

**UWE
Bristol**

University
of the
West of
England

**Amplifying the voices of neurodivergent
students in relation to higher education
assessment at UWE Bristol**

Final Report 2023

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Executive Summary

This paper reports on a study funded by the UWE Pedagogical Project fund in 2021-2022, which aimed to amplify the voices of neurodivergent (referred to as 'ND') students in relation to lived experiences of Higher Education (HE) assessment practices which were perceived as enablers or barriers to their success. The research team included neurodivergent researchers and allies and 18 neurodivergent student participants across all faculties at UWE. Through the use of a participatory approach, the study aimed to reduce traditional power dynamics between the researcher and research participants.

Ethical approval was gained through the University Research Ethics Committee, and relevant ethical guidelines adhered to (British Educational Research Association, 2018). Student participants were invited to be involved in the overall research design, drawing up questions and methods for data collection and subsequent analysis of data. Data were subsequently collected via online interviews which were either recorded and transcribed *verbatim* by the researchers or received as written answers depending on student preference. The anonymised interviews were stored on a secure online server in accordance with the General Data Protection Regulation.

Key Findings

In order to extract meaning from the data, the study drew broadly upon Braun and Clarke's (2006) thematic analysis methods and utilised NVivo 1.6.1 as a coding tool. Clouder's (2020) synthesis of literature relating to the experiences of neurodivergent students within HE was also useful in framing our thinking, particularly the categorisation of three areas of significance for neurodivergent learners at HE:

- (i) Teaching Learning and Assessment practices
- (ii) HE responses to neurodivergent learners
- (iii) Student experiences of HE

At a time when there remains a persistent awarding gap between disabled students and their peers, which can be particularly significant for students with neurodivergent profiles, findings are relevant to HE institutions concerned with widening participation and inclusivity in Higher Education.

Finding 1: Teaching Learning and Assessment practices

Given the focus of our study, it is unsurprising that much of the data related to teaching, learning and assessment practices. A key finding of the project was a perception of rigidity of assessment practices which did not allow neurodivergent scholars to evidence their knowledge of either concepts or content related to their chosen disciplines. At the same

time, participants did not advocate for an 'anything goes' scenario in relation to assessments, arguing that some parameters were helpful in framing assessments. We termed this 'bounded flexibility'.

Formal exams were often noted as a barrier, along with limited opportunities for well-timed formative assessment sessions. A further perceived barrier was an inability to decode assessment criteria, which was exacerbated by a perception that tutors held implicit academic expectations which they did not always articulate.

Recommendations

Bounded flexibility

To enable neurodivergent students to evidence their full potential in assessments, we suggest there is a need for UWE to consider the implementation of assessment practices, *to all students*, which routinely offer some flexibility in relation to:

- (a) student choice associated with the content or topic of assessments that are linked to the key concepts of modules, and
- (b) choice in relation to the mode of assessment (e.g. group/individual presentations, presentations which are face to face/online, recorded or live etc.).

Formative assessment opportunities and feedback

To support neurodivergent students towards success in assessments, we suggest that there is a greater need for emphasis upon formative low stakes assessment opportunities being skilfully built into the life course of modules. Furthermore, students should have opportunities to be scaffolded in the decoding of assessment criteria, with explication of how these translate into successful assessments.

Finding 2: Responses from HE

Students reported a perception of a lack of awareness from tutors of the challenges that can be associated with neurodivergence, which hampered success. They also reported that there was often a deficit model of abilities, with reasonable adjustments often viewed by staff as a form of remedial provision. There was limited awareness of the strengths that neurodivergent profiles can also bring.

Recommendations:

Increased staff awareness of the strengths and areas of challenge experienced by neurodivergent students

In order to develop staff awareness of neurodivergence, we suggest a need for institutional inclusive infrastructures to be in place aimed at supporting staff in this area, including awareness of different neurodivergent profiles, staff training, and *resourced* neurodivergent champions. We strongly suggest that members of the neurodivergent UWE community need to be part of these dialogues to avoid 'othering'.

UWE to take an asset-based approach to neurodivergence

In supporting neurodivergent students to develop a strong sense of themselves as competent learners, we recommend an asset-based approach to neurodivergent learning profiles at an institutional level. This would require recognition of the strengths that neurodivergent profiles can bring to the learner when barriers are removed (including via flexible assessment practices).

Critique of reified pedagogic practices

With a view to supporting the success of neurodivergent students, we recommend that programmes and tutors need to regularly critique their own pedagogical repertoires from anti-ableist and inclusivity positions and recommend that there is a need for university support in doing so.

Finding 3: Experience of HE

A key finding was the significance placed on establishing meaningful relationships with academic staff, beginning at transitions into HE. These 'relational pedagogies' (Gravett and Winstone, 2020), in which students feel they are valued and listened to, facilitate a sense of belonging. This was perceived as essential since it enabled students to disclose and to seek the support needed to scaffold towards success. Such 'Pedagogies of mattering' (Gravett *et al.*, 2021) also require academics to constantly critique their pedagogical and assessment practices, calling into question how curricula are (co) constructed. At the same time, it has been argued that neo-liberal discourses, with their focus upon the marketisation of HE, have led to the depiction of modern-day universities as places underpinned by 'forces inimical to individual flourishing and collaborative endeavours' (Taylor *et al.* 2020, 1) and there may be reticence from academics to take on what is perceived as a 'caring' role outside the remit of their profession. Difficulties with UWE processes, including irregular timetabling and staff not always following UWE procedures (e.g. putting up materials 48 hours in advance), were regularly noted as barriers to success.

Recommendations:

Greater resourced support structures for students and staff

The University should provide clear, accessible guidance on university systems in different formats, and make this available to all students and staff. More regular timetables need to be designed wherever possible, alongside offering support and understanding to students struggling with organisational pressures. We recognise some of the staffing issues may be due to under-resourced staff with workload issues, and so more structural support for staff is needed (who may also be neurodivergent themselves). Alternatively, the University needs to provide more staffing to ease workload pressures, which in turn will help with the ability to develop relationships with students and provide feedback.

Supporting neurodivergent students in developing a sense of belonging by celebrating neurodivergence in UWE staff

To support neurodivergent students in developing a greater sense of belonging, we recommend that UWE should visibly and strategically celebrate the achievements of neurodivergent staff. This is because visible representation of relatable role models has been a useful tool for inclusion for other marginalised groups. At the same time, we recognise a consistent reluctance for academics to disclose their own neurodivergent profiles (Brown and Leigh, 2018) and that this can be based on the belief of the pervasiveness of ableism in the academy which could be damaging to careers, identities, and wellbeing (Brown, *et al*, 2018). Furthermore, this would help with fostering a culture of staff empathy and awareness of inclusion of neurodivergent students, where needs can be raised without concern of negative impacts. With a concerted (resourced) effort, UWE could be a pioneer in this area, leading other HE institutions.

1. Introduction

Our pedagogical project arose in response to the persistent institutional attainment gap between disabled students and their peers, which is particularly significant for students with neurodivergent profiles. The central aim was to make visible the enablers and barriers within assessment practices which support neurodivergent students in evidencing their understanding of their chosen programme of study. The project involved a group of neurodivergent academics and champions, working with 18 students across the (then) four faculties at UWE to explore perceptions of current assessment practices.

There is recognition that neurodivergent conditions result in 'spikey' psychometric profiles, where there are significant differences between different domains of learning which would not be found in the neurotypical population (Wray et al., 2013). This means that when certain forms of assessments are consistently privileged within assessment practice, neurodivergent students may not be given the opportunity to evidence their full potential and are subsequently disadvantaged.

Our aim was to explore assessment practices from the perspective of students with neurodivergent learning profiles. This was based around the following research questions:

1. Which assessment practices do neurodivergent students feel aid their ability to successfully evidence their competencies?
2. Which assessment practices do neurodivergent students feel hinder their ability to successfully evidence their competencies?
3. What would neurodivergent-friendly assessment practices would neurodivergent students like to see developed, to enable them to fully demonstrate competencies?

2. Review of the literature

2.1 Adopting a neurodivergent framework

Neurodivergent students are typically classified as those who have range of neuro cognitive variants such as dyslexia, dyscalculia, dyspraxia, attention deficit hyperactivity disorder (ADHD), autism and Tourette’s syndrome (Singer, 1999; Clouder *et al.*, 2020) and these students may be seen as having a ‘hidden disability’ (Couzens *et al.*, 2015). In 2021/22 there were 144,320 students registered in UK Universities who had reported a specific learning difficulty such as dyslexia, dyspraxia or ADHD. This number accounts for 32% of all students with a known disability and 5% of total students (Higher Education Statistics Agency, 2023). At the same time, we acknowledge that the actual number is likely to be higher due to under-diagnoses (which in turn may be disproportionately higher for female students, e.g. Renoux *et al.*, 2016; Loomes *et al.*, 2017) and non-disclosure.

Despite the recent Unite report (Unite, 2023) encouraging HE to view neurodivergent students as ‘an asset not a problem’, there remains a persistent institutional HE awarding gap between students with neurodivergent profiles and their peers. The Disability Awarding Gap is the difference between the proportion of non-disabled and disabled students who are awarded the same degree. Data from UWE Business intelligence (Table 1) shows a 5% gap in attainment for students with a disability (which includes all types of disability) versus non-disabled students at UWE Bristol in recent years.

Table 1. Disability Awarding Gap for academic years 2016/17 to 2020/21 (UWE Business intelligence, 2022)

| Academic year | Disability Awarding Gap |
|---------------|-------------------------|
| 16/17 | 2.2% |
| 17/18 | 4.1% |
| 18/19 | 5.5% |
| 19/20 | 5.3% |
| 20/21 | 4.6% |

In common with the Unite (2023) report, this research project moves away from application of the traditional medical model whereby neurodiversity is seen as a deficit. A medicalised model attempts to locate biological causes and solutions for neurodivergence and individuals are positioned as passive recipients of medical care for problematic disabilities (Bovill *et al.*, in press). In contrast, the social model underpinning this report notes that structural issues are barriers for neurodivergent learners and that these can be removed or reduced at a societal or institutional level. Advocates of a neurodivergent paradigm ‘believe that society should work to eliminate stigma, create accommodations’, and celebrate the contributions (neurodivergent) people make to society (Psychology Today, 2022, p. 3).

2.2 University responses to neurodiversity

Our project focused specifically on understanding the impact assessment practices had on the experience of neurodivergent students. As Sambell (2016) notes, 'many assessment tasks currently act as alienating influences' (p.2). Hanafin (2007) and Nieminen (2022) propose that the focus should therefore shift from retrospective adjustment, to ensuring academics feel confident in designing curricula that are inclusive in the first place. University responses to neurodivergent students include institutional support and pastoral care, disclosure & diagnosis, reasonable adjustments and working with students to understand their academic attitudes and expectations (Clouder *et al.*, 2020). However, Clouder *et al.* acknowledge that the experience of neurodivergent students is a complex picture involving experiences with (i) peers and social aspects, and (ii) learning, teaching and assessment strategies, alongside (iii) university responses to assist neurodivergent students. All three aspects play significant roles in the experience of neurodivergent students in HE.

The main focus of university actions to improve outcomes for these students is on reasonable adjustments within the assessment setting. Such mechanisms have the benefit of maintaining the status quo and therefore being easier to implement. Individual assessment accommodations can be administered to ensure that all students have the same opportunity to succeed in assessment (Kivijärvi and Rautiainen 2020; Weis and Beauchemin 2020). Despite this reliance on reasonable adjustments, some staff struggle to support students with disabilities due to lack of knowledge, training and awareness, which suggests that a move towards inclusive curricula, with a focus on attitudes and perceptions through a social model of disability, would be beneficial (Bunbury, 2018).

However, attitudes often perpetuate the deficit model of disability and neurodivergence, which are seen as a problem that needs to be cured (Oliver, 2013). All adjustments are mechanisms which allow for neurodivergent students to be given a 'fair' chance to perform at the same level as neurotypical students and deflect attention from improving teaching practice to ensure assessments are designed in an inclusive manner. As Nieminen (2022) notes, while adjustments are required by legislation within HE institutions, inclusive design is not. There are calls for this individual retrospective accommodation of disability to be replaced by assessment that is inclusive for all students in the first place (Nieminen 2022) and for Anti-Ableist Pedagogies to replace the endemic ableism in education (Dolmage, 2017). Given the awarding gap and the importance of assessment within the student journey, this research project set out to give neurodivergent students the opportunity to share with us the barriers and enablers that they experience with assessment.

3. Methodology and methods

3.1 Research approach

The original design of the study was based around a participatory emancipatory research (PER) approach, with students constructed as co-researchers. Noel (2016) has argued that PER is based on an epistemic assumption that research is not only created by the 'dominant or elite researcher'. From this perspective, there is a necessity that the knowledge produced will benefit marginalised societal groups involved in the research process, in this case neurodivergent students who under the Equality Act (2010) might be viewed as having a hidden disability. This approach aimed to empower the neurodivergent students during the collaborative research process through the development of self-efficacy (Payne, 2015). Neurodivergent students were consequently consulted on the overall research design and involved in the original pitch for project funding from the UWE Pedagogical Project fund.

3.2 Methods

Planned data collection

In collaboration with neurodivergent students, a series of four focus groups were planned, which were to be facilitated by the research team made up of ND staff/champions from related disciplines. This included:

Group One: Sarah Chicken, UG initial Teacher Education programme, CHSS

Group Two: Tracy Hunt-Fraisse, Marketing & Events, CBL

Group Three: Debbie Lewis, Biomedical Sciences, CHSS

Group Four: Laura Hobbs, Engineering, CATE (serviced from Applied Sciences, CHSS) and Laura Fogg-Rogers, Engineering, CATE

The planned focus groups aimed to

- (i) initially explore experiences of when students felt that they had been successful in HE assessments and
- (ii) explicate practices that had supported them towards this success.

After establishing relations and beginning with positive aspects of learning, the later planned focus groups aimed to sensitively consider assessment practices which created barriers to a full demonstration of academic strengths within their disciplines and to discuss suggestions of how these might be improved.

Revised activities based on student feedback

However, when the project was launched, the majority of neurodivergent student participants expressed reluctance to take part in focus groups and after consultation with the research team, the study was redesigned as a 45-minute individual semi-structured interview conducted online via Teams. In five cases, participants preferred to complete interview questions as a written survey, which was accommodated to ensure participants were comfortable with their preferred communication style. The interview questions can be found in Appendix A.

It was also anticipated that students would be involved with analysis and any future dissemination of findings, including choice of format and audience. All of the group were invited to be involved; however, none expressed a desire to be involved beyond the interview stage. This may have been a result of the timings of the analysis process, since some of the students were involved in professional placements for their different programmes. This is viewed as a limitation of this study, as we recognise that the voices of the participants have been subjected to a filtering process by the research team, due to the structural and administrative requirements of the research project which required that the work was completed according to a specific timeframe that was not necessarily compatible with student participation.

Recruitment and Sampling Strategy

Neurodivergent undergraduate students were invited to participate through Blackboard announcements via the different areas of the University in which the research team were situated (Education, Marketing and Business, Biomedical Sciences and Engineering). Potential participants were able to express an interest in the project by emailing one of the project team; 18 eventually participated.

Ethical Considerations

The research was given ethical clearance via the ACE Faculty Research Committee and was underpinned by BERA Ethical Guidelines (British Educational Research Association, 2018). Informed consent was recorded before the study began, participants were made aware of their right to withdraw, and data were anonymised at source. Given the potentially sensitive nature of the project, we were keen to signpost participants to relevant wellbeing services so that they were supported in the event of any negative emotions surfacing during the process of the interview. Relevant services were subsequently highlighted in all documentation and during the interview process.

3.3 Data Analysis

The process of meaning making drew broadly upon Braun and Clarke's (2006) thematic analysis with NVivo 1.6.1 used to support locating codes and subsequent themes. The approach taken was both deductive and inductive in nature.

Drawing on a narrative synthesis of a systematic review of literature relating to Higher Education and neurodivergence, Clouder *et al.* (2020) identified three main recurring themes from the literature for neurodiversity studies which we employed during our initial deductive area of focus for analysis (Table 2).

These themes were (i) teaching, learning and assessment practices, (ii) responses of HE to neurodivergence and (iii) the experience of neurodivergent students in HE. These deductive themes aligned to areas explored within the interview guides used within the semi-structured interviews. Inductive codes were then identified in the data, with the codes organised according to the deductive coding frame.

Table 2: Clouder *et al.*'s three main themes based on analysis of neurodiversity studies from 2008 onwards

| Clouder <i>et al.</i> , 2020 |
|---|
| (i) Teaching, Learning and assessment strategies Teaching and learning approaches, Assessment approaches, Technological support. |
| (ii) Higher Education's response to ND Institutional support and pastoral care, Academic attitudes and expectations, Disclosure & diagnosis, Reasonable adjustments |
| (i) The experience of ND students in contemporary HE Emotional reactions and wellbeing, Personal and social life, Academic life, Identity and possible selves. |

4. Findings

The 18 students were recruited from the four UWE faculties and were from years 1-3 of their degree programmes, with a variety of self-reported diagnoses. Table 3 indicates some of the participant characteristics. Some fields are not populated or contain redacted information, as participants were not all comfortable in sharing information that they felt might identify them. The participant codes relate to the departments recruited from; Department of Applied Sciences (DAS), Education (Edu), Engineering (Eng) and Business and Marketing (BM).

Table 3: Characteristics of study participants. Participant codes indicate department.

| Participant dept | Neurodiversity | Year of study |
|------------------|--|---------------|
| DAS1 | Obsessive Compulsive Disorder (OCD) Anxiety Depression | 2 |
| DAS2 | Autism ADHD | 1 |
| DAS3 | Dyslexia | 3 |
| DAS4 | Asperger's | |
| DAS5 | ADHD | |
| Edu1 | Dyspraxia Dyscalculia Dyslexia | 3 |
| Edu2 | Dyslexia | 3 |
| Edu3 | Dyslexia | 3 |
| Edu4 | Dyslexia Dyspraxia ADHD | 3 |
| Edu5 | Dyslexia | 3 |
| Eng1 | Autism ADHD | |
| Eng2 | | 1 |
| Eng3 | ADHD [and other conditions redacted] | |
| Eng4 | | 3 |
| Eng5 | ADHD | 2 |
| Eng6 | Dyslexia | |
| BM1 | ADHD | 3 |
| BM2 | Undiagnosed | 3 |

Drawing on Clouder *et al.*'s (2020) three themes shown in Table 2, Table 4 indicates the themes and their sub-codes below which were inductively identified, with examples from the data. These themes are explored in more depth below. The breadth of the themes indicates the lack of separation for neurodivergent students between areas of their University experience, which may be distant in terms of university operation, but linked in their minds as contributing the overall experience.

Table 4: The Coding Frame with examples of each code

| Themes | Codes | Explanation | Example quote |
|---|--|--|---|
| Teaching Learning and Assessment Strategies | Bounded Flexibility – Assessment styles | Students requested more options on their assessments – to choose styles which worked better for their skills or learning styles. | <i>"So for this, the domains are X, Y and Z, but you can do an essay or a report or a recorded presentation or a live presentation."</i> |
| | Bounded Flexibility – Interest-led assignments | Students stated their favourite assignments were ones where they had some degree of choice to choose the topic. | <i>"The most enjoyable submission I have had to make so far was very open-ended and student driven in terms of focus area and that fact did help since it was a topic I was actually interested and could invest in."</i> |
| | Bounded flexibility - Scaffolding of assignments | Students recognised that they needed scaffolding to complete assignments; in terms of timings, level of information, and prior practice. | <i>"That was a mixture of regular weekly quizzes and then also a portfolio. I remember this being so much easier to deal with because the weekly quizzes it was kind of reinforcing what you just learnt and it was regular enough that you couldn't get pushed behind all the other things up you had to do."</i> |
| | Feedback | Feedback on their progress and strengths was identified as being critical to enable improvements. | <i>"It's going to be very hard for it to actually realistically happen, but every lecturer to talk to each student who got a low mark for like 5-10 minutes explaining the work. Do you want to just have a chat about why you went wrong or how to improve? ... I know that everyone would appreciate it, that personal interaction feedback."</i> |

| | | | |
|--|----------------|--|--|
| Higher Education's response to neurodiversity | Accommodations | This theme describes the types of accommodations which students found useful for their learning. | <i>"Another thing which helped me was that I was granted extra time and for my exams I was given a 24-hour window which greatly helped me manage my time better especially because I've had some weeks where I've struggled to look after myself and having extra time allowed me to give myself more rest breaks and helped distress from the pressure of a time limit".</i> |
| Experience of neurodiversity in Higher Education | Relationships | Students identified that core relationships with their tutors were critical to their success. | <i>"Majority of the teachers here like once they know and once you have a rapport then they do, appreciate and understand...when you [are] in person, you can be like, hey, sorry doesn't quite make sense. I am a little bit like I am dyslexic so can you just repeat that in a different way. It's so much easier in an in-person conversation than an email conversation".</i> |
| | Transitions | Moving to higher education was a difficult time, with students adapting to the new learning environments, while also having to disclose and agree their accommodations with new staff. | <i>"I feel like I've lost a lot of drive and lack a lot of motivation to do work ... Coming to university has been a huge step and constantly having to manage things for myself can be a bit much sometimes."</i> |

4.1 Teaching Learning and Assessment Strategies

The theme of 'teaching and learning strategies' was the most prominent of the data set, and this has been further broken down into bounded flexibility and feedback. Bounded flexibility encompasses the sub themes of (i) assessment styles (ii) interest led assignments and (iii) scaffolding of assignments.

Students consistently expressed a need for choice in both how they complete their assessments, and integration of their interests into assessment. However, within this they also needed scaffolding, boundaries and support; they were not suggesting free rein over what they are assessed on and how, but that there are options, within a supported framework, that allow them to best express their competencies. Furthermore, the importance of feedback and practice was clear. Students needed explicit instruction having to interpret implicit information, prior practice opportunities and feedback aimed at helping them to improve their ongoing and/or future work.

4.1.1 Bounded Flexibility – Assessment Styles

Students argued that they would like flexibility within assessment but within some clearly specified boundaries; we termed this 'bounded flexibility,' this included assessments that offered choice in terms of format but also content. This is exemplified by the words of the following participant:

Edu 5 I am most successful when there is coursework where there are some boundaries but there is also some flexibility, you know, to choose content or maybe how you do.

This view has recently be supported by Morris *et al*, (2019), who cite a review of the literature from Hockings (2010, p.21) which indicates that 'having choice in assessment mode enables students to deliver evidence of their learning in a medium that suits their needs, rather than in a predetermined and prescribed format which may disadvantage an individual or group of students in the cohort.' We would argue that this is likely to be beneficial for all students, but particularly so for learners who are neurodivergent with 'spikey profiles'.

The majority of students described how exam style assessments were a barrier to their ability to demonstrate their understanding of subject matter, and that this could lead to very high levels of stress:

DAS5 "My preferred method of assessment is coursework. I feel I can showcase my abilities better without working myself to a breaking point. I struggle a lot with memory so exams just add more stress in terms of if I remember everything I need

to revise and, if I can recall the information accurately. I frequently doubt my knowledge so this is stressful for me."

DAS1 "I would often get very, very, distracted in my exams. Over the tiniest bit of noise, like the shoes of the person next to me or the pen clicking, or sometimes on some days the pencil I could hear it on the table through the paper which really would make me quite stressed then I wouldn't be able answer them. I will just go blank".

For the above student, the stress of exams was greatly exacerbated by sensory processing issues related to neurodivergence. We reason that if exams are a necessity, then quieter spaces need to be provided for neurodivergent students.

For some students, dislike of exams had impacted on choice of courses and disciplines since it had led to many students choosing courses which featured mainly coursework assessment or other forms of assessments which they felt most confident with. For example, one of the students explained with some sadness how he had loved psychology but had not been able to evidence his developed understanding in A level examination format. This had led him to choose a degree in education where exams were not part of the programme:

EDU5 "My experience in exams in school....I hated them and actually looking at my psychology (A level result) I hated the result....so I specifically looked at coursework based degree options."

In the case of some the science or engineering students, where exams are still routine practice, some students had developed personal techniques for exams. At the same time, they recognised that they did not always do their best work in timed situations.

Across all the disciplines, students from Education, Engineering, Applied Sciences and Marketing suggested that students should be able to pick an assessment style which suited their future careers, or reflected their skills.

EDU2 "So for this, assignment) the domains are X, Y and Z, but you can do an essay or a report or a recorded presentation or a live presentation.... perhaps, you know, you can record your presentation, or you can do it live. So, yes, it's got to be a presentation, but there is some autonomy over how. And I guess you could have the same thing with a written piece, it can be a report or an essay or different full forms of writing."

Students argued that this should be available to all students regardless of whether they were neurodivergent or not.

ENG1 "Provide different options for testing students, regardless of if they have a neurodiverse condition! Some students do better in exams and other in coursework. Although my degree is maths based, coursework can still work."

Having flexibility in assessment was linked to enjoyment and motivation with a subsequent positive impact on grades:

BM1 "It's a lot more creative because it's just a bit more interesting [when you choose]. And when you do something that's fun, it tends to be more. You get your head in it more and more passionate or work with it."

At the same time, some students noted that they would need the skills underpinning certain types of assessments as they entered the world of work.

DAS4 "It would be nice to choose how we were assessed, but I guess also you kind of need to have all the skills, so I'll still need to be able to write proper papers and essays and things."

This makes institutional support for any specific modes of assessments that neurodivergent students may struggle with particularly important.

4.1.2 Bounded Flexibility - Interest-led Assignments

Some forms of neurodiversity are associated with issues around focus and attention, with ADHD in particular being noted for an 'interest-led nervous system'. While all students would benefit from pursuing a course or career they are interested in, the neurodivergent students particularly noted that they had higher motivation when submitting an assignment on a topic they had chosen and were interested in. This is illustrated by the comments of the students below:

ENG2 "The most enjoyable submission I have had to make so far was very open-ended and student driven in terms of focus area and that fact did help since it was a topic I was actually interested and could invest in."

ENG3 "I quite enjoy the majority of my modules and for Engineering Practice 1 where we were able to choose what project statement we wanted to focus on for the Engineers without Borders challenge definitely allowed me to thrive more because I was able to research and create work from something I was actually interested in. Additionally, I was able to choose what I wanted to write about for my essay."

BM1 "It was something I was really interested in. I got to pick the topic and it was consumer behaviour and it was in my first year it [was] the highest mark I've ever

gotten. You know, I've got to pick the subject that I'm interested in that I know stuff about."

The students also noted that this interest transferred into higher grades in their assignments. Whilst the assessment format could therefore remain the same, the topics could be chosen by the students, and this was emphasised by students from all four disciplines. This was one of the enablers in relation to assessment that they believed supported success:

EDU5 "My most successful grade across my two years so far was a written piece of interest... around my transition to Higher Education and I focused in on my dyslexia, which obviously I had a strong interest about. I quite like having the choice because looking back at my grades, the one when I got focus in on an area of my interest. My grades reflect, obviously, I'm obviously interested in it, so I am invested in a bit more."

4.1.3 Bounded Flexibility - Scaffolding of Assignments

While choice is clearly important to the students, in terms of assignment type, or a topic of interest, the students clearly stated that they needed boundaries to the development of the assignment. The Applied Sciences students in particular noted assignments which were clearly scaffolded, in terms of building up to a main assessment, or in terms of signposted completion deadlines or timetabled sessions to complete the work.

DAS3 "That was one of the ones that I felt... going into it that I didn't need to worry about it. That was a mixture of regular weekly quizzes and then also a portfolio. I remember this being so much easier to deal with because the weekly quizzes it was kind of reinforcing what you just learnt, and it was regular enough that you couldn't get pushed behind all the other things up you had to do."

DAS1 "There wasn't any choice at all and that actually kind of really helps. [Be]cause we did practical sessions beforehand. Then we just did the poster on the practical session so everything was very out there in specific rules kind of way so it didn't leave any margin for confusion or what shall I do here or there or anything."

Students from other disciplines also noted that prior practice for the assignment was useful to enable them to receive feedback and improve their style. This could take the form of practice assessments, or formative versions of the assessment in the assessment environment with informal feedback.

EDU5 "Support for my assessment, I feel like having good contact with the tutor, so I can ask questions frequently if I need to.... before I even start with anything, I feel like I need to have a good understanding of what is required and... the reasons

behind why I'm doing it and well, the expectations [set] out before I can get it, so having a good conversation with either my tutor or the module leader to get a clear picture in my head of what's needed."

4.1.4 Feedback

Further to scaffolding assignments, the students stressed the importance of feedback to help them improve their work. They stated that this was important to them, as they needed explicit instruction rather than a hidden curriculum where they misunderstand implicit information or graded marks. This feedback needs to be about improvement, either for future assignments, or as formative feedback in the middle of a major assignment.

EDU3 "Sometimes I don't know how to interpret the criteria right, and I (want to know) what it would look like in my writing, and I find that so useful because it's sometimes really hard to interpret."

ENG2 "Exposure to prior work in the style we are being asked to produce (is useful)."

EDU4 "When I'm reading through the feedback of what I'm reading on the screen of my final draft, it's what I had in mind, but it didn't come out the way I wanted it to. So that's why I'm saying (is) that the formal feedback in the beginning or in the middle of the assignment could have been more useful not just at the end."

Several students stated that ideally, the feedback would be in person or face to face, with explanations for the marks and how to improve. The students wanted to see modelled marks and guidance on how to get higher marks.

DAS2 "My best feedback was... when I did my CV and I sent my CV over to one of the lecturers that I had, and she marked it for me and then we had a video call afterwards where she went through all the comments that she wrote down on my page. But like she verbally told me them as well. So, then I could then ask her questions about 'what did you actually mean here' so it made it [a] much more productive feedback session rather than me just like reading through the feedback that she gave me."

BM2 "The prime example would be the feedback [lecturer] gave me for my presentation, and now when you read my retail booklet, you'll find that I took on board the comments. You feel it was very helpful because it told me what I can do to make it that bit better."

At the same time, students also noted that this is likely to be very time consuming for academic staff, despite it being something they wanted to see:

DAS3 "It's going to be very hard for it to actually realistically happen, but every lecturer to talk to each student who got a low mark for like 5-10 minutes explaining the work. Do you want to just have a chat about why you went wrong or how to improve? ..., I know that everyone would appreciate it, that personal interaction feedback."

4.2 Higher Education Responses

Although not the focus of our study, in interviews some students noted aspects of their reasonable adjustments which were useful to them. For example, some students detailed accommodations such as extra IT or being able to use a laptop/IT in an exam. This was seen in the responses of students on different courses:

ENG3 "I was granted extra time and for my exams I was given a 24-hour window which greatly helped me manage my time better especially because I've had some weeks where I've struggled to look after myself and having extra time allowed me to give myself more rest breaks and helped destress from the pressure of a time limit".

DAS1 "Also, the 24-hour exams that we have [have] been really helpful because then if at that time of exam my mind is not in the right place or I just can't focus in, in any way that I know I've at least got a couple of hours, I've got like a long period of time where I could just say, OK, let's not start it now [be]cause it's gonna be unproductive if I do and like start in a couple hours later when I'm feeling more like with it in the head".

While many of the accommodations noted were specific to neurodivergent students, some students felt that accommodations and support could be better advertised and would help all students.

ENG4 "Ask all students if they think that they qualify for extra time/rest breaks. Ensure students have access to past papers/questions. Have a place where students can ask queries about exams/assessments. Allow students to have extenuating circumstances and make it clear who can be eligible for it (I know five of my peers have had people die this academic year in their lives and I know that not all of them know where to go to ask for help.)"

This indicated that systems were not always easy for neurodivergent students to navigate and that on occasions UWE systems exacerbated the challenges that a neurodivergent profile can bring; for example, a significant issue for the group was a perceived lack of structure in timetables. There was subsequent advocacy for a more routinely structured timetable, as the comments of the below DAS student illustrate:

DAS4 "If I could change anything it would be timetabling and timetabling to be more regular. A small change often throws out my entire weekly routine".

ENG2 "Better structured teaching timetable would be greatly beneficial"

For these students, as for others in our study, irregular timetables were difficult to navigate since they added to over-stretched organisational skills which many of these students already struggled with. We suggest that this is something that UWE should consider.

Some students explained that a further barrier for them was that some staff did not follow UWE's own procedures as this DAS student explained:

DAS4 "Lecturers also often forget to put materials up 48 hours beforehand."

This meant that students were not given the opportunity to fully process information, as they were meeting this for the first time and within time-sensitive sessions. However, they often did not want to raise this with tutors as they were keen to establish and maintain good relationships with them and worried that this might have a negative impact.

4.3 Experience of Neurodiversity in Higher Education

Students often noted elements of their experience that were not automatically connected with assessments. A key issue was that of significant relationships.

4.3.1 Relationships

Across all departments, students expressed how important it was for them to cultivate relationships with their tutors. This ranged from being comfortable explaining their neurodivergence to known tutors, through to a shared understanding by tutors that students may be capable of more in-depth responses than some assessment and learning opportunities allowed for.

Feeling able to ask questions for further clarification and in different formats was very important to the students and was facilitated by the perception of supportive relationships with tutors. This was seen across the dataset, as is illustrated by a DAS student:

DAS2 So I was really happy with that one (assessment) because I was very lucky my lecturer, I could ask her like literally anything and she was really helpful. She's very much like no, it's fine, please ask. And also like I sent her an email saying like I don't know what the structure is, I don't know what you want from me, I don't know this, I don't know that, and she was really helpful.

Without good staff relationships, the students described being unclear about the assignments, and felt unable to ask for clarification which affected their confidence and resulting grades. The comments from a DAS student demonstrates this point:

DAS2 We had to do a grant proposal for one of my other modules and all of us were just like, a grant proposal? How do you write a grant proposal? But it was a lecturer who we were a little bit more scared of, you know, a little bit more like 'I taught you this last year' and therefore you should know.

Some students described being unhappy with the level of support they believed that they had received from university staff. This is exemplified by the comments of the student below:

EDU1 " I don't think that there's actually a huge level of training for all members of staff, not just training in what neurodivergence is, but emotional checks, training, mental training, talking about. How do you talk to people who are coming to you with these problems? How do you make sure that you're creating a safe atmosphere for people to feel like they can come to you? Because I think first and foremost as an educator, myself as an educator or the lecturer as educators, it's our duty to make sure it is a safe environment for people to feel like they can approach and not get belittled".

We noted that these comments were underpinned by a heightened level of emotion. The gap between what this student felt was offered and the perception of what they felt they should have received may be due to differing expectations between support and teaching in schools and the transition to the university expectation of self-led learning. There was also a perception that this was due to a lack of staff awareness related to neurodivergence and that training was necessary. However, many staff report that they do not have the time allocated in their workload to offer support to potentially hundreds of students on a module and to build and sustain the supportive relationships which these students seem to value. We felt that there was a real tension here that needs to be explored in future research.

4.3.2 Transitions

Transitions to university were perceived as particularly significant times for neurodivergent students, with many students stating that this was a difficult time for them. In addition to different learning expectations and methods, there were also changes to living arrangements, self-care, and support networks. Some students described struggling with the sudden lack of structure and routine around their learning.

ENG3 "I thought that I was quite an independent person and before I left home, I'd always be doing things around the house like chores and cooking dinner for my family and having a social life. Coming to university has been a huge step and constantly having to manage things for myself can be a bit much sometimes."

One of the Education students also explained that a previous transition into HE had been very negative and that this meant that she had decided to live at home when joining UWE:

EDU2 "I went to Birmingham when I was 18 and that was a disaster. So I came home and so I think that made this one easier because firstly, I was at home because I thought I'm not going to move away again because that didn't work out last time. And yeah, I think that made it easier because I kind of knew what to expect to an extent"

Whilst this student reasoned that living at home had supported her transition into university the second time around, we recognise that this is not an option for all students, which makes having explicit mechanisms in place to support transitional periods significant for HE institutions.

Some students described how they valued structures which tutors had put in place that helped them to settle in. These included regular meetings and the setting of smaller tasks and deadlines to help them navigate and build towards assessments that they perceived as high stakes:

EDU4 "I think first year was really difficult for me... I was just kind of stressing myself out over it and then once I'd gone and spoken to J and we had come up with a plan and it was like a weekly meeting that we had planned and it kind of set out. I really like lists, lists really helped me, so I made lists every week of what I need, how I'm going to do it, and then I would meet up with J every week and we would go through it. ...that really helped me to kind of put that pressure on myself again, having deadlines."

The COVID-19 lockdowns were also frequently mentioned for making learning and the transition to HE difficult, particularly for neurodivergent students. There was a dichotomy around online learning, which was highlighted as difficult to manage without daily routines, but also as a great support service around on-campus learning.

DAS4 "So it's basically just spending a year in my room, which in one way was nice [be]cause it was my own little sanctuary and [I] locked myself in, but also so not healthy [be]cause I just wouldn't speak to anyone. [Be]cause if you can avoid it, I would. Yeah, coming on campus has been a lot better, but then campuses added a bunch of different stresses because second year and not knowing where everything is

and it's all new and big and scary and so light and bright and yeah, so it has taken a while to then adjust....,

This student recognised an individual need to have their own space but also to be on campus, and at the same time reported sensory processing issues related to being in the physical university environment. This made online and recorded sessions invaluable and a useful pedagogical tool for inclusivity:

DAS4 on days and weeks that I feel like I can't go in, I'll try and go in, but it's been odd occasions I've lasted like half an hour and had to go home and then do stuff online, which is why online recordings are so helpful for me. I know it irritates a lot of teachers saying that people don't turn up, but I know myself and a couple other people really rely on it."

5. Reflections and recommendations

This project succeeded in giving a voice to neurodivergent students, and an opportunity to understand their experience in HE from their perspective. We were able to understand the pivotal importance of assessment methods within their broader University journey and gain some understanding of barriers and enablers to success within assessments.

This work has also resulted in connections across Colleges that has drawn together an emerging community of practice and increased awareness of the need to consider this student group within awarding gap and inclusion activity. Examples of this exposure included the team presenting at the Festival of Learning and becoming panel representatives at the Awarding Gaps Communities of Practice. Furthermore, there have been opportunities to partner with other institutions to collect data.

However, despite our intention to include students throughout the process, participants were reluctant to engage in focus groups and as a result the research did not follow the planned method. Focus groups were replaced by interviews, and no students chose to be involved after the interview process.

Further limitations are inherent in the nature of the research; we do not know the total number or proportion of neurodivergent students at the University, or more widely. Some students choose not to disclose their neurodiversity, for a number of reasons, and others will be neurodivergent but not recognised/diagnosed. This again has various potential causes, such as difficulty (including time, financial, location etc.) in accessing assessment, waiting times for assessments, underdiagnosis in girls and women (e.g. Renoux *et al.*, 2016; Loomes *et al.*, 2017) and stereotypes/lack of understanding about how neurodivergence can present.

For this study, students were able to self-report as neurodivergent and were not asked to confirm diagnoses, which constitute private medical information. Whilst this means that some were not diagnosed, and as such may not have accurately identified their neurodivergence, this approach allows those who have, for whatever reason, not been diagnosed but have difficulties (and who may, without diagnosis, face additional difficulties in accessing support) to have a voice. This applies both to those who are undiagnosed, and those who might be considered 'partially diagnosed', i.e. they may have only some aspects of their neurodivergence formally diagnosed.

Having our own insight and experiences on the research team, we recognise such issues and wished to extend a voice to any neurodivergent students who wanted and felt able to express their views and needs. We also recognise that having a team that includes 'insider researchers' brings such benefits, but also risks of over-familiarity and assumed understanding (e.g. Unluer, 2012; Aburn *et al.*, 2021). On reviewing the data, these points also arose in the student voice. For example, participants discussed difficulties in accessing assessments, and some with diagnosed neurodiversity reported that they suspected they

also had other neurodivergence that had not (yet) been formally recognised. As such, the data collected support the decision to take this approach.

Our findings led to a number of recommendations for supporting neurodivergent students to succeed and fully evidence their competencies. Table 5 summarises these recommendations, in relation to identified themes and key findings.

Table 5. Key findings and recommendations to support neurodivergent students to succeed.

| Theme | Key findings | Recommendations |
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| <p>Experience of neurodiversity in Higher Education</p> | <p>Relationships</p> <p>Overall, students feel there is low levels of awareness of the complexity of neurodivergent profiles within most lecturing staff.</p> <p>Staff are not aware of the impact that certain assessment types have on neurodivergent students.</p> <p>Exposing, disclosing and showing vulnerability can be hard particularly when this has to be done for each module.</p> | <p>The culture of modules and programmes is important. Focus on increasing staff empathy and awareness of inclusion of neurodivergent students.</p> <p>More effective reporting and coordination of reasonable adjustments.</p> <p>Reduce or remove the need for disclosure within each module.</p> |
| | <p>Transitions</p> <p>Transition into the freedom and autonomous environment of higher education brought challenges for neurodivergent students, as support systems and prior knowledge has to be built up from scratch.</p> | <p>Closer integration and discussion between support services and academic staff to ensure neurodiversity students feel supported at university from the outset.</p> |
| <p>Higher Education's</p> | <p>Accommodations</p> <p>Systems were not always easy for neurodivergent students to</p> | |

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| <p>response to neurodiversity</p> | <p>navigate and sometimes UWE systems exacerbated challenges. For example, irregular timetables were difficult to navigate since they added to over-stretched organisational skills which many of these students already struggled with.</p> <p>Some staff did not follow UWE's own procedures, for example forgetting to put materials online 48 hours in advance (perhaps through workload issues). Students often did not want to raise this with tutors as they were keen to establish good relationships with them and worried that this might have a negative impact.</p> | <p>Provide clear, accessible guidance on university systems in different formats, and make available to all students and staff.</p> <p>Consider regularity of timetables and aim for timetables to be regular wherever possible.</p> <p>Offer support and understanding to students struggling with organisational pressures.</p> <p>Provide structural support for staff (who may be neurodivergent themselves) or provide more staffing to ease pressures and systematically remind about deadlines for materials to be uploaded.</p> <p>Focus on increasing staff empathy and awareness of inclusion of neurodivergent students.</p> <p>Foster a culture in which needs can be raised without concern of negative impacts.</p> |
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| <p>Teaching Learning and Assessment strategies</p> | <p>Bounded flexibility – Assessment Styles</p> <p>Some flexibility in assessments is useful but a 'free for all' is overwhelming and there is a tension between flexibility and boundaries.</p> <p>Students requested more assessment options, enabling them to choose the styles which best suited their skills or learning styles.</p> <p>Exams are seen by neurodivergent students as a barrier to demonstrating their understanding (especially for those who arrive by non-traditional routes).</p> <p>While 24-hour exams reduce pressure, neurodivergent students need guidance on what to do with the 24 hours provided.</p> | <p>Design and support assessment practices which offer a defined selection of choices that enable competencies to be demonstrated, allowing students to select those that most suit them without having to entirely design their own assessment submissions.</p> <p>Promote and encourage choice of assessment mode (e.g. online/live/pre-recorded presentation, written essay/report), whilst ensuring the choice is balanced so that students are encouraged to learn new skills. This could be achieved by altering the stakes or contribution each task makes to the module.</p> <p>Colleges should encourage removal of exams. Where this is not possible all exams should ideally be 24 hours (accreditation permitting).</p> <p>Guidance should be given to students on how to use the time within the 24-hour period, setting out clear expectations regarding word limits. Colleges should continue to challenge academic staff to review their assessments using 'assessment for inclusion (AfI) principles.</p> |
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| | <p>Bounded flexibility - Interest-led assignments</p> <p>Students preferred, and performed better in, assignments where they had some choice in the topic.</p> | <p>Give a choice of topic and, more importantly, ensure students have the chance to bring in their own experience or knowledge as this increases their confidence.</p> |
| | <p>Bounded flexibility - Scaffolding of assignments</p> <p>Students need scaffolding to complete assignments, around timings, level of information and prior practice.</p> | <p>Provide clear guidance on expectations, structured timing information and examples of prior practice</p> <p>Ensure that students have opportunity to engage with any content which will be examined in assessments in a supportive manner. Merely providing material on VLEs etc., without opportunities for students to develop understanding is unlikely to be sufficient.</p> |
| | <p>Feedback</p> <p>Feedback was an important example of where neurodivergent students felt there was a lack of understanding from staff. Staff give feedback where they repeatedly explain something the same way, instead of finding new ways to help the neurodivergent student understand.</p> | <p>Improve staff understanding of neurodiversity and non-typical learning methods.</p> <p>Colleges should encourage staff to develop feedback alternatives beyond the marking grid; for example, verbal feedback and the opportunity to ask questions about what went wrong/went well.</p> <p>More staffing and support staff for modules will enable more flexibility for staff to respond to students and enhance the learning journey.</p> |

6. References

- Aburn, G.E., Gott, M. & Hoare, K. (2021) Experiences of an insider researcher – interviewing your own colleagues. *Nurse Researcher*. doi: 10.7748/nr.2021.e1794
- Bhandari, R and Rainford, J (2023). Exploring the Transitions of Neurodivergent Access Students to Level One Study: Narratives of Study Skills and Support. *International Journal of Educational and Life Transitions*, 2(1), article no. 5
- British Educational Research Association (2018) *Ethical guidelines for educational research*. 4th edn. Available at: <https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018> (Accessed: 17 April 2023).
- Bovill, H., Chicken, S., Bovill, E., Julie, B., & Kieran, M. (in press). [Exploring perceptions of stalking-like behaviour for autistic young people within a neurodivergent and strengths-based framework: Critiquing relationships, sex and health education provision](#). In C. Flowers, M. Mellins, & R. Wheatley (Eds.), *Tackling Stalking and Coercive Control amongst Young People*. The Alice Ruggles Trust.
- Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101. ISSN1478-0887 Available from: <http://eprints.uwe.ac.uk/11735>
- Brown, N., and J. Leigh. 2018. "Ableism in Academia: Where Are the Disabled and Ill Academics?" *Disability & Society* 33 (6): 985–989. :10.1080/09687599.2018.1455627.
- Brown, N, Thompson, P. & Leigh, J. (2018) "Making Academia More Accessible." *Journal of Perspectives in Applied Academic Practice* 6 (2): 82–90.
- Couzens, D., Poed, S., Kataoka, M., Brandon, A., Hartley, J. and Keen, D. (2015). Support for Students with Hidden Disabilities in Universities: A Case Study. *International Journal of Disability, Development and Education*, 62(1), 24-41, DOI: 10.1080/1034912X.2014.984592
- Clouder, L. *et al.* (2020) Neurodiversity in higher education: a narrative synthesis. *Higher education*. [Online] 80 (4), 757–778.
- Dolmage, J. T., Kimball, E., & Boyd, A. (n.d.). *Academic Ableism: Disability and Higher Education* (Vol. 59).
- Equality Act (2010)
- Gabel, S., & Peters, S. (2004). Presage of a paradigm shift? Beyond the social model of disability toward resistance theories of disability. In *Disability and Society* (Vol. 19, Issue 6, pp. 585–600). <https://doi.org/10.1080/0968759042000252515>
- Gravett, K. and Winstone, N. E. (2020). Making Connections: Authenticity and Alienation Within Students' Relationships in Higher Education. *Higher Education Research and Development*. <https://doi.org/10.1080/07294360.2020.1842335>

Gravett, K & Winstone, N. (2022) Making connections: authenticity and alienation within students' relationships in higher education, *Higher Education Research & Development*, 41:2, 360-374, DOI: [10.1080/07294360.2020.1842335](https://doi.org/10.1080/07294360.2020.1842335)

Gravett, K., Taylor, C. & Fairchild, N. (2021): Pedagogies of mattering: re-conceptualising relational pedagogies in higher education, *Teaching in Higher Education*, DOI: 10.1080/13562517.2021.1989580

Higher Education Statistics Agency (HESA) Higher Education Student Statistics: UK, 2021/22 - Student numbers and characteristics: <https://www.hesa.ac.uk/news/19-01-2023/sb265-higher-education-student-statistics/numbers>. Accessed 13th April 2023

Hanafin, J, Shevlin, M, Mairin, McNeela, E (2007). "Including Young People with Disabilities: Assessment Challenges in Higher Education." *Higher Education* 54 (3): 435–448.

Hockings, C. (2010). Inclusive learning and teaching in higher education: A synthesis of research. (Online). [inclusive teaching and learning in he 1 1568037026.doc \(live.com\)](https://www.he.ac.uk/1568037026.doc)

Izzo, M.V. and Horne, L. (2016). Empowering students with hidden disabilities: a path to pride and success. Paul H. Brookes Publishing Co., Baltimore USA, 173 pp.

Nieminen, J.H., & Pesonen, H. V. (n.d). Anti-ableist pedagogies in higher education: A systems approach. *Journal of University Teaching & Learning Practice* (Vol.19, Issue 4) <https://ro.uow.edu.au/jutlp>.<https://ro.uow.edu.au/jutlp/vol19/iss4/08>

Kivijärvi, S., & Rautiainen, P. (2021). Contesting music education policies through the concept of reasonable accommodation: Teacher autonomy and equity enactment in Finnish music education. *Research Studies in Music Education*, 43(2), 91–109. <https://doi.org/10.1177/1321103X20924142>

Loomes, R., Hull, L. & Mandy, W.P.L. (2017). What Is the male-to-female ratio in Autism Spectrum Disorder? A systematic review and meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56, 466–474.

Nieminen, J (2022) Assessment for Inclusion: rethinking inclusive assessment in higher education, *Teaching in Higher Education*, DOI: 10.1080/13562517.2021.2021395(Norwich, 2022)

Noel, L. (2016). Promoting an emancipatory research paradigm in Design Education and Practice. *Proceedings of DRS 2016, Design Research Society 50th Anniversary Conference*. Brighton, UK, 27–30 June 2016.

Morris, C, Milton, E, & Goldstone, R. (2019) Case study: suggesting choice: inclusive assessment processes, *Higher Education Pedagogies*, 4:1, 435-447, DOI: 10.1080/23752696.2019.1669479

Ocean, M. (2021). Telework during COVID-19: exposing ableism in U.S. higher education. *Disability and Society*, 36(9). <https://doi.org/10.1080/09687599.2021.1919505>

- Oliver, M. (2013). The social model of disability: Thirty years on. *Disability and Society*, 28(7), 1024–1026. <https://doi.org/10.1080/09687599.2013.818773>
- Payne, S. (2015) How is life experienced by teenagers with dyspraxia? An interpretative phenomenological analysis. *Unpublished PhD Thesis*. Coventry: Coventry University
- Penketh, C. (2020). Towards a vital pedagogy: Learning from anti-ableist practice in art education. *International Journal of Education Through Art*, 16(1), 13–27. https://doi.org/10.1386/eta_00014_1
- Podlucká, D. (2020). OUTLINES-CRITICAL PRACTICE STUDIES Transformative anti-ableist pedagogy for social justice: Charting a critical agenda for inclusive education (Vol. 21, Issue 1). www.outlines.dk
- Renoux, C., Shin, J.-Y., Dell’Aniello, S. *et al.* (2016). Prescribing trends of attention-deficit hyperactivity disorder (ADHD) medications in UK primary care, 1995–2015. *Pharmacoepidemiology*, 82(3), 858–868.
- Sambell, K. (2016). Assessment and feedback in higher education: Considerable room for improvement? *Student Engagement in Higher Education*, 1(1), 1–18.
- Singer, J. (1999). Why Can’t You Be Normal For Once in Your Life? In M. Corker, & S. French (Eds.), *Disability Discourse*. Open University Press.
- Taylor, C. A., S. Gannon, G. Adams, H. Donaghue, S. Hannam-Swain, J. Harris-Evans, J. Healey, and P. Moore. 2020. "Grim Tales: Meetings, Matherings and Moments of Silencing and Frustration in Everyday Academic Life." *International Journal of Educational Research*. doi:<https://doi.org/10.1016/j.ijer.2019.101513>
- Unite (2023) Meeting the needs of Neurodivergent students. <https://www.unitegroup.com/neurodivergent-students-report>. Accessed 13th April 2023
- Unluer, S. (2012). Being an Insider Researcher While Conducting Case Study Research. *The Qualitative Report*, 17, 1-14.
- Weis, R. & Beauchemin, E. L. (2020) Are separate room test accommodations effective for college students with disabilities? *Assessment and evaluation in higher education*. [Online] 45 (5), 794–809.
- Wray, J., Aspland, J., Taghzouit, J. & Pace, K. (2013). Making the nursing curriculum more inclusive for students with specific learning difficulties (SpLD): Embedding specialist study skills into a core module. *Nurse Education Today*, 33(6), pp. 602-607.

Appendix A – Interview Questions

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| <p>Background information</p> <ul style="list-style-type: none">• Do you have a formal diagnosis of a ND condition from a medical practitioner?• When was this diagnosed?• Was your condition noted within an educational context prior to university? <p>How were you supported?</p> <ul style="list-style-type: none">• How was the transition to university?• Anything else you would like to add here? |
| <p>Time at university.</p> <ul style="list-style-type: none">• What course are you on? Which year? |
| <p>Assessment</p> <ul style="list-style-type: none">• What do you consider to be successful assessment at HE?• Why did you feel this was successful?• What type of assessment was this?• What do you think helped to make you successful on this occasion?• How much choice did you have over the area of focus (topic)? Type of assessment? Did this help?• What has been your least successful university submission? What was it about this submission that may have been a barrier to your success?• How might these have been removed?• If you could choose how you were assessed in all assessments, what would this look like for you?• If you were put in charge of the university's assessment strategy, what would you do?• If you were interviewing someone about assessments, are there any other questions you might ask? |
| <p>Feedback and pedagogy</p> <ul style="list-style-type: none">• Are there any particular feedback strategies that support you to success with assessments?• Are there any pedagogical practices that you feel support you towards successful assessments? |
| <p>Dissemination</p> <ul style="list-style-type: none">• Who would you like to know about your thoughts about assessments?• How would you like this information to be disseminated?• Would you like to be part of any dissemination events? |
| <ul style="list-style-type: none">• Is there any other information that you think might be useful for us to know in relation to our project? |