survey reveals that students with disabilities are less likely to be in full time paid employment than students with no known disability. This is particularly the case for students with VI where only 46.4% were in full-time work, compared to 59.8% of students with no known disability. The survey also found that only 56.7% of leavers with VI who had gone into paid employment were on a permanent or open-ended contract, compared to 63.3% of those without a disability. Of the 26 participants in the longitudinal study who have graduated from their first degree, only 12 were in paid employment by the following January. Instead of applying for employment, many participants in the LTS had continued onto alternative options, including further study (n=8) and travel abroad (n=1). Notably, 3 had made the decision to apply for voluntary work instead of paid employment, as they did not believe their CVs to be competitive, due to limited work experience. This finding is supported by HESA data which found that 4.1% of leavers with VI were undertaking voluntary work, compared to only 0.8% of those without a disability.

A central source of guidance for graduating students is the university careers service. Despite this, only 13 participants reported engaging with their careers service, with many citing the pressures of maintaining their studies as a barrier to do so, whilst only one participant recalled receiving disability specific guidance One of the young people who did attend a careers event reported a negative response in relation to their VI:

> I actually had a really bad interaction… I spoke to the guy and he was like 'oh you are
>
> interested in teaching', and I was like 'yeah' and he was like 'are you profoundly

blind' which is a really weird phrase… Then he was like 'I think this is going to be really difficult for you.' I was like 'actually, I know many blind teachers and I think I am better equipped to know if things would be difficult for me, rather than you, you have just met me today.' (Young person with severe VI, interested in working in education)

This links to societal perceptions of individuals with disabilities, as recognised at the macro-level in the bioecological model. This relates to a further observation that of those participants who have secured paid employment since graduation, four were in roles specifically aimed at people with disabilities. One participant expressed her frustration at this:

My concern is, because it's such a non-sort of mainstream job, I think I've had it very easy. I feel like going into... I feel like it's a very specialised job, and trying to apply for a more mainstream job might be really, really difficult. (Young person with severe VI, working for an organisation in the disability sector)

Only four participants were successful in securing jobs that were targeted specifically at graduates, with a key enabler appearing to have been the opportunity to undertake a work placement as part of their course. These findings align with statistics from HESA which found that employed graduates with VI were less likely to be in a paid role where the qualification they had obtained were a formal requirement, with this being the case for 43.1% of graduates without a disability, compared to 39.6% of graduates with VI. Two participants with more severe VI who had applied for graduate roles described facing barriers during the application process, which resulted in them not being able to apply for jobs they were interested in, or not being able to complete assessments that formed part of a multi-stage

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recruitment process. In particular, one participant found difficulties with the accessibility of online tests:

> But that's the most prohibiting factor about the recruitment process, is the online tests. Especially the ones that have graphs and charts and stuff, because it is difficult to see. A lot of them don't work with speech so the text it's not interactive, it's just like a picture. (Young person with severe VI seeking employment in the finance sector)

He eventually secured a role at an organisation who offered extensive adjustments for him during the application process, and consulted with him to find appropriate solutions.

It is also interesting to note that the DLHE data showed that whilst 17% of employed graduates without a disability identified their job through an employer's website, this is only true for 11.7% of employed graduates with VI. This suggests that young people with VI are facing barriers in accessing employment opportunities online.

One participant who had been unhappy with her final degree classification found that she was unable to apply for graduate jobs she was interested in because she had not achieved a First/2:1. She had subsequently found it difficult to find paid employment, and several years after graduating was still in voluntary work. Whilst not included in the DLHE statistics, it is also worthwhile considering the outcomes of those participants who withdrew from their HE courses. Three became long-term NEET and despite it being several years since they left HE, have remained economically inactive, having not sought opportunities for paid employment or further training/education. Two restarted a degree course at a different HE institution (one has since graduated with a First), and one who withdrew from first year on his second attempt

moved onto paid employment. These findings demonstrate that young people with VI are vulnerable to becoming long-term NEET on withdraw from HE.

Discussion

In this article we have investigated evidence of inequality for students with disabilities in HE across the student lifecycle, drawing upon students with VI as a case study. We have done this through an original analysis and comparison of UK national equality data and evidence from a longitudinal qualitative study. We now revisit the original research questions posed to critically discuss these findings with respect to (i) evidence of inequality in terms of experiences of access, success and progression, (ii) how well national data captures these experiences, and (iii) how policy makers and practitioners might respond to these findings.

Access into Higher Education

In keeping with Morina (2017), UK equality data shows that the number of students with disabilities entering HE has increased, suggesting a positive impact of the UK Equality Act (2010). However, despite none of the participants in the LTS feeling restricted from applying for HE as a student with VI, at a micro-level, several shared how their decision of *which* institution to attend was limited by the apparent lack of preparedness of some institutions to accommodate them as a student with VI. Subsequently the range of providers available to them was reduced, when compared to their non-disabled peers. Whilst it is difficult to demonstrate any specific discrimination in terms of access into HE, this provides evidence of inequality of opportunity for students with VI. There are also potential implications for providers who attract larger numbers of students with disabilities (Hill, 1993) who may face a disproportionate financial burden in funding reasonable adjustment, particularly since the DSA reforms which placed greater responsibility on providers to fund student support

(Hewett et al, 2017). These potential financial burdens may prove a disincentive to providers in continue to attract students with disabilities; particularly during the Covid-19 pandemic which is putting severe financial strain on the HE sector (Ahlburg, 2020).

The findings also highlight how important it is for the HE entry systems to be accessible, and for systems such as DSA to be fit for purpose, ensuring that the appropriate support is in place for students prior to commencing their course. Having fully accessible systems is essential to ensure equality of experiences for students with disabilities, and in signalling to these students they are welcome and valued. National equality data offers evidence of improved outcomes for students with disabilities who access DSA, and certainly many of the participants in the LTS expressed that without DSA they would have been unable to participate in HE. This highlights the significance of policy interventions at the macro-level which are designed to promote greater access, and the importance of having robust mechanisms for promoting DSA to ensure students are able to access the support which they need, as identified by a recent evaluation of DSA (Johnson et al, 2019).

Success within Higher Education

National equality data showed students with disabilities are less likely to achieve a First or 2:1 degree when compared to their non-disabled peers, and more likely to withdraw from their courses before graduation. Despite evidence of poorer outcomes for students with disabilities within HE, it could be argued that they do not portray the full extent of the challenges that students with disabilities face in HE, as demonstrated through the evidence of the participants in the LTS. The evidence presented shows the experiences of the participants were significantly impacted by an interaction of factors (recognised at the meso-level) including unreliable equipment and allocated human support not being delivered. These

challenges were compounded by failure of institutions to deliver reasonable adjustments, despite appropriate plans being in place, suggesting an over-reliance on individualised adjustments. These findings are in keeping with the literature presented earlier on barriers to participation (e.g. Fuller et al, 2004; Morina, 2017) highlighting persistent inequalities for students with disabilities. Many of the adjustments put in place also rely upon the agency of the learner, both in terms of being able to articulate strategies for accessing the curriculum, and also in terms of being able to apply appropriate skills to utilise any adjustments. This suggests that students with VI may benefit from targeted support to help navigate HE (e.g. Fuller et al, 2004; Vickerman and Blundell, 2010), including possibly the support of a specialist mentor, such as those funded by DSA to support students with autism spectrum conditions. The LTS also found evidence of students with VI taking longer to complete their degrees, as a consequence of both their DSA and institution support not being put in place. This has obvious financial implications for the student, including the additional living expenses for the extra time spent, and potential lost earnings if delayed in moving into employment.

With the findings from the longitudinal qualitative study highlighting such consistent challenges for students with VI, this raises concerns that the negative experiences of such low-incidence but high needs groups are being lost within equality data. One mechanism by which this may have been identified is through numbers of student complaints. However, despite large proportions of the participants reporting significant issues with participating on their course, they were reluctant to formally challenge the problems they were facing. To a certain extent this can be explained by some of the participants not having the confidence to self-advocate, but there were also indications of this being linked to their expectations. These findings suggest that more work is needed by HE institutions to empower students with

disabilities to raise problems as they face them. Until then caution should be taken in using the number of 'formal' complaints made as a measure of the quality of student experience. Overall these findings support recommendations from a recent consultation, that qualitative measures should be introduced in order to interpret the outcomes of students with disabilities (Hector, 2020).

Progression from Higher Education

The national equality data revealed poor employment outcomes for graduates with disabilities, and for those with VI in particular. This includes lower proportions of disabled graduates successfully finding employment, and being less likely to secure permanent or open-ended contracts. The LTS revealed that many of the participants left HE with the perception that they had an inadequate range of experience on their CV to be competitive in the job market with their non-disabled peers, leading to decisions to pursue voluntary work or further study. Arguably pressures of managing workload (not helped by the challenges they faced in accessing their studies) limited opportunities to undertake work experience, find part-time work or get involved in societies, putting students at a disadvantage. This suggests more needs to be done at a local level to ensure students with disabilities have opportunities to develop key employability skills to enable them to feel 'work-ready' upon graduation (Ward et al, 1994). Bronfenbrenner (2005) recognised the importance of the individual being prepared with the necessary resources to progress from one setting in what he termed 'ecological transitions'. These are important services for HE institutions to offer as more onus is placed on them to ensure successful progression into employment for students with disabilities.

We observed that a third of those in employment were in roles specifically aimed at people with disabilities, and therefore not necessarily in comparable roles and employment schemes to their peers. This highlights that when interpreting the employment outcome data of students with disabilities, it is also important to ascertain whether the jobs disabled graduates are employed in are comparable to those of their non-disabled peers with equivalent qualifications. Likewise it is important to consider whether those who are employed in targeted roles for individuals with disabilities are able to progress in their careers in a comparable manner. It also indicates more needs to be done by graduate employers to improve the recruitment of students with disabilities.

Finally, it is also important to consider the outcomes of students who withdraw from their HE courses. The findings from the LTS demonstrate that students with disabilities withdrawing from HE are vulnerable to becoming long-term NEET, with notably three participants not having engaged in any activity to move them closer to the labour market several years after withdraw. Whilst the long-term objective should be to minimise the withdrawal of students with disabilities, these accounts suggest that those who do leave their courses early should be provided with targeted transition support to reduce their risks of becoming long-term NEET, as this is disproportionately more likely for young people with VI who do not have a degree (Hewett and Keil, 2015).

Limitations and further research

When interpreting the findings of this analysis, it is important to consider possible limitations. Firstly, this article focuses specifically on the experiences of students with VI, and therefore caution is needed when considering the representativeness of the evidence for students with other disabilities. Secondly, inevitably the outcomes of the participants in the

LTS will have been impacted through taking part in the research, as they had an opportunity to learn about support options such as DSA through the research interviews or to be referred to specialist services. The findings of this analysis highlight the importance of further qualitative investigation into the experiences of a wider range of students, reflecting a broader range of disabilities. This should include an investigation of interactions with other factors, such as socio-economic characteristics which was beyond the scope of this analysis.

Conclusions

In this paper we have shown that whilst national equality data demonstrates more students with disabilities are accessing HE in the UK, this does not necessarily equate to improved equality of experience. When interpreting the experiences of students with VI in HE, it is clear that the influences on their experiences are multifaceted, and not entirely within the control of the institution in which they sit. This is recognised through the application of the Bieocological Model of Inclusive Higher Education, which illustrates how the experiences of students with disabilities in HE are influenced by the interaction of various factors; ranging from staff they regularly encounter to policy decisions at a government level, as well as the agency of the individual themselves. The evidence we have presented supports the value of interpreting the outcomes of students across the full student lifecycle, with the final outcomes of students with VI being shown to be intrinsically linked to their broader HE experience. In this respect the data obtained through this unique longitudinal study has been invaluable for providing a holistic understanding of the complex transitions made by this minority group, as well as furthering understanding for students with disabilities in general.

Previous research literature has identified several ways in which students with disabilities are impacted by barriers at institutional levels. However, of significant concern is evidence of

ways in which the systems that have been specifically put in place to support students with disabilities, such as DSA and institutional support, can serve as further barriers to them. Nevertheless, national equality data demonstrates that receipt of DSA has positive outcomes on student attainment. Therefore it is important that the scheme is widely promoted to ensure all eligible students are able to access the support it offers.

Whilst the evidence we present shows that students with VI succeed highly in their degrees, in spite of the challenges they may face, employment outcomes are not in line with their non-disabled peers. Evidence from the LTS suggest that changes are needed to policy and practice to ensure that students with VI have access to the support and guidance that they need to be equipped to progress from HE to the labour market, including opportunities to access work experience and targeted support through careers services. Moving forward it is important that equality data captures whether students with disabilities are able to access this type of provision. Equally, graduate employers must take steps to ensure that their application process is fully accessible, and that there is greater representation from students with disabilities in mainstream graduate schemes.

The evidence presented illustrates that whilst more students with disabilities are accessing HE, further work is needed across the HE sector to remove inequalities. The process of addressing barriers to access places a significant burden on the student, thus reducing their ability to engage in the extra-curricular activities which are so vital for developing the key skills and experiences needed for future progression. To remove this burden HE providers must ensure that support systems are fully accessible, that reasonable adjustments become embedded within inclusive practice, and that staff have the necessary training to facilitate this.

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With the exception of data tables relating to degree attainment, continuation, or leaving destination, all tables presented in this report are based on the standard registration population. This population is derived from the HESA Student record, from all registered higher education and further education student instances active as a reporting HE provider in the reporting period 1 August to 31 July, following courses that lead to the award of a qualification or HE provider credit. Impairment type is recorded within the HESA student record on the basis of self-assessment using one of 12 possible categories.

Box 1: Adapted from Advance HE (2018), p11 and 14

Table 1: Overview of key characteristics of participants who studied in Higher Education

Variable	Total (N)	Total (%)
Gender		
Male	20	50%
Female	20	50%
Preferred reading format		
Standard print (up to pt 14)	4	10%
Large print (Pt 16-22	20	50%
Large print (Pt 24+)	5	13%
Braille/Electronic	11	28%
Type of secondary school education		
Mainstream school	23	58%
Special school	13	33%
Both mainstream and special school	4	10%
Type of HE institution attended		
Pre-1992 institution	16	40%
Post-1992 institution	21	53%
Specialist institution (e.g. performing arts college)	3	8%

Table 2: Outcomes investigated in terms of Access, Success and Progression

Access	Success	Progress
- Choice of institution - Application experience - Disabled Students' Allowance (assessment, delivery of equipment, mobility, non-medical support)	- Access to the curriculum - Access to exams and assessments - Delays in completing studies - Attainment	- Destination after graduation/leaving course - Careers guidance received - Job search

Table 3: Degree classification by disability status 2016/17, adapted from Advance HE (2018)

Disability classification	First/2:1 (N)	First/2:1 (%)	2:2/Third/Pass (N)	2:2/Third/Pass (%)	All students
Blind or serious visual impairment	415	72.3%	160	27.7%	575
All disabled students	36,880	73.2%	13,490	26.8%	50,370
All students	293,340	74.9%	98,535	25.1%	391,875

Table 4: Destinations of Leavers in 2016/17, by activity, adapted from bespoke DLHE data

	Blind or serious VI	Other disability	No known disability	All students
Activity	(%)	(%)	(%)	(%)
Full-time work	46.4%	51.9%	59.8%	58.8%
Part-time work	14.1%	13.8%	11.2%	11.5%
Primarily in work and also studying	3.1%	2.5%	2.6%	2.6%
Primarily studying and also in work	3.4%	3.5%	3.0%	3.1%
Full-time study	15.3%	15.1%	13.8%	14.0%
Part-time study	1.6%	1.5%	1.0%	1.1%
Due to start work	1.3%	1.0%	1.0%	1.0%
Unemployed	8.1%	5.4%	3.5%	3.8%
Other	6.7%	5.4%	4.1%	4.3%
Total (N)	616	52,666	347,636	100%