Moving beyond reasonable adjustments: Supporting employability through inclusive assessment design

Joanna Tai[1]

Corresponding author: Joanna Tai (Joanna.tai@deakin.edu.au)
[1] Centre for Research in Assessment and Digital Learning. Deakin University, Melbourne, Australia

Abstract

Higher education is moving towards being more inclusive. However, students with disabilities continue to report that their assessment experiences are less than optimal. In these situations, if an assessment format does not enable demonstration of achievement due to aspects irrelevant to the capabilities of interest, then such students are unfairly penalised. In this way, assessment impacts on students' success at university and beyond. Assessment adjustments are required by law, but are only partially effective since they may impact on assessment validity and hence opportunities for students to accurately represent their learning and achievement. To ensure assessment supports, rather than detracts, from student success and employability, assessment design should be scrutinised in terms of inclusion, with consideration of future potential work environments and graduate attributes. This paper presents an analysis of 2860 assessment adjustments implemented for students with a range of conditions and students' experiences of adjustments, to highlight possibilities for inclusive assessment design which promote graduate employability. Adjustments relating to exams were most common (71% of students), but group work and oral presentations were also problematic for inclusion. Redesigning exams, including formative opportunities and structures for oral and group tasks, offering flexibility in tasks, and involving students in understanding equivalence across assessment types could improve inclusion. Through supporting students in these ways, assessment design could also incorporate the development of graduate attributes, such as teamwork, global citizenship and communication. This is likely to have a positive impact on students' success and employability.

Keywords

inclusive education; assessment adjustments; assessment design; students with disabilities, diversity, employability

Introduction

Increasing numbers of students with disabilities are registering for services and accommodations within their university (Grimes et al., 2017). In many countries with laws against discrimination, reasonable adjustments to assessment must be made to ensure students have opportunities to demonstrate achievement: for example, extra time to complete an assessment task, or sitting an exam in a quieter room, with opportunities for breaks. Despite this, students still have suboptimal and inequitable assessment experiences (Lawrie et al., 2017), and students with disabilities do not enjoy the same levels of success at university as other students (Kilpatrick et al., 2017). Since success is ultimately determined through assessment outcomes, it is likely that such students are being unfairly penalised within traditional assessments which count towards grades, such as examinations,

Tai, J. (2023). Moving beyond reasonable adjustments: Supporting employability through inclusive assessment design. *Journal of Teaching and Learning for Graduate Employability, 14(*2), 70–86.

70

assignments, group work, or even oral presentations (Tai, Ajjawi et al., 2023). This is also likely to impact graduate outcomes, since employers frequently request university grades as a proxy for graduate capabilities.

Assessment is a critical moment in the life cycle of the student (Kift, 2009) and assessment experiences contribute to students achieving the learning outcomes which will set them up for success in later years of their degree and beyond (Cordiner & Kift, 2008). Through assessment, students also gain confidence in their abilities, and are therefore able to articulate their strengths, and identify opportunities for improvement. Assessment can shape students' ability to discern the quality of their performance (Tai et al., 2018), and this underpins the core elements of graduate employability, defined by Oliver (2015) as constituting students' discerning, acquiring, adapting, and continually enhancing skills, understandings, and personal attributes to lead to meaningful paid and unpaid work.

Inequitable assessments may have flow on effects to graduate employability, since students have not had opportunities to accurately represent their learning and achievement to the best of their abilities. Employers wishing to engage diverse graduates may also encounter difficulties in identifying appropriate candidates if assessments are not fit for purpose, since grades may not accurately reflect individual capabilities. Hence, assessment should be considerate of students' circumstances, strengths, and abilities, given the diversity of students within higher education, and the myriad situations in which they might go on to work in (Tai, Ajjawi et al., 2023).

A more equitable assessment experience that does not compromise academic or professional standards and reduces the need for adjustments could be achieved through inclusive assessment design (Lawrie et al., 2017). Hockings (2010) defined inclusive assessment as 'the design and use of fair and effective assessment methods and practices that enable all students to demonstrate to their full potential what they know, understand and can do' (p. 34). While there have been recent conceptual forays into considering the ways in which assessment can be designed for inclusion, few studies have incorporated empirical data or identified which assessments are most in need of more inclusive designs (Morris et al., 2019; Nieminen, 2022; Tai et al., 2021, Tai, Ajjawi et al., 2023). Furthermore, none have made the connection between inclusive assessment and employability for diverse students.

At this point, it should be noted that this paper focusses predominantly on students with disabilities, though a greater diversity of students might stand to benefit from inclusive assessment, since 'inclusion' can be considered both in terms of disability and social diversity within the literature (Stentiford & Koutsouris, 2021). For example, low socio-economic status students are increasingly participating in higher education, yet these students also face challenges relating to poorly designed tasks with opaque requirements, inflexible deadlines and feedback that does not arrive in time (Naylor & Mifsud, 2019). International students may also experience difficulties in assessment due to differences in the use of language and interpretation of task criteria (Fovet, 2019; Ryan, 2005). However, in the context of employability, students with disabilities are most disadvantaged. In 2021, only 77.4% of graduates with a disability reported any employment as compared to 85.6% of those with no disability (Quality Indicators for Learning and Teaching, 2021) Graduates from a low socioeconomic status background enjoyed a comparable rate of 82.6%, and those from a regional or remote area reported a rate of 87.4%. This paper also retains the person-first language of "students with disabilities" where reporting on existing literature demands accuracy, but mostly uses just "students" since with the shift to inclusive assessment, the focus should be on how students' diverse capabilities are supported in assessment, rather than continuing to take a deficit approach.

The paper begins by outlining the literature about diverse students' experiences of assessment and summarises existing assessment design recommendations. Empirical data from one institution is used to identify which assessments adjustments are commonly made, the nature of those adjustments, and students' experiences with assessment adjustments. From this, recommendations are made in consideration of how graduate attributes could be used as a lens to design inclusive assessment which better supports employability.

Students' experiences of assessment

Students with disabilities have reported significant barriers within higher education, including gaining admission into a course, having to repeated disclose their disability or fearing stigmatisation when they do, participation in learning activities, and assessment (McKinney & Swartz, 2020). Communication about assessment adjustments and plans with tutors has been a significant point of difficulty, requiring additional time and increasing administrative burden on students. (Grimes et al., 2021; Morris et al., 2019). These barriers to participation in assessment have been explored through surveys (Fuller et al., 2004; Madriaga et al., 2010; Morris et al., 2019), interviews (Grimes et al., 2021; Hanafin et al., 2007; Morris et al., 2019), and workshops (Tai, Dollinger et al., 2023) with students, however there has been little work focussing on the nature of the adjustments themselves and how they might inform inclusive assessment. Staff have also indicated that they lacked confidence and support in designing assessments to take into account potential disabilities, being less aware of alternative possibilities for assessment, though they were relatively confident that they could teach those students (Morris et al., 2019). This fraught assessment landscape has resulted in many students choosing their course of study on the basis of the types of assessment they knew they would encounter in that subject (Morris et al., 2019). Preferred formats include continuous assessment, coursework with discussion, essay assignments, multiple choice, oral examinations, personal research projects, portfolios and sketchbooks (Waterfield & West, 2006). Students suggested that having a range of assessment types would overall be fairer to students with differing strengths, and meant everyone could enjoy opportunities to effectively demonstrate their learning. This is in comparison to common assessment types that are seen as barriers by students. The following section reviews students' assessment experiences as evidenced in the literature, and draws links to their future potential work environments.

Written assessments: essays, reports, and examinations

Written assessments can require significant effort, which might result in anxiety and exhaustion, and exacerbate pre-existing conditions including anxiety and depression, and where fatigue is already part of the medical condition (Fuller et al., 2004; Jamieson et al., 2016; Waterfield & West, 2006). The requirement to write continuously to demonstrate knowledge was seen as problematic in timed assessments (Madriaga et al., 2010; Waterfield & West, 2006). Coursework was perceived to be a better experience to exams, especially since it could also include formative assessment and feedback (Craddock & Mathias, 2009). Un-timed assessment may also help with distractibility and reduced ability to concentrate, especially where conditions are not fully managed (Grimes et al., 2021). Students have also suggested they have a greater capacity to demonstrate their knowledge outside of the examination context (Hanafin et al., 2007). For instance, they can use voice-activated software, rather than having to rely on a scribe. The built environment could also present challenges for students beyond the task itself, where exam venues are specified. This includes provision of access ramps and the proximity of toilets (Hanafin et al., 2007; Kurth & Mellard, 2006). Though the production of written outputs features in many professional workplaces, many of the assessment restrictions which posed barriers to students are highly artificial. Reports are unlikely to be required to be completed in two or three hour timeframes, and colleagues might be consulted for their input and feedback. Much of this work might be done using computers with assistive technologies such as voice-to-text, a screen reader, and spelling and grammar checkers.

Oral presentations

Though oral presentations afford opportunities to consolidate ideas through talking, provide an alternative to written communication, and can be practised, students also found them stressful, requiring significant preparation and in-the-moment demand on memory and physical energy. Those who are neurodiverse, with language difficulties, verbal production, voice or respiratory issues might also be disadvantaged by oral presentations (Fuller et al., 2004; Waterfield & West, 2006). However, students also identified that oral presentations might build important career skills (Morris et al., 2019).

The opportunity for immediate feedback was also seen as a positive. Whilst interaction with others is almost a given in everyday life, the requirement to speak publicly in front of others is unlikely to be. Graduates should be able to seek out types of work that suit their interests and strengths, and therefore evidence of strong oral presentation skills may only be necessary for some students.

Group work

Group work is generally fraught, yet it is seen to be important due to its alignment with ideals of authentic assessment, and the opportunities it provides for students to develop social connection (Davies, 2009; Sridharan et al., 2019). Though there are some reports that there are negligible differences in the difficulties experienced by students with and without disabilities (Waterfield & West, 2006), others have identified that students without disabilities find group work harder than those with (Madriaga et al., 2010). Group work may be beneficial, in that students might take on roles in the group where they can play to their strengths and assist each other. However, the requirement to collaborate on work in a time-critical fashion may present difficulties to some students who have fluctuating conditions or caring responsibilities which change unexpectedly (Fuller et al., 2004). If students' adjustments mean they are excluded from participating at all, this might diminish opportunities for students to develop their capability for team work and to make meaningful contributions. Alternatively, some students might feel the need to over-compensate in their contribution to demonstrate they are doing their part (Waterfield & West, 2006). Confidence and capability in participating in teams is important in terms of graduate employability, and so students should therefore be appropriately supported to engage in ways that develop their skills.

Inclusive assessment design

A popular approach to inclusion is the Universal Design for Learning (UDL) framework, which can be applied to assessment (Center for Applied Special Technology, 2018; Ketterlin-Geller et al., 2015). Elements include setting clear expectations, the use of scaffolding, opportunities for formative feedback, and providing flexibility by way of offering a variety of methods and modalities for students to demonstrate their learnings (Burgstahler, 2020; Cordiner & Kift, 2008). Inclusive assessments should focus on the target skills, which are the "knowledge, skills, and abilities that form the basis of the decisions", according to Ketterlin-Geller et al (2015, p. 166), which the assessment informs, rather than access skills, which are tested unintentionally since they are required in the demonstration of those knowledge, skills and abilities. Drawing on UDL, many institutions have developed guidelines for inclusive assessment in their own context. This anticipatory approach can pre-empt and minimise reasonable adjustments, and also result in significant cost and efficiency savings (Equality Challenge Unit, 2014). A brief summary of extant guidelines is presented in Table 1.

Despite these recent moves towards inclusive assessment, many assessments are still inequitable, requiring adjustments to improve inclusion. Assessment adjustments are required in legislation across many countries, to avoid discrimination on the basis of disability, and provide equal opportunities to participate in higher education (e.g. Australia's *Disability Discrimination Act* (Cth) 1992). Similarly, such legislation precludes discrimination within workplaces and society, and so more extensive consideration of how inclusive assessment or assessment adjustments might shape students' capabilities beyond university is necessary. Though assessment adjustments are useful in improving fairness, they are reactive, not proactive; at scale, they can be time-consuming to implement for academics; and students may be unwilling to access such provisions (Grimes et al., 2019). Where many students require adjustments for a particular form of assessment, it may be constructive to view the assessment as defective, rather than adhering to a student deficit discourse (O'Shea et al., 2016; Tai, Ajjawi et al., 2023). It is therefore important to investigate the nature of present, existing adjustments, to identify these least inclusive forms of assessments, and what can be done to make them more inclusive.

Table 1 Inclusive Assessment Design Guidelines

Inclusive assessment design guidelines	Source
Align assessments with the objectives of the course and use backwards design methods to create assessments and content.	(Carnegie Mellon University, n.d.; The Quality Assurance Agency for Higher Education, n.d.; University of Plymouth, 2016)
Flexible assessment procedures and methods to allow adjustments to overcome any substantial disadvantage that individual students could experience.	(Leeds Beckett University, 2018; University of New South Wales, 2011; University of Plymouth, 2016)
Provide performance-improving feedback on assessment tasks, and opportunities to use that feedback.	(Carnegie Mellon University, n.d.; Jisc, n.d.; Leeds Beckett University, 2018; Tufts, n.d.; University of New South Wales, 2011; University of Plymouth, 2016)
Have a number and variety of types of assessment to evidence achievement, rather than only one or two high-stakes tests, and make each individual assessment worth a lower percentage of the course grade. This might include e-portfolios, e-assessment, peer and self-assessment.	(Carnegie Mellon University, n.d.; Duke Learning Innovation, n.d.; Jisc, n.d.; Leeds Beckett University, 2018; The Quality Assurance Agency for Higher Education, n.d.; Tufts, n.d.; University of New South Wales, 2011; University of Plymouth, 2016)
Ensure the assessment evaluates learning outcomes (target skills) and not the speed, manual dexterity, vision, hearing, or physical endurance of the learner (access skills).	(Carnegie Mellon University, n.d.; The Quality Assurance Agency for Higher Education, n.d.)

This paper therefore addresses the following research questions:

- Which types of assessments require the most adjustments, and are hence the least inclusive?
- How can the assessment experiences of students who require adjustments inform inclusive assessment design for graduate employability?

Methods

Context

This descriptive study was conducted at a single Australian university, with multiple campuses across metropolitan and regional centres. The university has over 60,000 enrolments in total, with one-quarter of students enrolled by distance. In 2018, 8.6% of students at this institution identified they had a disability on enrolment, higher than the Australian average of 6.9% (Department of Education, 2019). The university's Disability Resource Centre (DRC) supports the university community to be more inclusive of, and provide educational adjustments for, students where a disability impacts their participation in education. Students who access DRC services may have a range of conditions that affects their ability to participate in study. This may be due to temporary or ongoing conditions including physical, intellectual, psychiatric, sensory, neurological, and learning disabilities. After an evaluation considering a student's strengths, barriers they encounter and their course requirements, the DRC works with the student to develop a comprehensive 'Access Plan' that often includes assessment adjustments.

Data collection

A mixed-methods approach was taken. Firstly, anonymised assessment adjustment records from Access Plans for the 2018 calendar year were obtained from a centralised database that is used to distribute relevant information to lecturers, assessment co-ordinators and examination venues. These Access Plans contained information on students' conditions, their course of study, and any adjustments requested in relation to participation in learning activities and assessment tasks. A total of 2860 Access Plans were included in the analysis. An ethical approval waiver to access this data was granted on the basis that the data accessed was de-identified records held by an organisation. Subsequently, a survey was designed drawing from the Access Plan analysis. In April 2020 all returning students (i.e. those who had commenced studies prior to 2020) registered for an Access Plan were invited by email to complete the survey online. Students were also offered the opportunity to participate in an interview or submit a file (either a Word document or recording) if they did not wish to complete the survey online. After collecting demographic information about conditions and adjustments used, open-text questions focussed on positive and negative experiences of assessments and adjustments. A total of 38 responses were included: 35 complete online survey responses, 1 uploaded Word file, and two interviews. This aspect of the research was approved by the Deakin University Human Research Ethics Committee (2020-008).

Data analysis

Access Plan data: Excel and SPSS were used to calculate descriptive statistics. Excel was used to interrogate categorical data. Similar conditions or disabilities were grouped according to their descriptions. It was possible that students reported more than one condition or more than one adjustment, so all percentages were calculated in relation to the total number of students. 225 records contained qualitative information regarding the nature of non-exam assessment adjustments, which was input by a Disability Liaison Officer (DLO) but frequently paraphrased the student perspective on appropriate adjustments. Analysis of these comments was undertaken using Dedoose, a web-based qualitative data analysis package. Following Braun and Clarke's (2006) steps for thematic analysis, after initial data familiarisation, a codebook was developed by the chief investigator and discussed with the research team. Two researchers then proceeded to apply the codes to all statements. Initial themes were then developed by chief investigator and discussed with the research team.

Survey data: Descriptive statistics were calculated in Excel. Responses to open-text questions were analysed by two researchers. A framework, as described by Smith and Firth, 2011), developed from the research questions. Then Access Plan analysis was used to code reasons for adjustments, adjustment types, assessment types, positive and negative experiences, the role of technology, and how educators and the system impacted on these. Within each coding area, data was synthesised and summarised by one member of the research team. The other researcher then cross-checked the data summary for representativeness, and then integrated the two qualitative datasets to refine the themes which are presented in this paper. Withing the findings, quotes derived from the survey have an "S" prefix.

Findings overview

The finding begin with a brief description of the students in the sample. Students with Access Plans accounted for 4.7% of all students enrolled at the university. A proportion of the students (471, 17%) had more than one contributing condition. Mental health conditions were the most cited group of conditions whilst medical conditions also made up a significant proportion. Further detail is provided in Table 2. Students responding to the survey also reported similar conditions (Table 3). Across both the Access Plan data and survey, (Table 4) students were mostly enrolled in a bachelor level degree however there were students enrolled in associate degrees through to doctorates.

Table 2 Conditions Recorded in Access Plans

	Access plan N	% of total students with AP
Mental health condition	**1553**	**54%**
Anxiety	826	29%
Depression	531	19%
Post Traumatic Stress Disorder	95	3%
Bipolar	94	3%
Schizoaffective disorders & Psychosis	41	1%
Panic attacks	30	1%
Physical health condition	**878**	**31%**
Chronic Fatigue Syndrome, Fibromyalgia, Myeloencephalitis	126	4%
Injury & surgery	114	4%
Diabetes	60	2%
Arthritis	59	2%
Migraine & headache	58	2%
Mobility	**209**	**7%**
Learning Disability	**198**	**7%**
ADHD	**111**	**4%**
Autism	**102**	**4%**
Carer	**65**	**2%**
Hearing	**54**	**2%**
Vision	**43**	**2%**
Neurological	**42**	**1%**

Table 3 Conditions Reported by Survey Respondents

Condition reported	N	%
Mental health condition	20	53%
Physical health condition	16	42%
Learning disability	9	24%
Life events	3	8%
Physical disability	3	8%
Unclear/not disclosed	2	5%

Table 4 Enrolled Degree Classification

Degree type	Access Plan n	Access Plan %	Survey n	Survey %
Associate degree	50	2%	-	-
Bachelor degree	2249	79%	28	74%
Graduate certificate	-	-	1	3%
Master degree	342	12%	1	3%
Doctoral degree	73	3%	8	21%

The nature of assessment adjustments

Within the Access Plans, exams were by far the most common assessment for which modifications were recorded (Table 6). Of the exam adjustments, 612 (56%) students were provided with a rest break. Time extensions were also common: 1414 (49%) included additional writing time while 176 (6%) had additional reading time, mostly of 5 (102, 58%) or 10 (60, 34%) minutes. The additional writing time (Table 7) provided for students varied greatly, between 5 minutes per hour and double writing time; however, the most common time extension given was 10 minutes per hour.

Beyond time extensions and rest breaks, 308 (11%) could bring medication and/or health equipment into the examination room, and 270 (9%) could bring in food and drink. 237 (8%) of students had a modification made to the location or type of seating, e.g. near natural light, or at the back or front of the room. 102 (4%) of students were afforded access to technology (e.g. a computer or iPad). A small number of students needed to sit their exams at home (36, 1%). In terms of non-exam assessment adjustments, 2055 (72%) students were afforded the ability to request an extension for any assessment without requiring a medical certificate.

Students responding to the survey reported a similar range of assessment adjustments (Table 8) with extensions on due dates relating to assignments and alterations to exam conditions most frequently reported.

Table 6 Types of Assessment Requiring Adjustment

Assessment type	N	% of total students with Access Plans
Exams	2016	71%
Online tests	1038	36%
Group work	319	11%
In-class participation	256	9%
Oral presentations	239	8%
Lab report	177	6%
Segment assessment	112	4%
Grammar leniency	83	3%
Written assessment	28	1%
Objective structured clinical examination (OSCE)	16	1%

Table 7 Additional Writing Time Awarded

Time proportion	N	% of students awarded additional writing time
5 minutes per hour	104	7%
10 minutes per hour	592	42%
15 minutes per hour	375	27%
20 minutes per hour	196	14%
30 minutes per hour	113	8%
40 minutes per hour	12	1%
Double writing time	20	1%
Other	2	0%

Table 8 Types of Adjustments Reported by Survey Respondents

Type of adjustments reported	N	% of survey respondents
Extension on due date	34	89%
Changed exam conditions, e.g. extra writing time, breaks, room and location changes	23	61%
Different format of assessment, e.g. oral vs written, group vs individual	9	24%
Changed attendance requirements (e.g. for subject intensives, placements)	6	16%
Leniency on spelling/grammar	4	11%
Use of assistive technology	4	11%
Other – subtitles for videos in exams	1	3%
Other – individual consultation with teacher	1	3%
Other – access to rubrics and exemplars	1	3%

Note: respondents were able to choose multiple adjustment types, so numbers do not add up to the number of survey respondents.

Assessment experiences of students who required adjustments

Students identified that assessment design impacted on how they were able to learn and demonstrate their learning. Where assessment design was not inclusive, students' participation in assessment required substantial negotiation at times. Exams, group assignments and oral assessments were noted as particularly challenging. The following sections expand on students' experiences in more detail.

Assessment design can make a difference

Students reported that the design of the assessment could influence their experience. Several students said they found smaller assignments less stressful than larger ones:

> I had a history unit last year (French revolutions) which had five smaller 500 word assignments and one larger assignment, having smaller [assignments] helped keep me engaged with the unit whilst not creating too much too much stress both mental and physical on any one of the assignments or their grades. (S8)

Some found it particularly helpful when the assignments had a direct relationship with the weekly content: 'assignments that followed course content week by week – you could complete a section relating to that week's content immediately, which helped avoid confusion' (S24).

Several mentioned the benefits in terms of the less stressful deadlines that were involved, whilst one student found the provision of choice of topic and format made an assignment more engaging. Clear and coherent criteria and pointers to sources of information were also highlighted as useful for learning. Students also commented on the benefit of having feedback on their assignment work that was sufficiently detailed and timely to help them improve their subsequent performance.

In relation to exams, online assessment was frequently discussed by students, since social distancing requirements as part of the COVID-19 pandemic meant in-person exams could no longer occur. Students reported it helped with some aspects of assessment which were previously challenging, such as reducing the need for handwriting:

> Being able to do my exams on a computer was helpful, as I have Parkinson's disease and my hands have an action tremor so writing with a pen was quite difficult to accomplish. This adjustment made it easier to complete the task in the allotted time frame. (S13).

Some students also reported the online pivot supported them to complete and submit their written assignments according when they were able to: 'The written assessments again mean that I can work (somewhat) at my own pace, from my own home' (S15). This was also a boon for those who had previously been impacted by in-person travel requirements:

> we have the technology to do a face to face over face-time or other means of tech communications. When you have a physical disability that is life long and managing daily, traveling […] is not manageable let alone the cost. (S18).

However, other aspects of assessment remained problematic when online, or potentially even worsened. These included adding the stress of video recording to an oral presentation, and the difficulty of meeting deadlines. Group work was also more difficult, since students needed to interact with others with little perception of a relationship/connection:

> Group work in an online environment is impossible at the best of times, let alone when you're dealing with a disability and invisible trauma that you don't necessarily wish to disclose to the group. (S1).

Negotiated flexibility is helpful, but is not always an easy process

Extensions were viewed positively, since they afforded students the time they needed to cope with their personal circumstances, including fluctuating conditions that could not be predicted; feeling overwhelmed and fatigued due to their conditions, particularly when also coping with stresses of paid work, caring responsibilities or the death of a close relative. One student implied that as the *only* adjustment on offer, extensions were insufficient because ultimately their time to work on assessment was finite and limited by their condition, but in general, students highlighted the importance of this extra time to ensure good performance: 'It just gives me the opportunity to actually do my best' (S37).

Clashing assignment due dates across different units of study also prompted some to use their option for an extension: one student reported 'all my four subjects share the same due date and it could be difficult for me to deal with' (S11). Another noted that extensions are 'always a double edged sword'

(S8) because while they solved a short-term problem in one unit, the student might end up with a bottleneck of assignments due later on, in the same or other subjects. The length of extensions varied, but students identified patterns in responses from educators: 'With business, I find a bit more you might only get a week or two' (S36).

Within the Access Plans, DLOs also noted the importance of students being able to take part in conversations with teaching staff to clarify the scope and goals of assessment tasks: 'The student may at times require flexibility with deadlines and the capacity to have short conversations to clarify topics.' (1431) Reasons why this was important included where students had learning/sensory disabilities and where they were likely to have missed some classes. In some cases, conversations enabled negotiation of any tailoring of the assessment task on an individual basis, and provision of extensions. This also accounted for any changes in circumstances. Physical and temporal dimensions were also crucial in considering adjustments, especially for exams, including venue lighting, seating within a venue, and the possibility to move/stretch during assessments.

Group work is frequently problematic

Group work was frequently mentioned in Access Plans and survey responses. Students noted that adjustments were not well-suited for this form of assessment. They recounted poor cooperation, including students not pulling their weight, or not keeping to timelines, or submitting poor quality work for which all group members had to accept a low mark, none of which an Access Plan was likely to improve.

Across student responses and DLO comments, the potential for group disadvantage should the student fall behind due to absence or illness was raised:

> *The student can undertake group work but her health issues can affect on her capacity meet timelines. The student is conscious of not wanting to negatively impact her group. At times she may require guidance to best manage this issue.* (1917)

Survey responses also related to students' conditions impacting on their ability to work well in a group, such as social anxiety or a learning disability. Online group work was also noted to be harder to manage than face-to-face, especially if they inadequately supported: 'there's very little guidance about the formation and functioning of student groups, and beyond receiving the same mark, the groupwork isn't assessed' (S38).

Some students were equivocal, noting that group assignments put pressure on them to complete tasks by a certain date, and while 'this is not necessarily a bad thing' (S12), it could also put pressure on other members of the group if their condition flared at the wrong time. There were some positive comments, which described instances when students collaborated well and achieved a good result. These recognised the importance of group work for expanding individuals' perspective, enabling students to work together on large problems, and helping them build confidence in their abilities through collaboration.

In-person, in-class tasks can be anxiety-provoking

Several students said they found oral presentations difficult due to anxiety conditions, but they mentioned options or adjustments that made this form of assessment easier, including presenting at a time or day that worked better for them, presenting to the teacher before or after the class, recording a video version or presenting to their family. As one participant noted: 'Even though I have received special consideration in regards to my stutter it was still embarrassing to speak in front of my peers. I would have preferred to have instead recorded my presentations' (S16).

Other suggested strategies included presenting only to the educator, doing a presentation via Skype, being able to choose the day or time to work best with a student's symptoms, having advance notice of presentation slots or discussion groups to allow for further preparation, and also being scheduled earlier in the session to reduce the build-up of anticipation.

> *The student does find oral presentations confronting but she is committed to improving her confidence and skills in presenting. Being scheduled early for presentations (e.g. first or second to present) will assist the student to manage her stress levels.* (1344)

For one student even pre-recording video was an insufficient modification, as they were particularly anxious about the requirement to not refer to their notes. Another with hearing loss found PowerPoint presentation assessments problematic, both for individual assessment and peer feedback, and suggested a non-audio option would have suited them better.

Placements were also a significant consideration where they made up part of an assessment: requiring venues close to home, and altered placement hours/days were mentioned in relation to both managing health conditions and caring responsibilities.

Discussion

In contemporary higher education, a minimum expectation would be that inclusive approaches to assessment should be mindful of diverse students' capabilities and not unfairly disadvantage any individual. Firstly, the research questions are addressed, focussing on what can be modified within existing, common assessment designs. An elaboration follows of how graduate attributes might be developed through inclusive assessments which contain formative components and are negotiated. Finally, a proposal is made about how assessment achievements might be represented by students for employability.

Inclusive exam design

In this study, certain assessment types, such as exams, attracted a large proportion of adjustments and therefore educators should be mindful of how they might impact on students and their ability to demonstrate achievement. Exam adjustments were limited to extra time and breaks, the use of specific equipment, the provision of food and drink, and customising seating and lighting for the individual student, which reflects practices in other institutions (Duncan & Purcell, 2020; Golan et al., 2020). If exams are necessary, then improving the ease of access to adjustments might assist students who do not feel they are able to make requests themselves, or who have found the process of seeking adjustments to be onerous (Grimes et al., 2021). This could include the use of centralised adjustment recording systems to reduce logistical burdens, and offering all students access to additional time, rest breaks, and relevant resources. Online tests were also a focus of adjustments for 36% of students. Online or electronic exams may become an increasing area of focus for disability support services, with different possibilities for inclusive assessment. All students could be offered to sit the exam from a location of their choice (either their home, or another suitable institution-provided venue), the use of spelling and grammar correction tools, and multiple input options (such as voice-recognition software), similar to the possibilities within coursework settings (Hanafin et al., 2007), and moreover, similar to workplace settings that graduates will ultimately progress to.

Inclusive assessment could develop graduate attributes

Whilst there is a need to view assessment as certifying learning, assessment also highlights to students what is important to learn, and can act as a vehicle for students to develop their unique capabilities and confidence in those areas (Jorre de St Jorre et al., 2021). Within this conception of assessment as *contributing* to learning, assessment can also support the development of graduate attributes: 'a range of skills beyond those that are discipline-specific, such as those described as life-long learning, generic, transferable or 'soft' skills.'(Oliver & Jorre de St Jorre, 2018, p. 821). Commonly espoused graduate attributes include communication, critical thinking, global citizenship, teamwork, independence, problem-solving and information literacy.

Formative opportunities in assessment which focus on such graduate attributes may go a long way towards making assessment inclusive, and contribute to employability. Students' dilemmas in group work assessments largely related to working in teams, communication, and managing expectations.

These are key *graduate* attributes, and thus it may be unrealistic for universities to expect that all students, especially diverse students who may not be used to working in such ways due to past opportunities and experiences, will arrive at university with these capabilities already well developed. Similarly, issues around oral presentations and class participation could be interpreted as not previously having had supportive opportunities to develop capabilities in communication, and participation as part of collaboration. This does not diminish the real and significant conditions of social anxiety or physical differences, especially since students reported that oral presentations and group assignments had an impact on mental health in this study. Rather, educators may need to consider the realities of student capability based on their previous experiences and seek to build upon them. Diverse students have also indicated their preference for more authentic assessment which is relevant to work (Tai, Dollinger, et al., 2023). Meaningful formative assessment could build student confidence in participation, and may also help students in the negotiation of their summative tasks, as they are better able to articulate what is most likely to support them to succeed.

For oral presentations and in-class participation, this could include scheduling practise sessions with tutors, publishing a schedule for allocations so students have more certainty about when they will be called upon, and options to record a presentation or present via video-link instead of directly in front of a class. For group assignments, embedding planning sessions, adopting project management tools and principles, and requiring the team to consider contingencies for completion may help to manage expectations. Setting out multiple possibilities for group communications and meetings, and highlighting online options, can not only help to assuage student concerns about their ability to participate meaningfully, but also offer opportunities to develop graduate attributes.

Students' experiences of negotiation around assessment were also significant within this study's findings. This might reflect the graduate attribute of communication, and part of the possibility to be inclusive, which also develops this attribute, might be for educators to relinquish total control of assessment, and open pathways for assessment to be negotiated (within parameters) between students and staff. This may also promote students' independence in time management and self advocacy. Inviting students to problem-solve and use critical thinking about what is most crucial about the assessment and how to appropriate demonstrate quality in achievement is also likely to evidence the development of their evaluative judgement, which is important for lifelong learning (Tai et al., 2018). To open up pathways for negotiation, it may be helpful to reconsider how assessment requirements are instantiated through rubrics and criteria. Instead of thinking of criteria as 'transparent', representing all possibilities for quality in work, using the metaphor of an 'invitation' for criteria may be more productive (Bearman & Ajjawi, 2021). In this conceptualisation of assessment criteria, students are invited to produce work which responds to open-ended statements outlining potential indicators for quality. This reframing of criteria requires educational strategies to ensure students are aware of the 'productive space' in which they are able to 'make meaning through enacting the criteria in a holistic way' (Bearman & Ajjawi, 2021, p. 6). Tutors already draw on their 'tacit' knowledge of the multiple ways to meet assessment requirements aside from what is explicitly included in rubrics or marking guides to achieve more equitable assessment outcomes (Ashworth et al., 2010), so this should not be a substantial leap in practice though it may initially sound daunting.

Supporting graduates to express their assessment achievements for employability

The implication of negotiated and formative components of inclusive assessment is that diverse students are likely to have a range of different assessment journeys, and to express their achievements in different ways (Tai, Ajjawi et al., 2023). This means that it may not be possible to draw direct equivalences between the assessment outcomes of students. However, achieving equivalence in standards across assessments is important to maintain the validity and credibility of assessments, and has implications for how graduates might express their employability.

From a validity perspective, ensuring equivalence is likely to require institutional support, including allowing time for design, support for students for the range of assessment types on offer, revision of rubrics to take into account the various artefacts which might be produced in response to a particular

learning outcome, and training for tutors and markers to support and grade alternative forms of assessment (University of Plymouth, 2016). These are not insignificant modifications, and so have been seldom and only more recently seen in higher education (Jopp & Cohen, 2020). Programmatic assessment mapping may be required to ensure that all students are assessed on relevant learning outcomes and skills across the course of their degree (Schuwirth & Van der Vleuten, 2011). By inviting graduates to contribute to discussions on equivalence and establishing a shared understanding of standards, they will then be able to articulate how their achievements are aligned with university expectations.

Implications for further research

This paper used existing data and a small-scale student survey to investigate the nature of assessment adjustments, to inform inclusive assessment design, with a view to supporting employability. While it is also a useful snapshot of the type, number, and student experience of adjustments, it was not possible in this study to track the impact of adjustments on the success of students within and beyond university. The qualitative survey responses are unlikely to be representative of all student experiences but nevertheless provides useful insights for inclusive practice. The percentage of students with Access Plans (4.7%) was lower than the number of students declaring a disability on enrolment (8.6%). Non-disclosure of conditions is likely to contribute to this difference, since students report a number of reasons for non-disclosure including stigma, not wanting to be treated differently, and complex institutional processes (Grimes et al., 2019; Hughes et al., 2016). This may be especially the case for students with a mental health condition, since Kilpatrick et al (2017) reported non-disclosure of mental health conditions was a concern for many universities. Being more broadly inclusive of diverse students in further research will be important to gain a better understanding of what can be done to ensure assessment is inclusive. Longitudinal research on inclusive assessment design with diverse students which tracks their success both within and beyond the university is also needed to confirm the effectiveness of inclusive assessment for employability.

Conclusion

This study identified that exams or tests, oral presentations or in-class participation, and group work were the areas where the highest number of adjustments were requested. In the context of graduate employability for diverse students, it is important that these types of assessments are designed to account for past experiences, present capabilities, and developing graduate attributes. Clarifying expectations, implementing formative opportunities, and improving negotiated flexibility in assessment may make a difference to such assessments and improve their inclusivity. Furthermore, involving diverse students in discussions around assessment to build shared understandings of standards and achievements is likely to increase inclusivity and better support students to articulate their personal strengths, also contributing to employability.

Acknowledgements

Funding

Declaration of Interest Statement

The author does not have any interests to declare.

References

Ashworth, M., Bloxham, S., & Pearce, L. (2010). Examining the tension between academic standards and inclusion for disabled students: the impact on marking of individual academics' frameworks for assessment. *Studies in Higher Education*, *35*(2), 209–223. https://doi.org/10.1080/03075070903062864

Bearman, M., & Ajjawi, R. (2021). Can a rubric do more than be transparent? Invitation as a new metaphor for assessment criteria. *Studies in Higher Education*, *46*(2), 359–368. https://doi.org/10.1080/03075079.2019.1637842

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Burgstahler, S. (2020). *Equal Access: Universal Design of Instruction*. Disabilities, Opportunities, Internetworking, and Technology. https://www.washington.edu/doit/equal-access-universal-design-instruction

Carnegie Mellon University. (n.d.). *Design inclusive assessments*. Eberly Center. https://www.cmu.edu/teaching/designteach/teach/classroomclimate/strategies/designassessment.html

Center for Applied Special Technology. (2018). *Universal Design for Learning Guidelines version 2.2*. http://udlguidelines.cast.org

Cordiner, M., & Kift, S. (2008). *Briefing paper on first year assessment*. https://transitionpedagogy.com.au/wp-content/uploads/2014/05/ALTCKiftAssessmentBriefingPaperforDesktop_15Dec09.pdf

Craddock, D., & Mathias, H. (2009). Assessment options in higher education. *Assessment and Evaluation in Higher Education*, *34*(2), 127–140. https://doi.org/10.1080/02602930801956026

Davies, W. M. (2009). Groupwork as a form of assessment: Common problems and recommended solutions. *Higher Education*, *58*(4), 563–584. https://doi.org/10.1007/s10734-009-9216-y

Department of Education. (2019). *2018 Section 16 Equity performance data*. Australian Government. https://www.education.gov.au/higher-education-statistics/resources/2018-section-16-equity-performance-data

Disability Discrimination Act 1992 (Cth). https://www.legislation.gov.au/Details/C2018C00125

Duke Learning Innovation. (n.d.). *Best Practices for Inclusive Assessment*. https://learninginnovation.duke.edu/blog/2018/11/inclusive-assessment/

Duncan, H., & Purcell, C. (2020). Consensus or contradiction? A review of the current research into the impact of granting extra time in exams to students with specific learning difficulties (SpLD). *Journal of Further and Higher Education*, *44*(4), 439–453. https://doi.org/10.1080/0309877X.2019.1578341

Equality Challenge Unit. (2014). *Understanding Adjustments: Supporting Staff and Students who are Experiencing Mental Health Difficulties*. https://web.archive.org/web/20211010153025/http://www.ecu.ac.uk/wp-content/uploads/2015/02/ECU_Understanding-adjustments.pdf

Fovet, F. (2019). Not just about disability. In S. Bracken and K. Novak (Eds.), *Transforming Higher Education Through Universal Design for Learning*, 179–200. Routledge. https://doi.org/10.4324/9781351132077-11

Fuller, M., Healey, M., Bradley, A., & Hall, T. (2004). Barriers to learning: A systematic study of the experience of disabled students in one university. *Studies in Higher Education*, *29*(3), 303–318. https://doi.org/10.1080/03075070410001682592

Golan, M., Singer, G., Rabin, N., & Kleper, D. (2020). Integrating actual time usage into the assessment of examination time extensions provided to disabled college engineering students. *Assessment and Evaluation in Higher Education*, *45*(7), 988–1000. https://doi.org/10.1080/02602938.2020.1717434

Grimes, S., Scevak, J., Southgate, E., & Buchanan, R. (2017). Non-disclosing students with disabilities or learning challenges: characteristics and size of a hidden population. *Australian Educational Researcher*, *44*(4–5), 425–441. https://doi.org/10.1007/s13384-017-0242-y

Grimes, S., Southgate, E., Scevak, J., & Buchanan, R. (2019). University student perspectives on institutional non-disclosure of disability and learning challenges: reasons for staying invisible. *International Journal of Inclusive Education*, *23*(6), 639–655. https://doi.org/10.1080/13603116.2018.1442507

Grimes, S., Southgate, E., Scevak, J., & Buchanan, R. (2021). Learning impacts reported by students living with learning challenges/disability. *Studies in Higher Education*, *46*(6), 1146–1158. https://doi.org/10.1080/03075079.2019.1661986

Hanafin, J., Shevlin, M., Kenny, M., & Neela, E. M. (2007). Including young people with disabilities: Assessment challenges in higher education. *Higher Education*, *54*(3), 435–448. https://doi.org/10.1007/s10734-006-9005-9

Hockings, C. (2010). *Inclusive learning and teaching in higher education: a synthesis of research*. EvidenceNet, Higher Education Academy. https://www.advance-he.ac.uk/knowledge-hub/inclusive-learning-and-teaching-higher-education-synthesis-research

Hughes, K., Corcoran, T., & Slee, R. (2016). Health-inclusive higher education: listening to students with disabilities or chronic illnesses. *Higher Education Research & Development*, *35*(3), 488–501. https://doi.org/10.1080/07294360.2015.1107885

Jamieson, J. P., Peters, B. J., Greenwood, E. J., & Altose, A. J. (2016). Reappraising Stress Arousal Improves Performance and Reduces Evaluation Anxiety in Classroom Exam Situations. *Social Psychological and Personality Science*, *7*(6), 579–587. https://doi.org/10.1177/1948550616644656

Jisc. (n.d.). *Inclusive assessment*. https://www.jisc.ac.uk/guides/transforming-assessment-and-feedback/inclusive-assessment

Jopp, R., & Cohen, J. (2020). Choose your own assessment–assessment choice for students in online higher education. *Teaching in Higher Education*, 22(6), 738-755. https://doi.org/10.1080/13562517.2020.1742680

Jorre de St Jorre, T., Boud, D., & Johnson, E. D. (2021). Assessment for distinctiveness: recognising diversity of accomplishments. *Studies in Higher Education*, *46*(7), 1371–1382. https://doi.org/10.1080/03075079.2019.1689385

Ketterlin-Geller, L. R., Johnstone, C. J., & Thurlow, M. L. (2015). Universal Design of Assessment. In S. Burgstahler & R. Cory (Eds.), *Universal Design in Higher Education: From Principles to Practice* (2nd ed.), 163–175. Harvard Education Press.

Kift, S. (2009). *Articulating a transition pedagogy to scaffold and to enhance the first year student learning experience in Australian higher education Final Report for ALTC Senior Fellowship Program*. https://transitionpedagogy.com.au/wp-content/uploads/2014/05/Kift-Sally-ALTC-Senior-Fellowship-Report-Sep-091.pdf

Kilpatrick, S., Johns, S., Barnes, R., Fischer, S., McLennan, D., & Magnussen, K. (2017). Exploring the retention and success of students with disability in Australian higher education. *International Journal of Inclusive Education*, *21*(7), 747–762. https://doi.org/10.1080/13603116.2016.1251980

Kurth, N., & Mellard, D. (2006). Student perceptions of the accommodation process in postsecondary education. *Journal of Postsecondary Education and Disability*, *19*(1), 71–84. http://ahead.org/publications/jped/vol_19

Lawrie, G., Marquis, E., Fuller, E., Newman, T., Qiu, M., Nomikoudis, M., Roelofs, F., & van Dam, L. (2017). Moving towards inclusive learning and teaching: A synthesis of recent literature. *Teaching and Learning Inquiry*, *5*(1), 9–21. https://doi.org/10.20343/teachlearninqu.5.1.3

Leeds Beckett University. (2018). *Inclusive Teaching and Assessment Practice: Guidance for staff*.

Madriaga, M., Hanson, K., Heaton, C., Kay, H., Newitt, S., & Walker, A. (2010). Confronting similar challenges? disabled and non-disabled students' learning and assessment experiences. *Studies in Higher Education*, *35*(6), 647–658. https://doi.org/10.1080/03075070903222633

McKinney, E. L., & Swartz, L. (2020). Integration into higher education: experiences of disabled students in South Africa. *Studies in Higher Education*, *47*(2), 367-377. https://doi.org/10.1080/03075079.2020.1750581

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

Naylor, R., & Mifsud, N. (2019). *Structural inequality in higher education: Creating institutional cultures that enable all students*. https://www.ncsehe.edu.au/wp-content/uploads/2019/09/NaylorMifsud-FINAL.pdf

Nieminen, J. H. (2022). Assessment for Inclusion: rethinking inclusive assessment in higher education. *Teaching in Higher Education*, 1–19. https://doi.org/10.1080/13562517.2021.2021395

O'Shea, S., Lysaght, P., Roberts, J., & Harwood, V. (2016). Shifting the blame in higher education – social inclusion and deficit discourses. *Higher Education Research and Development*, *35*(2), 322–336. https://doi.org/10.1080/07294360.2015.1087388

Oliver, B. (2015). Redefining graduate employability and work-integrated learning: Proposals for effective higher education in disrupted economies. *Journal of Teaching and Learning for Graduate Employability*, *6*(1), 56–65. https://doi.org/10.21153/jtlge2015vol6no1art573

Oliver, B., & Jorre de St Jorre, T. (2018). Graduate attributes for 2020 and beyond: recommendations for Australian higher education providers. *Higher Education Research and Development*, *37*(4), 821–836. https://doi.org/10.1080/07294360.2018.1446415

Quality Indicators for Learning and Teaching (QILT). (2021). *2021 Graduate Outcomes Survey* [Report]. https://www.qilt.edu.au/resources?survey=GOS&type=Reports&year=2021

Ryan, J. (2005). 'Uni is a serious thing, why are you here if you've got learning difficulties?': Access and exclusion in higher education. *Melbourne Studies in Education*, *46*(1), 45–62. https://doi.org/10.1080/17508480509556415

Schuwirth, L. W. T., & Van der Vleuten, C. P. M. (2011). Programmatic assessment: From assessment of learning to assessment for learning. *Medical Teacher*, *33*(6), 478–485. https://doi.org/10.3109/0142159X.2011.565828

Smith, J., & Firth, J. (2011). Qualitative data analysis: the framework approach. *Nurse Researcher*, *18*(2), 52–62. https://doi.org/10.7748/nr2011.01.18.2.52.c8284

Sridharan, B., Tai, J., & Boud, D. (2019). Does the use of summative peer assessment in collaborative group work inhibit good judgement? *Higher Education*, *77*(5), 853–870. https://doi.org/10.1007/s10734-018-0305-7

Stentiford, L., & Koutsouris, G. (2021). What are inclusive pedagogies in higher education? A systematic scoping review. *Studies in Higher Education*, *46*(11), 2245–2261. https://doi.org/10.1080/03075079.2020.1716322

Tai, J., Ajjawi, R., Bearman, M., Boud, D., Dawson, P., & Jorre de St Jorre, T. (2023). Assessment for inclusion: rethinking contemporary strategies in assessment design. *Higher Education Research & Development*, *42*(2), 483–497. https://doi.org/10.1080/07294360.2022.2057451

Tai, J., Ajjawi, R., Boud, D., Dawson, P., & Panadero, E. (2018). Developing evaluative judgement: enabling students to make decisions about the quality of work. *Higher Education*, *76*(3), 467–481. https://doi.org/10.1007/s10734-017-0220-3

Tai, J., Ajjawi, R., & Umarova, A. (2021). How do students experience inclusive assessment? A critical review of contemporary literature. *International Journal of Inclusive Education*, 1–18. https://doi.org/10.1080/13603116.2021.2011441

Tai, J., Dollinger, M., Ajjawi, R., Jorre de St Jorre, T., Krattli, S., McCarthy, D., & Prezioso, D. (2023). Designing assessment for inclusion: an exploration of diverse students' assessment experiences. *Assessment & Evaluation in Higher Education*, *48*(3), 403–417. https://doi.org/10.1080/02602938.2022.2082373

The Quality Assurance Agency for Higher Education. (n.d.). *UK Quality Code for Higher Education 2013-18*. https://web.archive.org/web/20190704105053/https://www.qaa.ac.uk/quality-code/UK-Quality-Code-for-Higher-Education-2013-18

Tufts. (n.d.). *What are inclusive assessment practices?* https://provost.tufts.edu/celt/inclusive-and-equitable-teaching/what-is-inclusive-and-equitable-teaching/what-are-equitable-assessment-practices/

University of New South Wales. (2011). *Assessing Inclusively*. http://teaching.unsw.edu.au/assessment-toolkit

University of Plymouth. (2016). *Inclusive assessment good practice guide*. University of Plymouth. https://www.plymouth.ac.uk/rails/active_storage/blobs/proxy/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBb1ZSIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--41e9a2ea4e69be7cd949ffaaf5b7b377e4c64770/Good_practice_inclusive_assessment_updated_May_2016.pdf

Waterfield, J., & West, B. (2006). *Inclusive Assessment in Higher Education: A Resource for Change*. University of Plymouth. https://www.plymouth.ac.uk/uploads/production/document/path/3/3026/Space_toolkit.pdf