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A Review of Inclusive Education & Employment Practices

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Association for Higher Education Access & Disability

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This electronic journal is not a newsletter nor is it an academic journal. It is a space for you working out there 'on the ground' to share innovations and your examples of good practices that deserve to be showcased.

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Coming soon: The new T & L Digital Badge in UDL as a positive step to valuing diversity in education

from Ann Heelan,
Executive Director AHEAD

Diversity is relatively new to third level education and already the term is a bit of a cliché. But building a culture positive to diversity means deliberately recognising the value and unique contribution of every student and understanding their needs. A new **Digital Badge on Universal Design for Learning (UDL)** being developed for the Teaching and Learning Forum places diversity centre stage. Being developed by AHEAD in collaboration with University College Dublin (UCD) Access and Lifelong Learning Centre, it will affirm staff who have taken part in learning opportunities about UDL.

In reality, there has always been diversity in the student population at third level, but it has not been an issue as most students came mainly from traditional backgrounds. Now, in many higher education institutions, up to 50% of students come from more diverse backgrounds with different cultures, religions, different socio-economic backgrounds, as well as mature students and students with a range of disabilities.

The case for institutions to adopt a UDL approach to teaching and learning is strong, as it is not possible to respond differently to every single student. UDL is an emerging approach that embeds difference and diversity into the design of the mainstream learning experience, takes on board the context of the course, and offers a choice of routes for all students to reach the learning outcomes.

Students with disabilities up until now have been the domain of the Disability Support Services (DSS). But in recent years, rising numbers, staff cutbacks and the freezing of the Fund for Students with Disabilities have cut into the capacity of DSS to provide for the support needs of all students with disabilities. Added to this, the growing voice of students

who do not want to be segregated puts pressure on the system to mainstream provision for supports for students with disabilities where possible.

Access to professional development for staff is a key factor in developing a culture of diversity across the whole campus. The Teaching and Learning Forum has identified inclusion as a core value underpinning the National Professional Framework, and emphasises how the wellbeing and confidence of staff has a significant impact on their professional practice. If institutions want to make a positive impact on diversity, then it is important to provide all staff across faculties with opportunities to up-skill and to learn new approaches to enhance student learning. **The Digital Badge in UDL** will be a valuable tool for staff in managing diversity. Watch the AHEAD website **www.ahead.ie** for more information.

Ann Heelan, Executive Director
May, 2017

From the Editor

Barbara Waters

Welcome to the Spring edition of the AHEAD Journal. It's been good to read all the articles submitted and to meet so many of you at the Dublin conference.

Renewed inspiration is always welcome, and we have that in abundance in Alan Hurst's article on the five key influences on his working life. Why not send in your 'desert island favourites' – we would love to have them. An opportunity for reflection is also offered by Adam Hyland in his piece on enablement.

Transition continues to be a theme, and in this edition we have articles on students on the autistic spectrum, the latest on the Junior Cycle and inclusion, and a catch up on apprenticeships.

Universal Design, reasonable adjustments and assessment continue to be of interest. We have some practical experiences of Assistive Technology, and Caroline McGrotty gives us an important insight into the experiences of Deaf students.

We are always ready and willing to receive your suggestions for articles and to help you with the process in any way we can. Just contact Lorraine at **lorraine.gallagher@ahead.ie**

I hope you enjoy a good read.

With best wishes,

Barbara Waters, Editor
May, 2017

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A pre-college transition programme for students with Autistic Spectrum Disorder in Ireland

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Dr. Alison Doyle is a teacher, researcher and educational psychologist. She specialises in guidance and transition planning for children and young people with special educational needs and disabilities, focusing on the management of transitions between schools, college, and employment. She is currently researching supported transitions to employment for young people with intellectual disabilities, in association with Dublin City University. Alison has published 'Planning Transitions for Young People with Special Needs and Disabilities, a workbook for secondary students and their families' and her second book 'Ready, Steady, Go! Planning the Move to Secondary School' will be published in the spring of 2017.

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Declan has been working in Trinity since the Disability Service was set up in June 2000. He has responsibility for ensuring that the College embeds disability-related issues into the core of all thinking and delivery to ensure that the College environment is as accessible to people with disabilities as possible. Declan has an extensive educational history which includes a B Sc. in Science for NUI Galway, a Master's in Social Policy and Administration from the London School of Economics and Political Science and a Post Graduate Diploma in Education, Trinity College Dublin. Declan is the Disability Officer for staff in College and for students who are D/deaf and Students with Autism Spectrum and Asperger's Syndrome. Declan completed the Autism Diagnostic Observation Schedule Generic (ADOS-G), a direct observational assessment used to assist in the diagnosis of autism, and the Advanced Postgraduate Certificate in Autistic Spectrum Disorder at Queen's University Belfast.

Introduction

Progression to higher education can be a daunting experience for young people with Autism Spectrum Disorder (ASD), who require specific, person-centered support with managing such transitions. This paper describes the design and implementation of a Pre-transition Programme (PTP) for young people with ASD, which facilitated:

- acquisition of pre-transition information and guidance
- engagement in social and communication activities
- development of transferable personal and academic skills
- an opportunity to experience the higher education environment

The PTP was designed and delivered by an Educational Psychologist, a Senior Occupational Therapist, and five Student Ambassadors with disabilities.

Background

The incidence of students with Autism Spectrum Disorder (ASD) attending post-primary schools in Ireland has increased significantly in the past decade. This is principally considered to be a response to early identification and diagnosis, and access to early intervention. Similar increases are noted in the numbers of students with ASD transitioning into Higher Education (HE); of the 10,773 students with a disability registered to HE in Ireland in 2014 / 2015, 462 (4.3%) were registered with ASD, compared to a figure of 111 (2%) in 2008 / 2009 (AHEAD, 2010, 2015).

The university environment nurtures individual strengths and fosters personal, social and academic growth, and, for young people with ASD, also offers opportunities to engage in focused study suited to specific areas of interest. However, the transition

from school requires students to grapple with complicated systems and hierarchies which are very different to those of post-primary education and which require sophisticated coping strategies. Worries about fees and accommodation, embarking on new and diverse friendships, participating in social activities, and meeting academic demands and deadlines, are pressures with conflicting priorities, and are also important factors in student retention and resilience. Away from familiar support systems, young people must rapidly develop independent living skills and learn to manage choices. In the absence of emotion-regulation skills which facilitate management of challenging situations, successful transition and adjustment into university life may be compromised.

Students with special educational needs and disabilities experience complex and uncertain journeys to higher education, and these are uniquely stressful and overwhelming for students with ASD and their families (Adreon & Durocher, 2007; VanBergeijk, Klin & Volkmar, 2008; Madaus, 2005; Jamieson & Jamieson, 2007). Changes to routines and environments are a source of tension for young people with ASD, for example, anxiety connected to the switch from the highly-structured context of school, to largely self-directed learning. Social norms and expectations are not explicit, and infrequent contact hours and non-obligatory attendance can impact adversely on the ability of students with ASD to make friends and connect within the college community.

Consequently, programmes which facilitate and support a smooth transition into college benefit both students and parents. Encouraging early connections with third level can support students in managing transition (Mc Guckin et al., 2013), whilst experiencing a taste of college means that students with ASD are prepared for new teaching and learning experiences, unfamiliar physical, institutional and social environments, and diverse practical processes and structures. Robust international models provide targeted pre-college transition planning for students with disabilities (Fabri, et al., 2016; Rothman, Maldonado, & Rothman,

2008), recognising that both academic and soft skills are crucial to positive outcomes (Mazzotti & Rowe, 2015). However, there is a dearth of similar opportunities within an Irish context (Mc Guckin, Shevlin, Bell, & Devecchi, 2013), and by extension, a critical need for a Pre-Transition Programme (PTP) model that addresses the needs of students with ASD.

The Pre-Transition Programme

The target group was identified as young people with ASD enrolled in the final two years of the senior cycle of secondary school. A maximum of 20 participants was identified, to maintain an optimum ratio of four students to one Student Ambassador. In March 2016, an information pack was distributed to ASD community support groups and post-primary schools, advertised on social media, and posted as an event on the communication and news webpages of the higher education institution (HEI). Parents / carers and students were invited to complete an online profile which facilitated personalisation of the PTP based upon interests and concerns. Subsequently, 19 students aged between 15 years to 18 years (* males and females) registered for the five-day PTP. Two students stayed in campus accommodation with parents or guardians, and the remainder commuted by public transport.

The PTP was facilitated within one HEI in Dublin, and utilised a range of academic venues (lecture theatres, seminar rooms, laboratories), within Arts, Humanities and Social Sciences (AHSS), and Science, Technology, Engineering, and Mathematics (STEM). Other facilities used in the programme included the sports centre, libraries, computer training rooms, student restaurant facilities, and buildings of historical interest. A classroom was designated as a Home Base which functioned as a meeting point, safe space, and programme base. Consideration was given to space, lighting, potential sensory issues, and access via stairways in addition to a lift, as some students identified difficulties with enclosed spaces.

Student Ambassadors were recruited from a cohort of students with disabilities and trained by the Senior Occupational Therapist, who provided ongoing coaching and mentoring to ensure fidelity to the programme model, correct implementation of activities, and to support them in engaging and guiding the students in their group. Academic staff delivering PTP content met with the Senior Occupational Therapist to discuss the aims of the programme, scheduling, potential issues with content and delivery of teaching (for example, sensory processing in laboratory settings), and to address queries.

Theoretical Framework

The programme was designed and guided by a theoretical framework which encompassed educational psychology (EP) and occupational therapy (OT) practices. The principal EP theory utilised was Transformative Learning (Sammut, 2014) which is concerned with individual experience, critical reflection, dialogue, holistic orientation, awareness of context, and authentic relationships. Its purpose is to go beyond simple transmission of knowledge, thinking and skills, by introducing and encouraging new ways of observing and experiencing the world. Such transformations are achieved through self-examination, exploration of new options, planning, experimenting with new roles, and building confidence. Whilst this perspective is primarily associated with adult learning, it has been widely tested within other educational fields such as coaching (Sammut, 2014), and management of healthcare and disability. It was deemed appropriate for use within this programme as secondary school students enrolled in the senior cycle of education are poised at the threshold of the transition to adulthood, and its procedural components are suited to exploration of new environments and roles.

From an OT perspective, the Person Environment Occupation (PEO) model (Law, Cooper, Strong, Stewart, Rigby, & Letts, 1996) was utilised, a conceptual practice model used by Occupational Therapists. It offers a foundation for guiding assessment and intervention and works particularly well in supporting students with ASD in HE (Gleeson, Nolan & McKay, 2016). It is used as an analytical tool to identify factors within the person, environment, and occupation that facilitate or hinder the performance of occupations, and permits a focus on the student's occupations within the environment, rather than solely on the person and their difficulties. The process of negotiating the transition from formal education to adulthood falls within the parameters of such occupations. Given the highly competitive nature of entrance to third level education in the Republic of Ireland, these complementary approaches function as an enabler of successful transitions for students with ASD.

Programme Design

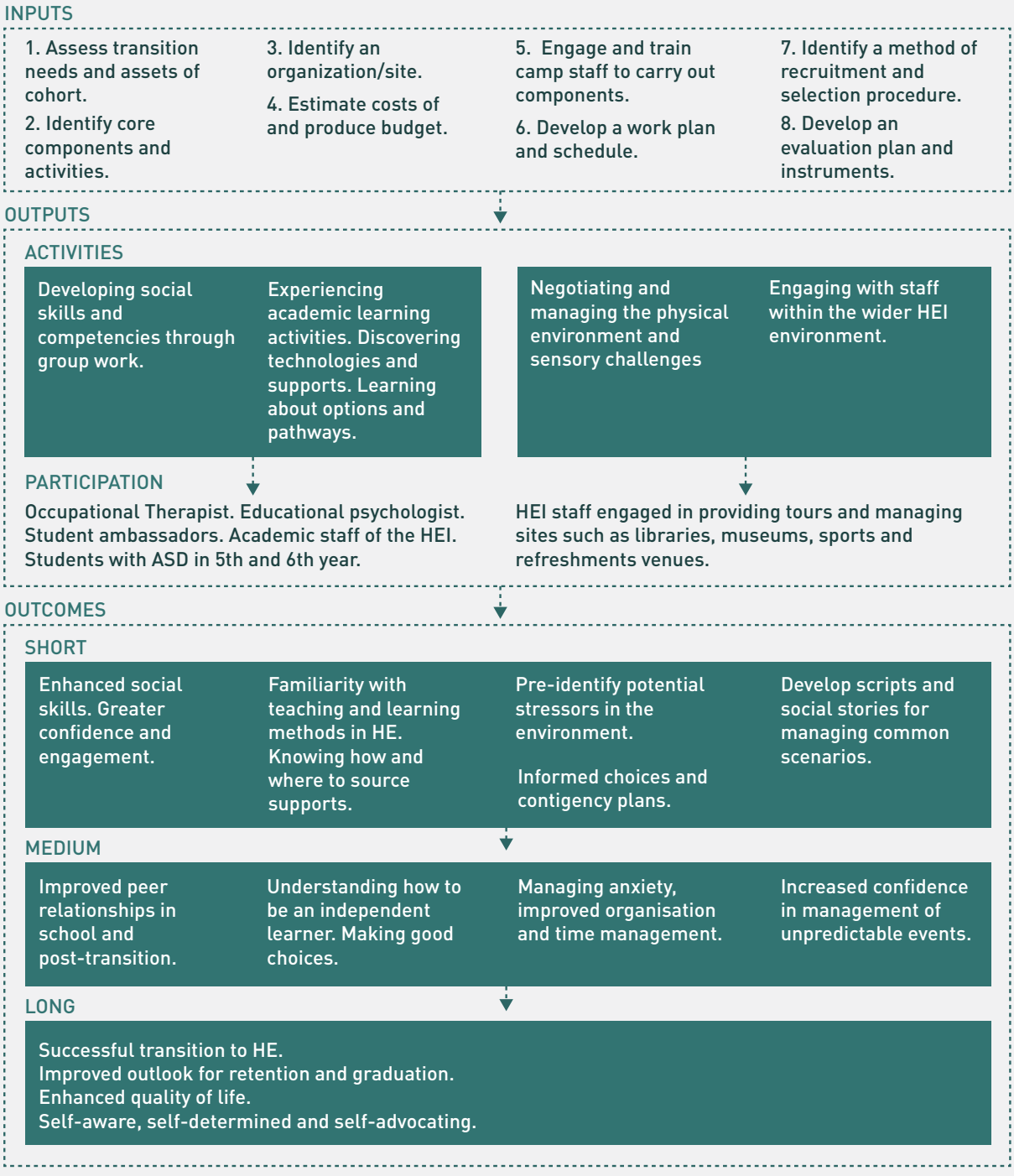
Structure and content were designed and developed by a Senior Occupational Therapist with expertise in supporting students with ASD within a number of HEIs in Ireland, and an independent Educational Psychologist specialising in educational transitions and change management (Programme Organisers). A logic model was utilised to plan the steps for implementation of the PTP (Figure 1), a methodology that enabled the authors to assess existing interventions, determine the aim, objectives and goals of the intervention, identify existing and required assets, and set out the procedures for delivery of the PTP.

Implementation of the Programme

Parents were provided with a detailed schedule two weeks prior to the commencement of the PTP, with instructions to discuss content including the potential for changes to activities and scheduling. Programme Organisers and Student Ambassadors were on site from 9.00 a.m. to 5.00 p.m. with students attending from 10.30 a.m. to 3.30 p.m., a timeframe that facilitated long distance travel.

A Taste of Third Level Pre-transition Programme Logic Model

Situation: The transition from school to college can be stressful and uncertain for post-primary students with Autism Spectrum Disorder (ASD) and their families. Programmes which facilitate a smooth transition into college, benefit both students and parents encouraging early connections with third level institutions prior to the departure from secondary school.



ASSUMPTIONS

The pre-college transition model is an effective way to facilitate positive transition experiences and outcomes. Students with ASD will acquire academic an non-academic skills which promote self-awareness, self-determinations and self-advocacy.

EXTERNAL FACTORS

Social, economic and education factors affecting young people with ASD and their families.

Figure 1: Procedural logic model for the Pre-transition Programme (PTP)

Five groups of four students were each assigned to a Student Ambassador, with whom they devised a group name and logo to use as an organisational tool for the duration of the PTP. This activity also functioned as an initial ice breaker task.

At the beginning of each day, students participated in social awareness and skill building exercises, followed by a review of the timetable including arrangements for breaks and meals. Academic activities were scheduled for morning sessions and included a formal lecture (English Literature), seminar (Philosophy), tutorial (History) and laboratories in Biology, Chemistry and Physics, delivered by academic staff and postgraduate teaching assistants. Students also participated in an e-learning module in Animation and Game Design, and a computing session focusing on study skills technologies.

Afternoon sessions conducted by current university students included a historical tour of the campus, a visit to the Zoological Museum, a tour of the university libraries, and an opportunity to discover clubs and societies. The Student's Union introduced its role and function in ensuring support for the health, welfare and educational experience of students, and students participated in a gentle exercise session delivered by Sports Centre staff. Students were required to complete a short homework task each evening, designed to introduce a learning experience for the following day. On the final day of the PTP, students completed a campus-based Scavenger Hunt, enjoyed a farewell lunch in the student restaurant, and presented their learning experiences to parents at an award ceremony.

Students and parents were provided with a Student Workbook detailing the daily schedule, venues, staff, homework tasks, and feedback templates, and a Transition Workbook comprising of six units:

- Planning and Preparing for Transition
- Developing Study Skills
- Exploring Post-transition Options
- Using Technologies and Supports
- Learning to be Independent
- Managing the Transition Bridge (Doyle, 2016).

Evaluation of Observed Outcomes

Programme Organisers and Student Ambassadors reviewed programme content and structure at the conclusion of each day, discussing observations on improvements and amendments to activities, required changes or adaptations to the schedule, and notes on student engagement and participation. Students were encouraged to complete a reflective journal each day, and to utilise the 'Something to Say' wall on which they could leave anonymous feedback. Homework tasks were limited to short activities that complemented prior learning, introduced the self-directed nature of university study, and provided students with opportunities to reflect and engage in their own learning.

Students were provided with a total immersion experience with many opportunities to interact with the physical environment of the campus and current students and staff. Engagement with diverse learning approaches across a range of academic subjects and in a variety of settings and modalities provided them with a foundation for making more informed choices for life after school. For some students, exposure to 'real' work spaces such as the science

laboratories, prompted a critical reflection on their potential management of the physical learning environment.

Students engaged positively throughout the PTP, acquiring group identities, forming good peer relationships, and supporting each other to share aspirations, interests and opinions. Despite initial difficulties with first level social skills which were expected, small friendship groups and partnerships, quickly evolved. There were no withdrawals from the programme, and no issues with participation in any of the tasks. An awards ceremony was scheduled for the final day, and students were invited to present their learning experiences either singly, in pairs, or as a Home Room group. They approached the planning and rehearsal of this activity with enthusiasm, demonstrating high levels of co-operation, engagement, participation and collaboration, using a wide range of presentation methods which included graphics, music, narrative, and Powerpoint presentations.

Regular and consistent engagement with parents prior to, during and at the conclusion of the PTP ensured that they were well-informed and reassured. Parents received a transition guidance session, and a workshop focusing on the mechanics of applying to HE, access schemes, course choices, and supports in college within the same week designed and delivered by Occupational Therapists, an Educational Psychologist and a Career Guidance Counsellor.

Discussion and Recommendations

The early introduction of activities to build rapport, collaboration, and a sense of trust and belonging was a key strength of the design. In principle, these are difficult to achieve in a short programme that spans only a few days, however, opening and closing the daily schedule with group interaction permitted opportunities for self-examination, reflection on new options and new roles, and building confidence. Some of these sessions resulted in significant increases within-group levels of trust and confidence, which were unexpected within such a short period. Providing realistic experiences of academic subjects, and teaching and learning methodologies, was highly valued by students. For some, experiencing the reality of a less structured and formal learning environment was reassuring, fostering confidence in their ability to manage the student role. For others, even a brief exposure to academic subjects, and the opportunity to explore these further by talking to Student Ambassadors and guest speakers, resulted in a re-think of future choices. The value of such encounters cannot be underestimated.

Parents were effusive in their comments on the progress and changes that they had noted over the course of the week. In its smallest aspect, the PTP provided parents with an opportunity to 'see' their young person as a student, to share the college experience with them, and to engage with other parents. Student Ambassadors inhabit a privileged position, with insider knowledge of university and the student experience, and are ideally placed to encourage and influence the participation of students. Student Ambassadors acted as positive role and social models and reported increases in their own confidence and personal skills that would benefit them in their post-college transition.

In conclusion, replication of the PTP across HEIs in Ireland would function as a collaborative, multi-disciplinary approach to inclusive transition to third level education. Implementing a transition programme of this type on a national scale would ensure that students with ASD are provided with an equal opportunity to participate in transformative learning experiences, irrespective of geographical location.

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Schools using Junior Cycle to be more inclusive

Denise Kelly
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Introduction

The National Council for Curriculum and Assessment (NCCA) commissioned the Economic and Social Research Institute to carry out research into the experiences of students across their first three years of post-primary schooling. This, along with evidence from international research, provided a clear rationale for a reformed junior cycle that would be more engaging and responsive to students' needs at 12-15 years of age. The new junior cycle was introduced into Irish schools in 2014 and is being rolled out year on year to be completed in 2018. Fundamental to that aspiration came the requirement to provide more inclusive programmes of learning for those young people whose achievements weren't being recognised by the traditional Junior Certificate.

Implementing the new junior cycle

While there is much in the new junior cycle that is recognisable to schools and society – the retention of familiar subject areas for instance - there are also additions which have the potential to make learning for young people at this age and stage of their education journey more engaging, inclusive and exciting. Inclusion is at the core of the new junior cycle - it is one of the eight principles. It is present in the broad and balanced curriculum as set out in the 24 Statements of Learning. It is woven into the fabric of the subjects,

short courses, Level 2 Learning Programmes (L2LPs), assessment procedures, key skills and other learning experiences.

The development of short courses as new curricular components introduces refreshing opportunities for young people to undertake study in new areas of learning such as Artistic Performance, Programming and Coding or Chinese. However, it is in recognising the voice of the student, the articulation of curriculum using learning outcomes-based statements, a changed assessment culture, and the development of learning programmes for students with general learning disabilities that we find the greatest prospects for inclusion.

Existing subject syllabi determined what knowledge needed to be taught and learned. Whereas new specifications focus on describing the outcomes of learning in terms of knowledge, skills and values. These focus not just on important knowledge but on skills and values that will serve students well in future. The NCCA has been increasingly including the voice of students in its curriculum and assessment development work. The learning outcomes are written as statements of what students should know or be able to do by the end of junior cycle. Differentiation is embedded in the learning outcomes by applying the principles of **Universal Design for Learning** in their development so they inform teachers' interpretation of them in the classroom to suit students' needs and school contexts.

The **Key Skills of Junior Cycle** further offer occasions to include all students. Which teenager would not benefit from developing the skills of communicating, working with others, managing myself or any of the other key skills now being developed in junior cycle classrooms? These represent exactly the sort of learning that is critical for all students.

Introducing inclusive practice

Examples of how teachers are embracing chances to be more inclusive in their practice are already visible. Some have been working with NCCA in generating examples of student work that exemplify the learning that might take place in the context of revised specifications. These teachers are already reporting how students who receive special educational needs support in writing are being motivated by the chances of success in oral activities, so heavily promoted by the Key Skills of junior cycle as well as by Modern Foreign Languages and junior cycle English. The Classroom-Based Assessments for these subjects, also facilitate the demonstration of oral language proficiency and communication skills so the students' success can be recorded on the Junior Cycle Profile of Achievement.

Students whose achievements could not be recognised by the Junior Certificate now have an opportunity to focus on Priority Learning Units in core areas of learning. Students identified with general learning difficulties for whom the curriculum remains inaccessible even with high degrees of differentiation in a mainstream class, can undertake learning at a different Level of the National Framework of Qualifications.

Level 2 Learning Programmes (L2LPs) are being seen by Special National Schools, mainstream schools and other learning settings as providing a means to offer the small group of young people concerned a way of gaining recognition at junior cycle along with their peers. Teachers are taking the learning outcomes particularly applicable to the student who is following a bespoke L2LP and supporting them to achieve them (as far as possible in mainstream classrooms) with peers.

Level 1 Learning Programmes (L1LPs) which are in an advanced stage of development at the time of writing this article will cater for students for whom recognition for learning through L2LPs is inaccessible. Most of the students for whom L1LPs might be considered suitable are in Special National Schools, though a

small number are also in special classes in mainstream schools and may spend short periods with their mainstream peers. They too, will receive a Junior Cycle Profile of Achievement at the end of their junior cycle.

Assessment

The focus on **formative assessment in junior cycle** is aimed at reducing the emphasis on the final examination and re-focusing on assessment as part of the learning process. Some schools are beginning to explore modes of reporting or feedback which is much more formative in nature and away from the use of narrowly constructed grades or marks. So now students are comparing their performance with their own previous achievements and can build on that as opposed to being constantly ranked and compared to others. Of course an element of summative assessment has been retained but it too can be used for formative purposes.

The student voice

NCCA has been including the voice of students at early stages of curriculum and assessment development. Working with Dr Paula Flynn of Trinity College Dublin, NCCA has been pro-actively seeking the opinions of students as 'experts in their own learning' as background papers or draft specifications for junior cycle subjects are developed. In advance of the development of the junior cycle Wellbeing Guidelines for instance, a student forum was convened in Dublin Castle which saw students from a variety of school backgrounds and geographical locations come together to discuss what Wellbeing meant to them and how it might look in their schools. Now schools are also consulting students as well as parents on curriculum decisions based on the twenty four Statements of Learning for their school contexts.

The following are three examples of how schools are using the new Junior Cycle to be more inclusive.

Example 1:

Short courses are offering opportunities for success for those students who find it difficult to demonstrate their learning in written format. An example is where one school had a student at risk of leaving school. He didn't attend school on the days he had Business Studies which was part of the core curriculum and therefore compulsory in that school.

In talking with the student, the school identified that he struggled with the academic nature of the subject (note we are talking here about the Junior Certificate syllabus as opposed to the new Business Studies Junior Cycle specification). They also identified his interest and skills in ICT. Knowing that there were four other students who also struggled with Business Studies because of either Dyslexia, Autism, EAL or borderline General Learning Difficulties, the school offered the five students the Digital Media Literacy (DML) short course as an alternative. The 'at risk' student's attendance improved on the days he had DML which means he is attending more classes overall.

Before the development of NCCA short courses the school reports that these five students would have received a generic learning support class as an alternative to Business Studies. Now they will receive recognition in the Junior Cycle Profile of Achievement for their achievement in the short course. Also as a result of this pilot, Business is now an optional, rather than compulsory subject in the school to facilitate the needs and interests of all students.

Example 2:

Another school asked their students to evaluate their experiences of the Classroom Based Assessment (CBA) in the new junior cycle English course which assesses their oral communication. The CBA takes place in second year and forms part of their summative assessment. It will be reported on at the end of junior cycle on the Junior Cycle Profile of Achievement. The students' comments are summarised as follows:

- There was less fear of a terminal exam. Having undertaken the CBAs in second and third year they feel they have already 'banked' some success.
- A sense of confidence building was reported from having to stand in front of their peers and present to them. While it was challenging it was also very rewarding to students.
- There was tangible peer support throughout the CBA.
- So many of the topics chosen by their peers were of interest to them and their classmates felt engaged.
- Trust from teachers to choose topics they considered to be relevant to their lives was important to them as was the permission to choose their preferred format of communication
- Reflection on their work was valuable and reinforced the learning process for them.

All reported a sense of accomplishment on completion. It was clear to them that the new English assessments test their English skills and not their skills in rote learning. The students reported enjoying having to think for themselves.

Example 3:

A third school was involved with NCCA in developing ways for schools to gather students' views. As part of the Student Voice initiative the school became very proactive in seeking students' opinions to the extent that it has become part of school culture to consult with students on a wide range of subjects.

Conclusion

As junior cycle becomes embedded in schools over the coming years, there will be lots of good practice to highlight. Colleagues in the Junior Cycle for Teachers (JCT) support service are conveying the message in their workshops with practitioners that in planning for a few we are, in fact planning for all. It would be misleading to say that all schools are implementing more inclusive practices. In part, this is because society itself has not quite made the shift from integration to inclusion. Nevertheless, the three examples of changed practice above provide an early insight into how some teachers are embracing change and the opportunity to make learning and teaching more student-centered and inclusive.

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How can Apprenticeships offer an inclusive opportunity to people with disabilities?

Barbara Waters

Barbara is a freelance researcher on further and higher education and disability and was formerly Chief Executive of Skill: National Bureau for Students with Disabilities. Recently she was the evaluator of the UDLL Erasmus + project and is Editor of the Ahead Journal. Barbara is a member of the Department for Education/Department for Business, Energy and Industrial Strategy Apprenticeships Advisory Group.

Introduction

Apprenticeships and internships are often spoken of in the same breath, but they play very different parts in a young person's move from education to work. Internships can provide an important opportunity for developing career aspirations and understanding the world of work. They may or may not be a step towards a specific career, but have value in both circumstances. Apprenticeships offer a work-based but still formal route to a chosen vocational occupation over a longer period of time. Apprenticeships will include continued study and qualification alongside skills development. In the UK, for many years apprenticeships were dropped in favour of a college/qualifications- led post school experience. Although this may have been part time with paid employment, there was little formal structure and this lack of strategy contributed to skills shortages in various employment areas. Over time a new apprenticeship policy has been developed, more tailored to the needs of employers and offering an improved experience for young people.

Widening Apprenticeship opportunities

At a time of wider opportunities for entering higher education, it has proved difficult to engage young people with this vocational alternative. As fees in HE continue to rise, especially in England, it is only now that the prospect of study alongside paid work is becoming an attraction once again. Initially the data shows that completed apprenticeships were most common in the 25+ age group, suggesting that employers were offering apprenticeships to existing staff to increase their skills. In July 2016 the Department for Education in England assumed overall responsibility for apprenticeship policy. There are three levels of apprenticeship from an Intermediate offer leading to a level 2 qualification (equivalent to 5 GCSE's), to advanced apprenticeships and higher apprenticeships which include degree apprenticeships. In April 2017 an independent and

employer-led Institute for Apprenticeships will be created and its role will include regulating the quality of apprenticeships. Under the measures set out in the Technical and Further Education Bill, the Government states that

> The Institute for Apprenticeships remit will also expand to encompass all technical education and will deliver reforms across both apprenticeships-based and college-based routes, ensuring a more consistent approach to high-quality technical and skills-based education.

Both employer-led and college-based routes will need to meet the duties under the Equality Act 2010, particularly with regard to selection and provision of reasonable adjustments for disabled people, and in the case of colleges, the anticipatory duty regarding students with disabilities.

The UK government has a stated target of an overall number of apprenticeship starts of 3 million between 2015 and 2020. However, there remain many issues to be resolved in delivering this target; these are highlighted in the National Audit Office report 'Delivering value through the apprenticeships programme' published in September 2016. From April 2017 larger employers will be required to set aside funding for apprenticeship opportunities within their business through a 'levy', over which they have control of expenditure. This is part of the Government policy that provision of apprenticeships should be employer-led.

Participation in Apprenticeships by people with disabilities

During this time, data continually highlights the very low take-up of apprenticeships from young people with disabilities and from ethnic minority backgrounds. Not only is this of concern on equality and diversity grounds, it is also recognised that there may be in-built barriers to progression to apprenticeships. In the rest of this article I look at the work done to identify these barriers affecting people with learning difficulties and/or disabilities, but many of the barriers will apply also to those in other minority groups. In this article the terms 'learning difficulties' and 'learning disabilities' refer to the presence of some intellectual impairment.

In 2011 the Apprenticeships Unit, then a cross-department unit working across Department for Education and Department of Business Innovation and Skills, (now Department for Business, Energy and Industrial Strategy - BEIS) commissioned a report to give informed and up-to-date description and analysis of the issues related to the inclusion of people with learning difficulties and/or disabilities in apprenticeship provision. A working group chaired by Peter Little OBE, supported by Robert Holland, both previously involved with Skill: National Bureau for Students with Disabilities, set out to examine the evidence and issues relating to the aspiration of creating an inclusive apprenticeships offer.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387040/AU-CreatingAnInclusiveApprenticeshipOffer-Report-May2012.pdf

The Little Report: Creating an Inclusive Apprenticeship Offer published in January 2012.

The Report highlighted particular issues in up-take of apprenticeships and success rates, funding issues, aspects of key skills and functional skills in English and maths, mentoring and job coaching. It made 20 recommendations which were broadly accepted by Government. (I recommend reading this Report for its detailed approach and still-relevant information.)

The Report highlighted the decline in the participation of learners with learning difficulties and/or disabilities over a five year period, but also identified an increase in the success rates of these learners over the same period. This positive outcome narrowed the attainment gap between those declaring a learning difficulty and/or disability and their non-disabled peers. It is important to dispel the myths that apprentices with a learning difficulty and/or disability are unlikely to succeed. The collection of robust data is an essential part of promoting opportunity and identifying vocational frameworks where participation and success may be lower. It recommended that particular focus should be put on the decline in take-up by those with moderate learning difficulties, visual impairments, and medical conditions. The Report also identified issues regarding the assessment of English and maths, where an employer was satisfied with a learner's accomplishment but, due to a learning difficulty, this was not replicated in national exams. The provision of additional support through mentoring and job coaching was recommended. The provision of support through the Government's 'Access to Work' scheme was found to be insufficiently flexible. Additionally, the success rates for those with mental ill health and emotional/behavioural difficulties remained consistently lower and further work to support these groups was recommended.

Moving Forward

Since the Government accepted the Little Report's recommendation, progress was hampered by a re-organisation of responsibilities between Government Departments until a final structure and home could be found for the Apprenticeships Directorate within the Department for Education. In May 2016 a taskforce, chaired by MP Paul Maynard, was commissioned by Ministers to explore access to apprenticeships for those with learning difficulties. The taskforce comprised a range of stakeholders and set out to reach an understanding of current issues and barriers in accessing and completing an apprenticeship, identify solutions and recommend options to pursue. The taskforce published an independent report in July 2016 'Apprenticeships: Improving access to people with learning disabilities'.

The Maynard Report: Apprenticeships: improving access to people with learning disabilities.

The Maynard Report identified many of the same issues as the Little report in 2012, and had the opportunity to bring some urgency to the need for change, following the Government's stated intentions to meet the target of an overall number of apprenticeship starts of 3 million between 2015 and 2020. **https://www.gov.uk/government/publications/apprenticeships-improving-access-for-people-with-learning-disabilities**

It identified issues for a range of stakeholders, notably for Government; individuals with disabilities; employers and training providers.

Issues for people with disabilities

English and maths requirements have stopped some people completing their apprenticeship. This might be because the attainment level is difficult/unfeasible for some to achieve, even with reasonable adjustments, or that the method of assessment, e.g. an exam, doesn't enable them to demonstrate their attainment, or because they may use British Sign Language as a first language.

Individuals are able to do the job but rigid recruitment and selection processes and a limited range of ongoing assessments types means they can't demonstrate their competence.

The possibility of flexibility in ways of working, such as how working hours are structured is not obviously available, and although this is a reasonable adjustment under the Equality Act 2010, individuals may be reluctant to raise it at interview or when starting a new job.

There is a lack of awareness and aspiration to apprenticeships by parents and advisors, and lack of support to prepare for and apply for apprenticeships

Issues for employers

Employers lack awareness and understanding of an apprentice's impairment and are not aware of how to support them through reasonable adjustments including flexibility, and how additional support funding such as Access to Work is available.

Some people will find formal interview processes difficult and lack the confidence to ask for reasonable adjustments

There is a lack of awareness of the business benefits of hiring apprentices with learning difficulties and/or disabilities, or other diverse backgrounds.

Funding for apprenticeships and disability support comes from different streams and the bureaucracy may be off putting.

Issues for training providers

Training providers find the complexity of funding rules and types of programme they can offer difficult to navigate. The offer from training providers varies across the country, making it difficult to provide individuals and training providers with information and advice.

Issues for Government

Government messages on the benefits of employing disabled people may be insufficiently targeted.

Data on applications, starts and completion of apprenticeships by disabled people is poor and not recorded robustly.

Changes in Departmental responsibilities mean that cross departmental co-operation needs to work well

The report made 14 recommendations and these were accepted by Ministers. The following themes have been identified. Actions will be brought in during 2017.

Communications and guidance

A communications plan will be developed to increase employer knowledge of the benefits of hiring apprentices with disabilities and the funding and financial support available. This will include examples of good practice by employers and providers through case studies and role models.

English and maths

Three recommendations focused on apprentices who could achieve full competency in a job, but whose disability prevented them from meeting the English and maths requirement of their apprenticeship, even after the application of reasonable adjustments. This had resulted in them being unable to achieve their apprenticeship.

For example: Engineering apprentice Max Buxton said:

> Being deaf and dyslexic, I find English tests really hard. It's very difficult to translate BSL into English and for it all to make sense. My employer has said how well I'm doing and doesn't think my language skills are an issue, but I still can't complete the apprenticeship without passing that test. It's an unfair, unnecessary rule that has created a lot of stress, so I'm very pleased things are changing now.

The Department for Education have now announced British Sign Language is acceptable as an alternative to English in demonstrating functional skills.

Other developments are underway, with pilot work in 2017

Funding

Opportunities to make the funding model more flexible to incentivise employers will be explored. When the Apprenticeships Levy is introduced from May 2017, the Department for Education will assess the impact of the new incentives to see if they have the desired effect for people with disabilities.

Support funding

Apprentices are eligible to receive Access to Work from the Department for Work and Pensions, which funds practical and financial support in the workplace, and Learning Support for reasonable adjustments in college or training from the Skills Funding Agency. The task force recommended aligning and simplifying the application process for these two funding streams.

In the meantime, a revised letter of entitlement to Access to Work has been agreed and issued.

Data

Recommendations were made to improve data collection and to do further analysis to identify both the actual and desired levels of representation of apprentices with different disabilities.

Technology

Options will be identified for greater use of technology to support apprentices with learning difficulties and/or disabilities.

How change can happen

Although the taskforce concentrated on the issues related to those with learning difficulties the Government believes there will be a positive impact on a broader group of disabled people as the recommendations are implemented. The fast response to the changes for British Sign Language Users is most welcome. There is a much stronger message that disabled people can succeed than in 2012.

The Government has recently announced big changes to the way vocational qualifications are set. New T-levels for 16 to 19 year old technical students will be introduced from autumn 2019. Students will be able to choose from 15 different routes such as construction, digital or agriculture. This offers a great opportunity for inclusive practice. It is important that stakeholders in education, careers guidance and voluntary sector policy roles work to encourage emphasis on Universal Design to be embedded in these changes.

Taken together, the three policy actions of

- implementing the Maynard review recommendations
- encouraging employers to invest some of the money set aside in the new Apprenticeship Levy to promote diversity in Apprenticeships

and

- revamping the vocational qualifications using Universal Design principles,

could really create a big increase in the number of opportunities available to young people with learning difficulties and/or disabilities in England.

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From Print to Practice: Five Key Influences on my working life with disabled students in Higher/Third Level education

Alan Hurst
Professor Alan Hurst retired from his full-time post at the University of Central Lancashire in 2007. Since then he has worked as a free-lance consultant and staff developer. He has published many books and articles and delivered lectures and workshops promoting the inclusion of disabled students in third level education in many countries.

By the time I retired from my full-time post at the University of Central Lancashire, I had accumulated over thirty years-worth of resources which I used to inform and support my work with disabled students, especially in organising and delivering professional development events and courses. These resources comprised audio-visual items such as videos and DVD, cuttings from the mass media and cartoons, and a huge quantity of print materials including government reports, institutional products such as information leaflets aimed at disabled students, guidance documents created by organisations such as AHEAD both in Ireland and the USA and Skill in the UK, and books. The quantity was such that all of it could not be stored at home and so I had to dispose of a lot of it. As I was doing so, it prompted me to consider what five books in particular I felt had influenced my pedagogical thinking and my classroom practices. Putting this a little differently, if I had to spend time at a university on a desert island, in addition to my selection of music, what would I choose to take with me as the most vital print-based sources of help and guidance. (I decided to focus on books only – no room for policies and pamphlets etc. and certainly no access to the internet!)

The oldest of my chosen five is 'What's the Use of Lectures?' written by Donald Bligh and published in 1971. My working life began in school-teaching, first as an assistant history master and then head of the history department. Having completed successfully a Master's degree, I left the school sector to take up a post in teacher education. It did not take long to become aware of the lifelessness of the majority of lectures (including mine) compared to the animation and discussion generated in seminars and tutorials. Wanting to develop my classroom skills, I discovered Bligh's book. From then on, I tried to apply many of the key principles underpinning effective learning in my work, even in contexts where lectures remained in prime position vis-a-vis delivery of the curriculum

and despite evidence about the percentage of the lecture content students take-in and remember. I tried to ensure that my sessions included

- variety
- that they were participative
- that they were relevant
- that they progressed from the students' existing knowledge and experience, and
- that learning can be a 'fun' activity

Subsequently, on visits to schools to observe students undertaking teaching practice, it was heartening to see that they too were making efforts to implement these principles.

Before identifying my second choice, I need to say a little more about my career. When I started teaching in third level/higher education, there seemed to be few students with impairments, both obvious and hidden. They were an invisible minority in the student body. However, in 1974, the first research-based survey on their participation rates in the UK was published and soon afterwards, the National Bureau for Handicapped Students (later to be called Skill: National Bureau for Students with Disabilities) was established. For some unknown reason, I had always had an interest in disability and I joined this new organisation, moving from being an ordinary member to joining the executive group and subsequently serving as the elected chairman. During this period, I was also keen to further my academic career and so took what was the usual route by enrolling on a doctoral research programme. The focus of my investigation was a qualitative study of a small group of students with mobility impairments trying to obtain places in universities. I completed my study, was awarded a doctorate in 1990 and managed to have my thesis published in 1993 in book form as 'Steps Towards Graduation'. The reason that I have included this information is to allow me to admit a major short-coming in my work, namely my lack of use of a social model of disability to interpret the experiences of those students in my sample.

It was in 1990 that Mike Oliver published the first edition of his book 'The Politics of Disablement' in which he explored the inadequacies of the medical/individual approach and proposed the adoption of a social/political/educational model. This is my second chosen book. My familiarity with this changed thinking meant that much of my teaching and my professional development sessions became quite different from what had gone before.

Looking back on the decade between 1990 and 2000, I think it would be fair to say that my embracing of the social model was incomplete. The system of provision and the approach to funding in the UK was very much about individuals and about the 'reasonable adjustments' that had to be made in order for disabled students to participate in universities and colleges. The term 'reasonable adjustments' formed one dimension of the legislation in the UK – the Disability Discrimination Act 1995. Actually, there was a very important second dimension, the need to anticipate in advance what disabled people need in order to participate fully in all aspects of society, but, in my view, this was overlooked (and continues to be to this day although there are signs of this being more widely implemented as will be shown later).

My third chosen book is 'Teachability: Creating an accessible curriculum for disabled students' which is the handbook and guide to the project which started in 2000 and was organised by Anne Simpson and Graham Charters and funded by the Scottish Higher Education Funding Council. For me, this was the first clear step made in the UK towards the implementation of a social/educational model of disability. Staff in a range of academic departments in higher education institutions in Scotland were asked to address questions about their courses and study programmes - about the extent which these were accessible to students with a range of impairments, the barriers preventing participation, the ways in which the barriers might be overcome, the strategies needed

to activate removal of the barriers. In fact what these questions prompted was an ongoing debate on what constituted the core, non-negotiable parts of the course and a discussion of competence standards and reasonable adjustments especially with regard to courses leading to entry to many professions. (See the Equality Challenge Unit's 2015 publication for the most recent discussion of this in the UK.) Bringing the story right up to the present time, changes to the ways in which financial support is provided for disabled students in England since 2014 prompted the Higher Education Funding Council for England to establishment the Disabled Students Sector Leadership Group. Their first guidance 'Inclusive Teaching and Learning in Higher Education as a route to Excellence' was published in January 2017 and I find it sad and disappointing that not a single reference is made to the pioneering work of Simpson and Charters.

For me, this was THE key prompt towards a more dynamic promulgation of a social/educational model and through it, the spread of genuinely inclusive institutions and courses.

The fourth of my chosen books is 'Towards Inclusive Learning in Higher Education: Developing Curricula for Disabled Students' edited by Mike Adams and Sally Brown and published in 2006. This is a collection of sixteen papers and identifies good practice in a wide range of aspects of provision for disabled students: entry and admission, curriculum design, delivery and assessment, postgraduate work etc. It can be seen as a useful marker of the progress made in the UK following the financial involvement of the national funding councils and the concern with quality assurance and quality enhancement. I found this a useful aid to thinking on a diverse range of course requirements such as placements, use of assistive technology, distance learning, etc.

What Adams and Brown offer are ideas and so to counter-balance this, my fifth and final choice, is research-based. The most up-to-date research study of the real-life experiences of disabled students in the UK is covered in the book called 'Improving Disabled Students' Learning: Experiences and Outcomes' and was published in 2009. The eight authors under the leadership of Mary Fuller use the words of the students themselves to describe their experiences in relation to, for example

- teaching, learning and assessment
- placements
- fitness to practice
- institutional structures and systems put in place to meet their needs

So, there they are – my five sources of support to aid me in my work at 'Desert Island University'

Actually, I would have liked to cheat because since my retirement, further progress has been made towards inclusive provision. This has been based on principles of Universal Design as applied to curriculum development, delivery and assessment. Hence I would want to smuggle in with me a copy of Sheryl Burgstahler's collection of papers published as 'Universal Design in Higher Education: From Principles to Practice' (second revised edition 2015). If you want to know more about my enthusiasm for this book, please read my review in the previous edition of the AHEAD Journal (no.4). Suffice it to say here, that moves towards the application of Universal Design were being made in the USA in the 1990s and yet, for me, the first sign that the concept had spread across the Atlantic was the 'Teachability' project mentioned already. Interestingly, there is a paper included in Adams and Brown entitled 'Using Universal Design for Learning to expand access to higher education' (Hall and Stahl) although I am unsure about the extent of its impact on practice and provision.

I hope that readers find this account interesting and stimulating. I realise that access to advice, guidance, and support in the real world rather than my imaginary desert island has been facilitated and widened by the development of the internet and web-based sources. Given shortcomings in quality control of web content, I would argue that there is still a place for books. I hope that this view is shared by colleagues. Perhaps, my own musings have prompted others to think about what they would choose as their five key sources of support in their own 'Desert Island University'. If so, in the interests of disseminating knowledge and good practice, and of continuing collegiality I urge them to write an article or letter for the AHEAD Journal. I am sure that such contributions would be welcomed by both the editors and the readers.

I have shared my experiences, ideas and views. Now it's your turn. What would you want to have with you?

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Flexible assessments? We will lose our accreditation!

Irma van Slooten MSc

Irma van Slooten first encountered Universal Design for Learning (UDL) in 2009, together with Linda Nieuwenhuijsen. It has gripped her ever since. As a result of this, she co-founded UDL Nederland in 2011, which has been providing training and coaching in UDL for higher education professionals in The Netherlands and abroad. Irma's scientific background (MSc), and her ample knowledge of inclusive education (a long career at 'handicap + studie', founder 'De Coach (F)irma', and knowledge of Dutch sign language) helps her to put UDL in practice.

Linda Nieuwenhuijsen BSW (UDL Nederland)

Linda Nieuwenhuijsen first encountered UDL in 2009 at a conference in the US. She quickly became enthusiastic about the concept and co-founded UDL Nederland in 2011 with Irma van Slooten. Linda's extensive experience in inclusive education (trainer assistive technology for the visually impaired, adviser & trainer at handicap + studie, student counselor at 'In Holland' and other higher educational institutes, supervision of students via 'Onbeperkt Studeren'), her practical mentality, passion for people, ICT, graphic design and her strong resistance to injustice all come together for her in UDL.

Bertine van Hillo-Visser MSc (Hogeschool Rotterdam)

Bertine van Hillo-Visser is the chair of the exam committee of the Institute of Financial Management at the 'Hogeschool Rotterdam', a position which she has held for the past ten years. She combines this role with that of senior coach and prime contact for students with disabilities at the same institute. This role affords her a unique view on how a wide variety of exam styles is required to give equal opportunities to a very diverse student population. Her position furthermore allows her to institutionalize UDL very pro-actively, while at the same time conducting further research on the topic.

Introduction

In The Netherlands, Universal Design for Learning is gradually making its entrance into higher education. The UDL motto is: 'firm goals, flexible means'. However one of the major questions in higher education is how to apply this motto to assessment. In other words: are flexible means of assessment possible if we adhere rigorously to assessment goals, in particular if quality assurance plays an important role? In this article we will deal with this question by using a case study of the Maastricht Science Programme where a variety of assessment forms are used in a very extended way. We will also share the feedback of the Accreditation Organisation for The Netherlands and Flanders (NVAO) on this case.

Firm goals, flexible means and quality assurance

For a number of years now we have assisted lecturers and educational staff to develop curricula that create an optimal learning experience for every learner by using Universal Design for Learning (UDL). In the last couple of years we have seen lecturers making great strides forward. Creating firm goals makes sense to them, providing multiple means of representation is also very readily understood, and even raising the engagement of students is easy once lecturers understand that they need to do more than only assuming that every student should motivate themselves. However, in every training and coaching session, we invariably encounter hesitance and even reluctance to work on flexible assessments.

We are often confronted with statements to the effect that 'flexible assessments are not allowed, we will lose our accreditation if we make assessment flexible!'. It is true that the quality assurance system of the NVAO contains many standards, which are all taken into account in a quality assessment procedure. (The NVAO assures the quality of Higher Education in The Netherlands and Flanders.

It is an independent organisation established by a treaty between The Netherlands and Flanders. The NVAO works with a quality framework. To receive accreditation study programs need to meet the standards in this framework, **www.nvao.com**.)

However, the NVAO states clearly that the review is done using an 'appreciative approach', which means the starting point in applying the accreditation framework is the model chosen by the institution. In addition, Paul Zevenbergen (NVAO executive board member) states that 'NVAO does not have specific guidelines with regard to assessment, except that assessments needs to be valid and reliable, need to have sufficient variation, and need to address the learning objectives'. This is because institutions must indicate their own final level of graduation, and therefore also what their assessment looks like. It is important to explain, motivate and comply, but there are many opportunities for flexibility'.

The assessment cycle: 7 steps to assure quality

The good news is that the accreditation system leaves enough room for study programs to create flexible assessments as an integral part of their curriculum. How now to ensure the quality of this flexible assessment? You can do so by going through the seven phases of the assessment cycle:

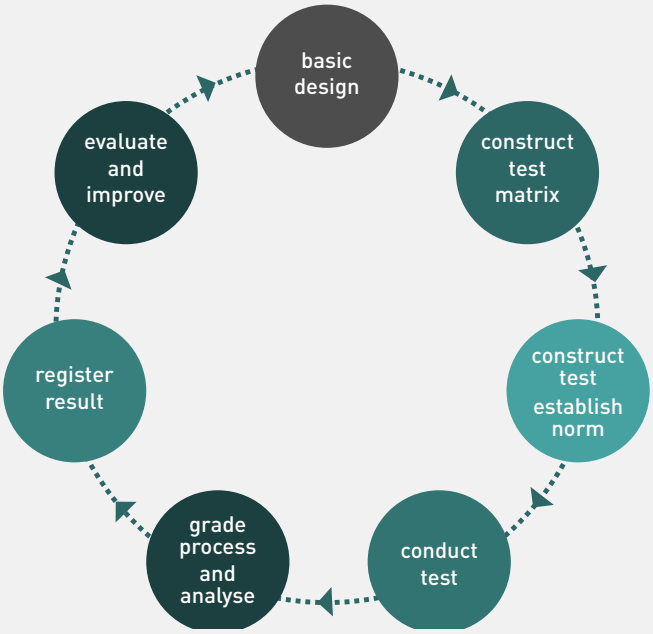

Image 1: The assessment cycle (Source: Vereniging van Hogescholen, translation and redesign by UDL Nederland, 2016)

Phase 1: Basic design
The first step of this cycle is to create a basic design of the test. This test needs to be in line with the learning outcomes that are set for the course. The contents of the test, level and form must match the educational vision and the didactic concept of the institution. The basic design gives an initial idea of what you want to achieve with the test.

Phase 2: Construct test matrix
A test matrix is a table showing how the tasks are divided into the test, in relation to the stated learning outcomes. This is a very useful instrument in the design of a test. For each topic, one determines at what level it is tested, what types of test are the best for that topic and the number of questions to be asked about it. A test matrix helps to create a test that properly represents the course. The next step is to create a first test. https://toetsing.sites.uu.nl/modules/toetsmatrijs/theorie/

Phase 3: Construct the test, establish norm
If you have a rough draft of the test, the development of the test can take place like compiling questions, formulating tasks, collecting relevant supporting material, and describing case studies. Once the test is done, you can establish the norms to assess the outcomes of the test.

Phase 4: Conduct the test
In this phase it is important to make sure you create appropriate conditions, so that the result of the test actually reflects the abilities of the students. Be aware that, especially in UDL, assessment is an 'essential, embedded feature of the learning process' (Meyer, Rose and Gordon, 2014). According to Rose (op cit) in a UDL curriculum 'the most important kind of assessment is formative assessment'.

Phase 5: Grade process and analyse
Once the test is made, it is assessed based on the set norms. This will provide insight into the difficulty, reliability and validity of the test and the test components. This analyses may give rise to the revision of the norms. Each student receives a final score. In The Netherlands, by law, the examination board determines the final test results. (The Dutch Law on Higher Education and Scientific Research (WHW) requires that every study program has an examination board that assures the quality of the tests and examinations.)

Phase 6: Register result
The test results are administered. The student will receive appropriate feedback on test result. Make sure that the feedback is understood by the student.

Phase 7: Evaluate and improve
In this phase you evaluate a number of tests on their quality in interdependence. You can for example look at difficulty, reliability and validity. An important element to assure quality is the confrontation of tests with empirical data (quantitative and / or qualitative), such as evaluations of the testing or analysis of the test results themselves. This helps you to improve the test and detect vulnerabilities. This in combination with peer consultation can help you to create the next test. With that new test you can start a new assessment cycle.

Flexible assessment in real life: a case study of the Maastricht Science Programme

The next step is to really create flexible assessment. What would that look like? Luckily, Dr. Roy Erkens, a lecturer at the Maastricht Science Programme was very curious about the answer to that question too. He followed a 10 week UDL online course at UDL Nederland and he decided to apply the concept of flexible assessment to his course 'Tropical Ecology'. This is one of the third year courses he teaches at the Maastricht Science Programme. He gave his students total freedom to demonstrate their grasp of the learning goals of the course.

This means that he let them design their own test. He allowed every test format they came up with as long as they could explain to him how they demonstrated the learning goals by their chosen format (phase 1). He used test matrices of previous years to check the representativeness and reliability of the ideas his students came up with (phase 2). He asked the students to create the criteria which he should use to assess the quality of their work (phase 3). It is noteworthy that Dr. Erkens was pleasantly surprised by the high bar that the students set for themselves. The formats that the students chose were very diverse: a calendar, an exhibition for a museum, an information leaflet, and a written exam. Once Dr. Erkens and the students were satisfied with the format and criteria they signed a short contract to create transparency about the decisions they made and to be able to monitor to innovative journey that they were going to make together.

Image 2: some of the results of the subject 'Tropical Ecology' (Source Dr. Erkens)

All tests worked towards a final product. However Dr. Erkens embedded formative assessment in the learning process by means of planned conversations with the students about their progress to give them feedback during the process (phase 4). The students realised during the process that they set quite high standards for themselves. It struck Dr. Erkens that they were very motivated to reach these standards; "we have raised the bar for ourselves, now we are going to get there no matter what!" In the end Dr. Erkens graded the test and gave the students feedback on their final results, registered the results and evaluated the process with the examination board. This led to the conclusion that he would continue with flexible assessment for this subject next year (phase 5, 6 and 7).

Important factors in the conclusion were the very high intrinsic motivation of the students, the students tendency to aim higher and the fact that the way of working caused a lot of extra joy in teaching the students for Dr. Erkens, but not a lot of extra work. In Dr. Erkens own words "for me it came down to more fun, less work". **We interviewed Dr. Roy Erkens on this work and you can watch the interview on the website of UDL Nederland** (English subtitles).

Just before the release of this article Dr. Erkens informed us that he actually repeated the same format this year and he could tell us that the intrinsic motivation of the students was again very high and the results of this year were even more impressive. One student even created a scale model of a tropical rain forest complete with information on the subject (Image 3).

Image 3: One of the results of the second year; a tropical rain forest model (Source Dr. Erkens)

Response of the Accreditation Organisation of The Netherlands and Flanders (NVAO)

We were very curious what the opinion would be of the NVAO on this example of flexible assessment. We asked NVAO executive board member Paul Zevenbergen to analyse this case study. His spontaneous reaction was that this was a very inspiring example of flexible assessment. He encouraged Dr. Erkens to continue on this path and gave the following advice to assure quality:

1. Discuss with your peers. Preferably also from another field. 'NVAO does not have deep expertise in any particular scientific field, and therefore relies on evaluation by peers.'
2. Without specific standards for an assignment, you need an extra pair of eyes for grading. Sometimes you need a fresh pair of eyes to put things into proper perspective. This is how you calibrate.
3. Build in checks and balances. This way you increase your critical assets.
4. Make your assessment imitable (not necessarily measurable but replicable/ traceable). What are you doing exactly and why? Explain!
5. Involve the Examination Board of your institute. They are accountable and they may provide the extra pair of eyes.

Conclusions

In this article we have shown that flexible assessment and assuring quality is possible. We even argue that flexible assessment improves the quality of the learning process, because it forces you to really assess the starting point of development of the learning process: it becomes an integral part of your course right from the start. In case full flexibility is a bridge too far yet, you can always start with giving choice between two options. Depending on the goal of the test this can be a choice in subject or method. Finally, the Assessment Cycle is a very helpful tool to keep you on track and to explain what you did and why during internal and external quality reviews.

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The Unheard Voice in Higher Education: Research on Deaf Students and Irish Sign Language Interpreting in Higher Education

Caroline McGrotty

Caroline McGrotty has recently graduated with a Bachelor's in Deaf Studies from Trinity College Dublin and also holds a Diploma in Irish Sign Language Teaching (TCD) and a Higher Certificate in Equality Studies from UCD. Caroline has over ten years' experience of working and volunteering with various organisations within the Deaf community and sits on the board of Sign Language Interpreting Service (SLIS). She has been with AHEAD for over four years working as a Project Officer on GetAHEAD and the WAM Programme.

I would like you to imagine you are studying in a university where the language used is not your first language. You have an interpreter to support you in your studies. You have been told you have to do a presentation, which is worth 40% of your grade, in front of your lecturer and your 100 classmates. You spend weeks preparing your PowerPoint presentation, you have practiced in front of the mirror, you have made notes to prompt you as each slide changes, you've chosen your outfit and you are ready!

On the morning of the presentation, you arrive in the classroom early and sit down to mentally prepare yourself but at the same time you are watching the door every time it opens.... Your heart starts to beat faster and faster as every time you look down to check the time, it gets closer to 10am... The lecturer walks in and you are frantically looking around, you are no longer mentally preparing yourself for this presentation, instead you are wondering how you are going to present to the audience. So many thoughts are running through your head, worry, fear, upset, embarrassment, awkwardness and 'what am I going to do?'...

The lecturer points at you, which means your time has come. You walk up to the front of the classroom, trying to communicate with the lecturer in gestures to say that the interpreter had not arrived. Your lecturer looks taken aback, doesn't know what to do and neither do you so you decide to show your presentation by just pressing the 'next' button on the slides. You stand awkwardly beside the computer while you notice a few students trying to stifle their laughter in the room. At the end of your presentation you just want the ground to swallow you up right there and then.

Unfortunately this is not a possible nightmare scenario but a reality; it has actually happened in real life to a Deaf friend of mine who uses Irish Sign Language (ISL). My Deaf friend was somewhat 'lucky', no marks were deducted, instead the lecturer arranged to meet with them one-to-one, with an interpreter, to go through their presentation as they would have done on that day. This story is just one of many reasons why I decided to undertake research into Deaf people's experiences of using ISL interpreters in higher education (McGrotty, 2016). I began to think about how these peripheral issues, unconnected but essential for the Deaf person, such as the skill level of interpreters, would have an impact on a Deaf person's learning and their overall academic attainment. While there have been a number of studies done on the process of educational interpreting in general internationally and nationally, a significant gap in empirical research of Deaf people's perspective of using educational interpreters in Ireland was identified.

Author Note: Throughout this article, I will refer to Deaf people with a capital D to represent those who view themselves as a cultural linguistic minority and predominately use Irish Sign Language.

The Irish Context

There is significant under-representation of those who are Deaf or Hard of Hearing (D/HH) accessing higher education with statistics suggesting that they are nearly ten times less likely to obtain a third level qualification (CSO, 2012; Leeson, 2012). Both the Higher Education Authority and AHEAD have expressed concerns on the participation rates of D/HH in several reports with the HEA establishing specific targets for the enrolment of D/HH students (HEA 2015; AHEAD 2015). However it is not clear from these reports or the statistics provided by the CSO how many D/HH people use ISL as their primary language when accessing higher education, though AHEAD has mentioned ISL interpreters are included as part of the support services.

In relation to ISL interpreting provision within higher education, the Fund for Students with Disabilities covers full-time, registered students for academic contact hours only. The Fund does not include additional services a student may utilise such as tutorials, workshops within the learning development centres, clubs and societies, counselling services, etc. (Leeson, 2010; 2012; HEA, 2014). It is also worthwhile to mention that Ireland has only seen a continuing expansion of trained interpreters due to the establishment of the Centre for Deaf Studies in 2001 where the first cohort graduated in 2003. There are now over 100 trained interpreters in Ireland (Leeson, Saeed, & Grehan, 2015) however it is estimated only 75-80 of these are actively working and not all of them are full time.

Mediated Learning – where do the gaps lie?

A Deaf student, who uses an ISL interpreter, relies on what is called 'mediated learning'; they are not learning directly from the lecturer but learning from the interpreter to access course material, academic language and the full curriculum. It has been highlighted in research that Deaf students comprehend on average 60-65% of an interpreted lecture compared to 85-90% of their hearing peers (Marschark et al., 2005; Napier & Leeson, 2015).

If we consider why there can be almost a 30% gap in comprehension between a Deaf and a hearing student even when using a highly-skilled and experienced interpreter, it's important to look at the classroom environment and other impacting factors. For example, the classroom itself may not be set up in such a way where the interpreter can hear everybody in the room, particularly if the lecture contains classroom discussion. Classroom discussion often occurs at a rapid rate, topics can change frequently which can increase the lag times for the interpreter so sometimes the interpreter may choose to omit some information to try to 'catch up'. Another aspect is the register in which a person is speaking,

i.e. whether they use formal language or slang. Sometimes there may not be separate signs for words that mean the same thing, for example; 'father' and 'dad'. Both of these words mean the same thing and have the same sign but to a hearing audience they carry a different message and tone.

This leads into another impacting factor, where the educational background or subject-knowledge of the interpreter can influence linguistic decisions in terms of their vocabulary choice and what interpretation approach they will use (Napier & Barker, 2004; Schick et al., 2006; Berge & Thomassen, 2016). Let's say, an interpreter encounters a new word which may have been used for the first time in the course; they may decide to fingerspell the word on its own or they may decide to do a combination of both fingerspelling the word and do a free interpretation of that word or simply use a sign in the wrong context which may lack meaning (Russell & Winston, 2014).

An example would be the word 'liberal', in the context of equality. There is no specific sign in ISL for **that** particular word with **that** particular meaning, so an ISL interpreter may choose to fingerspell this word on its own or substitute another sign, for example, 'free' to represent the word 'liberal'. However, the ISL interpreter should consider whether the consequences of adopting a substitution approach is appropriate without informing the Deaf student of their decision. A skilled interpreter will usually adopt both strategies, fingerspelling 'liberal' alongside the substitution to give clarity and more meaning to the Deaf student.

Research Method and Participant Profile

Undertaking this research, I opted for an anonymous online semi-structured survey using a mixture of both quantitative and qualitative questions. There were 3 sections to the survey which looked at the 1) Availability of Interpreters; 2) Interpreter Quality

and Understanding and 3) General Comments & Feedback. For the purpose of this article, I will focus mostly on Section 3 which I believe will be of most value to you, the reader.

My target audience for this research was Deaf people who attended and used ISL interpreters within higher education between the years 2005 – 2015. A total of 31 Deaf people responded to my survey however 27 were used for comparison and analysis.

> **89% of respondents had never used an ISL interpreter in primary or secondary education.**

I know personally, that for many Deaf students, their first time using ISL interpreters may be on the very first day of their higher education journey. For anyone who is 18 or 19 entering higher education after they leave school, it can all feel a bit daunting, you don't know what to expect and you can get a bit lost. For Deaf students, it's the same, except they have this interpreter who is going to be there with them on a daily basis. They may never have used an interpreter before, so they may know not the 'rules' or 'etiquette' in using an interpreter. They may look at the interpreter as being the expert.

> **74% of respondents had an ISL interpreter whilst 26% stated they only needed an ISL interpreter for some modules.**

The good news here is that Deaf people had the option of having full time access to interpreters however 26% indicated they only needed them for some modules. Whilst the survey didn't allow for elaboration, it can be assumed that for certain modules, interpreters may have not been required. For example, lab work, placement or courses that would have technical or practical work built into the course.

The Importance of having ISL Interpreters

Parts of my survey looked at what respondents felt about if having a regular interpreter, the same individual interpreters throughout their course, was important and around punctuality of ISL interpreters.

> **93% of respondents stated it was important to have regular interpreters.**

These respondents highlighted that having regular interpreters would lead to the interpreters becoming familiar with course content, decreasing the time lags and eliminating the need for the student to prepare the interpreter by giving background and context before the lecture. Regular interpreters would mean they could become familiar with individuals in the classroom and refer to them by names and pointing, reference to previous lectures or topics from weeks/months prior.

Quite a number of respondents also stated that they would create their own signs for certain vocabulary between themselves and the interpreter that would only be used within the classroom.

> It really helped using the same interpreter, we agreed on common signs early on, this saved having to explain again and again to new interpreters.

In relation to punctuality or non-attendance of ISL interpreters, the majority of respondents stated they did not have any major issues as replacements were sought and in one case the missed hours were transferred to tutorial hours. For those who did experience issues with punctuality, they reported it to the Disability/Access Office or else raised it directly with the interpreter.

However, if the interpreter was unable attend and informed the student in advance, respondents said they chose to stay at home

and did not attend lectures that day. If we think about this in terms of where the student could have up to 4 or 5 different modules on a particularly full scheduled day, this could have consequences going forward. The student may have missed out important information which could relate to procedures or topics that may appear on exams or assessments.

If Deaf students weren't informed in advance, they stated that they stayed in the classroom until they found an appropriate time to leave. What was interesting to note from the research is that four respondents all used the terms 'awkward' or 'embarrassed' when giving their responses. These terms have a negative connotation attached to it which can further contribute to the already prevalent social isolation of Deaf students in a mainstream setting (Oliva, 2004; Leeson, 2012).

> sometimes I found out in the class meaning I was stuck throughout the class with no clue of what the lecture was about, then if it was question time or group discussion, it was even more awkward for me with no idea!

> A replacement....came 40 minutes late ([they] forgot about it until I text [them]). Of course I was embarrassed but stayed.

63% of respondents stated that Trust & Confidentiality was the most important attribute of working with an ISL interpreter.

Generally respondents were positive in giving their overall experience of using ISL interpreters and how they felt 'fortunate' to have the opportunity to be educated through their own language, ISL. They were, in time, able to recognise the differences in having skilled and experienced interpreters in comparison with those who are newly qualified. They acknowledged the value of building a relationship with a particular interpreter where they were able to create and establish new signs to be used within the classroom.

The Role of Disability/Access Office

Almost half of respondents said they did not give feedback or have a review of their experiences and would have liked the opportunity to do so, whereas others stated they did give feedback but it's unclear from the respondents as to how this review was structured or whether it was on an annual basis. Two respondents did note however, that when they raised a complaint, their identities were revealed to the ISL interpreters which created 'bad feelings' and 'awkwardness' throughout the rest of their course as they had to continue to use these specific ISL interpreters. The majority felt that it was the responsibility of the Disability/Access Office to resolve any issues surrounding ISL interpreter. However, they found at times, the Disability/Access Office could lack awareness in understanding the complaints, qualities and a preference for a particular ISL interpreter.

Most Disability/Access Offices do operate an open-door policy whereby students can arrange to meet to discuss issues at any stage throughout their higher education journey, however as my research identified that 89% never used an educational interpreter before, they may be unsure of what the protocols are. Upon further analysis, it became apparent that there may be a lack of clarity or awareness of each of the stakeholder's roles and responsibilities, both of themselves and of others.

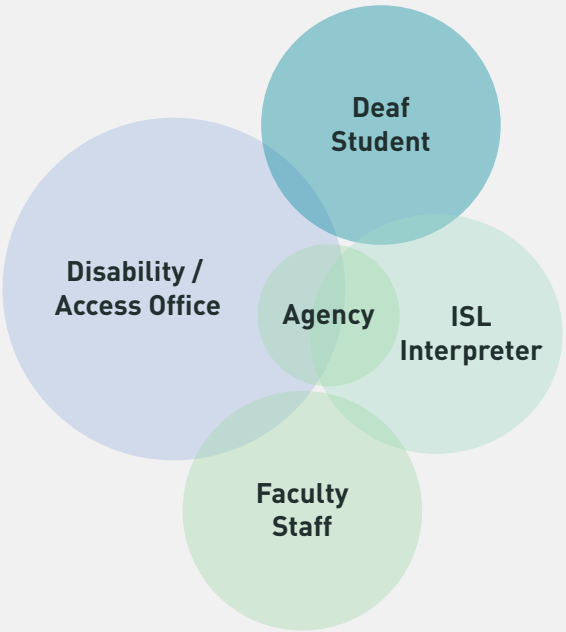

Figure 1: The Current Relationship between Stakeholders

The stakeholders in this are; the Deaf student, ISL interpreter, faculty staff, Disability/Access Office and the interpreting agency. Currently, it seems that the Disability/Access Office is the 'locus of control' where they are the ones who have direct relationship with each of the stakeholders regarding the provision of ISL interpreting.

However it's important to remember that not all relationships carry the same weight. For example, the relationship and contact between the Disability Office and faculty staff may only be very brief, and at the start of the year, outlining any accommodations the Deaf student needs, such as ISL interpreter or notes in advance. The relationship between the Disability/Access Office and the ISL interpreter with the agency may be purely administrative.

Figure 2: Student-Centric Relationship Model

Instead, the relationship between the Deaf student and the ISL interpreter is a working one and it constantly changes and evolves, therefore they should be the 'locus of control' in relation to their support, making it student-centric.

A Message from Deaf Students…

I asked students if they were starting their higher education journey again, what three key pieces of advice they would give to themselves when using and working with an ISL interpreter. There were a lot of overlaps in this section where I condensed the information into four key areas:

- Ensuring an efficient working relationship between the Deaf student and ISL interpreter by both stakeholders meeting prior to the academic year commencing to discuss, prepare and agree signs for any subject-specific terminology relevant to their course.
- Regular, scheduled feedback with regards to the ISL interpreter's performance or any other issues that need to be addressed such as punctuality or signing styles. This feedback should be given to the Disability/Access Office who then liaises with the ISL interpreter or interpreting agency.
- Deaf students would like to give a list of their preferred ISL interpreters to the Disability/Access Office or the possibility of meeting and 'interviewing' the interpreters to assess whether they were a suitable match.
- Having two ISL interpreters working together in the event of one ISL interpreter being absent or having alternative supports being arranged in the case of no ISL interpreters, for example, a note-taker or a stenographer.

Conclusion

It is clear from my research there has been an increase in the number of Deaf people accessing higher education over the past ten years alone, in fact, the numbers have increased threefold compared to previous research conducted by Matthews (1996) and Conama and Grehan (2002). In previous research, respondents stressed frustration over the lack of provision of ISL interpreters in higher education yet all respondents in this survey were able to avail of ISL interpreters which means that it no longer presents as a barrier. This is largely down to increased numbers of trained ISL interpreters since the establishment of the Centre for Deaf Studies in 2001 and a more streamlined process whereby a student must register with the Disability/Access Office who will then in turn apply to the Fund for Students with Disabilities. The focus has now shifted away from access, to the relationship and skills of the ISL interpreter.

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The journey toward Universal Design for Learning and the Provision of Reasonable Accommodations to Students with Disabilities in Higher Education in Ireland

Declan Treanor, Director of Disability Service, Trinity College Dublin and Chair of DAWN

Declan has been working in Trinity since the Disability Service was set up in June 2000. He has responsibility for ensuring that the College embeds disability-related issues into the core of all thinking and delivery to ensure that the College environment is as accessible to people with disabilities as possible. Declan has an extensive educational history which includes a B.Sc. in Science for NUI Galway, a Masters in Social Policy and Administration from the London School of Economics and Political Science and a Post Graduate Diploma in Education, Trinity College Dublin. Declan is the Disability Officer for staff in College and for students who are D/deaf and Students with Autism Spectrum and Asperger's Syndrome.

Introduction

Universal Design for Learning and the Provision of Reasonable Accommodations to Students with Disabilities in Higher Education in Ireland, a report to be launched later in 2017, brings together two years of research and consultation in relation to Universal Design for Learning (UDL) and a review of the provision of reasonable accommodations (RA's) for students with disabilities in Higher Education (HE) in Ireland. There is some misunderstanding of the term UDL amongst academics in particular and many equate UDL with the built environment. There are a number of different terms used in different areas of the literature, and in different geographical regions e.g. inclusive learning approaches or Universal Design for Learning. In this paper, to ensure an understanding of UDL by all stakeholders the term Inclusive Learning will be used and is taken to include those terms.

AHEAD in Ireland and the Disability Adviser Working Network (DAWN) set out to review all reasonable accommodations provided in third level education to ensure all were fit for purpose and consistent across the sector. The aims of the project shifted as the work progressed through the stages outlined below. A re-balancing exercise was proposed with the source of support for students with disabilities provided by Higher Education Institutions (HEIs) through mainstreaming and inclusive learning practice wherever possible being identified as a primary goal. The provision of disability supports were

identified and defined to meet the needs of those students who cannot be accommodated fully in an inclusive education setting.

There is an increasing emphasis within HEIs on developing inclusive learning practices. This is due to a number of internal and external drivers, including educational policy, anti-discrimination legislation, increased diversity of student populations, and a growing recognition that traditional methods of teaching, learning and assessment require a thorough review. Ensuring that HEIs develop inclusive learning approaches requires a positive engagement in the process from all participants in the HE sector, including statutory bodies such as the Higher Education Authority (HEA) and more specifically lecturers/teachers, teaching and learning developers and access/disability support professionals within HEIs.

Enabling all students, in particular those with disabilities, to participate fully and succeed within HE represents a considerable challenge for all involved. It is fair to say that where teaching, learning and assessment processes become inclusive and transparent, the more likely it is that all students, including those with disabilities, will be able to engage and participate at the highest level. However, even when inclusive learning environments are in place there will always be some students who require extra adaptations to the current arrangements. Reasonable accommodations, for example, have been developed at all levels within the education system to ensure that students with disabilities will not be educationally disadvantaged in comparison to their non-disabled peers. The report AHEAD and DAWN will launch later in 2017 will allow for a clearer understanding of how inclusive learning practices and the provision of reasonable accommodations can work together to ensure students with disabilities are accepted as full students of the third level education institution in as an inclusive environment as possible whilst always accommodating students additional disability needs.

Drivers for Inclusive Learning

Equality of opportunity in HE has been a national priority addressed through the work of the HEA in Ireland, and significant progress has been made in widening access and participation for students with disabilities through successive National Access Plans. The HEA reported that the number of students with disabilities to be 6% of the overall student body (HEA, 2015, p. 36). Reasonable accommodations are essential to the retention and progression of this specific student cohort, and should address barriers in all aspects of academic, professional practice and workplace settings.

In December 2015, the National Access Plan 2015 - 2019 announced an overarching objective which observed a need to

> ensure that the student body entering, participating in and completing higher education at all levels reflects the diversity and social mix of Ireland's population. (HEA, 2015, p. 14)

Two principles identified in this plan speak directly to how HEI's provide RAs to students with disabilities in higher education:

(A) the mainstreaming of equity of access policies within HEIs,

and

(B) the impact of funding and student financial supports on participation and completion rates.

Together with continuing reductions in European Social Fund-Fund for Students with Disabilities (ESF-FSD) per-capita allocation to HEIs, future outcomes would suggest a significant increase in students with disabilities requiring RAs with no capacity nationally to increase the overall budget. It seems timely, therefore, to examine the purpose and efficacy of Inclusive Learning and RAs and to consider how these might function within the future landscape of HE.

Stages in developing the proposed Inclusive Learning model

Stage 1: Research

September 2015, **A Review of Reasonable Accommodations for Students with Disabilities in Higher Education in Ireland** (Doyle, 2016), highlighted the need for the following key actions at a macro and a micro level:

1. HEIs to fulfill longstanding recommendations from HEA by committing to a planned programme of Universal Design for Learning.
2. Funding bodies provide greater flexibility in financing reasonable accommodations for students whose status means that they do not meet funding criteria, but whose needs are no less important. This includes students who are pursuing part-time programmes.
3. Policymakers to acknowledge and respond to the difficulties experienced by HEIs in meeting participation targets without matched funding to support this initiative.

Specific recommendations were made for national guidelines to streamline the process of implementing reasonable accommodations including:

- Evidence of Disability
- Needs Assessment Process and Disclosure
- Documentation for Funding Reasonable Accommodations
- Provision of Human and Technological Support
- Support for Specific Student Cohorts
- Accommodating Work and Professional Placements
- Developing Policies and Guidelines

Stage 2: Constructing the Inclusive Learning Practice Guidelines
Based on the research findings, the AHEAD DAWN Working Group worked collaboratively to develop standards and for allocation of reasonable accommodations for students with disabilities in HE. This led to the development of an Inclusive Learning and Guidelines Report, and the first draft was completed in May 2016.

Stage 3: Reasonable Accommodations Pilot
A field trial in term one of 2016-2017 was carried out with 7 HEIs: Dublin Institute of Technology, Dundalk Institute of Technology, Institute of Technology, Tralee, National University of Ireland, Maynooth, National University of Ireland, Galway, Trinity College Dublin, University College Cork. Participants submitted feedback each month.

Stage 4: Implementation of Inclusive Learning Practice Guidelines
This document outlines the changing roles and responsibilities of all stakeholders and explains the various steps that HEIs should take to implement inclusive learning in all DAWN HEIs.

These interim outputs have now been included in the report to be published in 2017.

Theoretical framework: Inclusive Learning

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

Inclusive learning practices such as UDL and its principles are recognised by AHEAD, DAWN and the HEA (2015, p. 21) as a model of best practice. They begin with the expectation that the curriculum will be accessed by a diverse group of students, with varying levels of skill and ability. Inclusive Learning approaches provide a set of principles for designing curricula to meet the needs of the greatest number of students, reducing the need for costly and time consuming adaptations at a later stage. Just as an architect considers accessibility when designing a building to avoid retro-fitting accessibility solutions, course designers can design curricula to reduce the need for future RAs. This would include consideration of the ways in which information is presented, and the means by which students can demonstrate knowledge, skills, and acquisition of learning outcomes.

The National Access Plan 2015 – 2019 (HEA, 2015) commits, through the National Forum for Teaching and Learning, to researching how teaching and related supports for students can be reflected as part of the overall strategy of each institution. The forum is also charged with leading a seminar series to advise on the best academic supports from target access groups (2015, p. 29). The two principles identified in the National Access Plan, detailed earlier, speak directly to a re-examination of reasonable accommodations in HE.

Despite these directives, Inclusive Learning is seldom referred to within HEI strategic plans other than in broad reference to universally accessible campuses. Challenges in meeting these principles have been identified in the research findings, and the literature review, in the report. Fundamentally, decreases in funding to support the needs of students with disabilities together with an increase in participation rates, means that a focus on Inclusive Learning is now essential (AHEAD, 2015). Adopting this strategy makes economic sense and would permit Disability Service Offices to focus on solutions to support students with complex needs.

The role of Disability Service staff in Higher Education might be usefully focused on assisting and supporting institutional centres

of teaching and learning, to introduce and implement the principles of Inclusive Learning in all aspects of course design and delivery.

A whole HEI approach is required to ensure that students with disabilities have equal access to the full range of services and facilities in the institution. Incorporating the principles of Inclusive Learning into all aspects of the institution will meet a wide diversity of needs and will accommodate the vast majority of students. There are instances, however, when a student's needs cannot be accommodated through mainstreamed services and individual supports and interventions must be provided to facilitate the students' participation.

In preparation – the Trinity Inclusive Curriculum (TIC Project)

To support the move to a changing pedagogy, in October 2008, the Trinity Inclusive Curriculum (TIC) project commenced with HEA Strategic Innovation Funding for 3 years, with the aim of responding to the increasing diversity of the student population through the promotion of appropriate inclusive practices.

The term 'Curriculum' has caused challenges as there is no single definition of the concept and this has led to misunderstandings regarding the scope of the project. Often curriculum is defined as 'what the individual teaches' (i.e. the content of a programme). Fraser and Bosanquet (2006) note two curriculum orientations, product orientation (content) and process orientation. TIC follows the process orientation, using Fraser and Bosanquet's definition C of curriculum as 'the students' experience of learning', where the lecturer (and the institution as a whole) provides a framework for learning that responds to students' needs to create an effective learning environment for all students.

Inclusive practices follow the principles of UDL to respond to the needs of all learners within a community. TIC has developed a series of innovative resources for use by teaching staff both within Trinity College Dublin and externally, including a resource

website collating good practice guidelines for inclusive teaching and assessment, and an online tool comprising self-evaluation questionnaires aimed at lecturers (and other teaching staff, e.g. teaching assistants).

While TIC has generally been favourably received, there is a reluctance, particularly at school and institution level as distinct from individual level, to have it formally embedded into HEI practice. An analysis of the TIC programme indicated that, whilst those closely associated with the project found themselves evolving towards a continuous spectrum view of the student body, Schools and the overall institution were still leaning on a traditional/non-traditional distinction. Such a distinction, it has been argued, is the root cause of the difficulties associated with embedding.

The Benefits of Inclusive Learning

The expectation that the curriculum will be designed to be sufficiently variable to be accessed by a diverse group of students, with varying levels of skill and ability. Inclusive Learning provides a set of principles for designing curricula to meet the needs of the greatest number of students. It brings considerable benefits to the institution such as:

- Improved teaching, learning and assessment
- Increased student satisfaction
- Cost and time efficiency
- Clarity of programme objectives and deliverables
- Increased employment outcomes
- Improved student recruitment and retention
- Assurance and accountability
- Flexible for taught courses, e-learning, research
- Reputational benefit
- International best practice embedded

Figure 1: Benefits of an inclusive approach to teaching, learning, and assessment

The benefits of an inclusive approach in figure 1 are taken from the final report of the Trinity Inclusive Curriculum (2012) and UK Government report, Inclusive Teaching and Learning in Higher Education as a route to Excellence January 2017.

HEIs may evidence their commitment to an inclusive approach to teaching learning and assessment in a variety of ways. A model for implementing the transition to UDL practices is provided in the following section.

Proposed Model of Inclusive Learning

AHEAD and DAWN proposes a model of inclusive learning practice (Figure 1), informed by discussions with the HE sector, to illustrate how HEIs should organise and deliver provision for all students with disabilities.

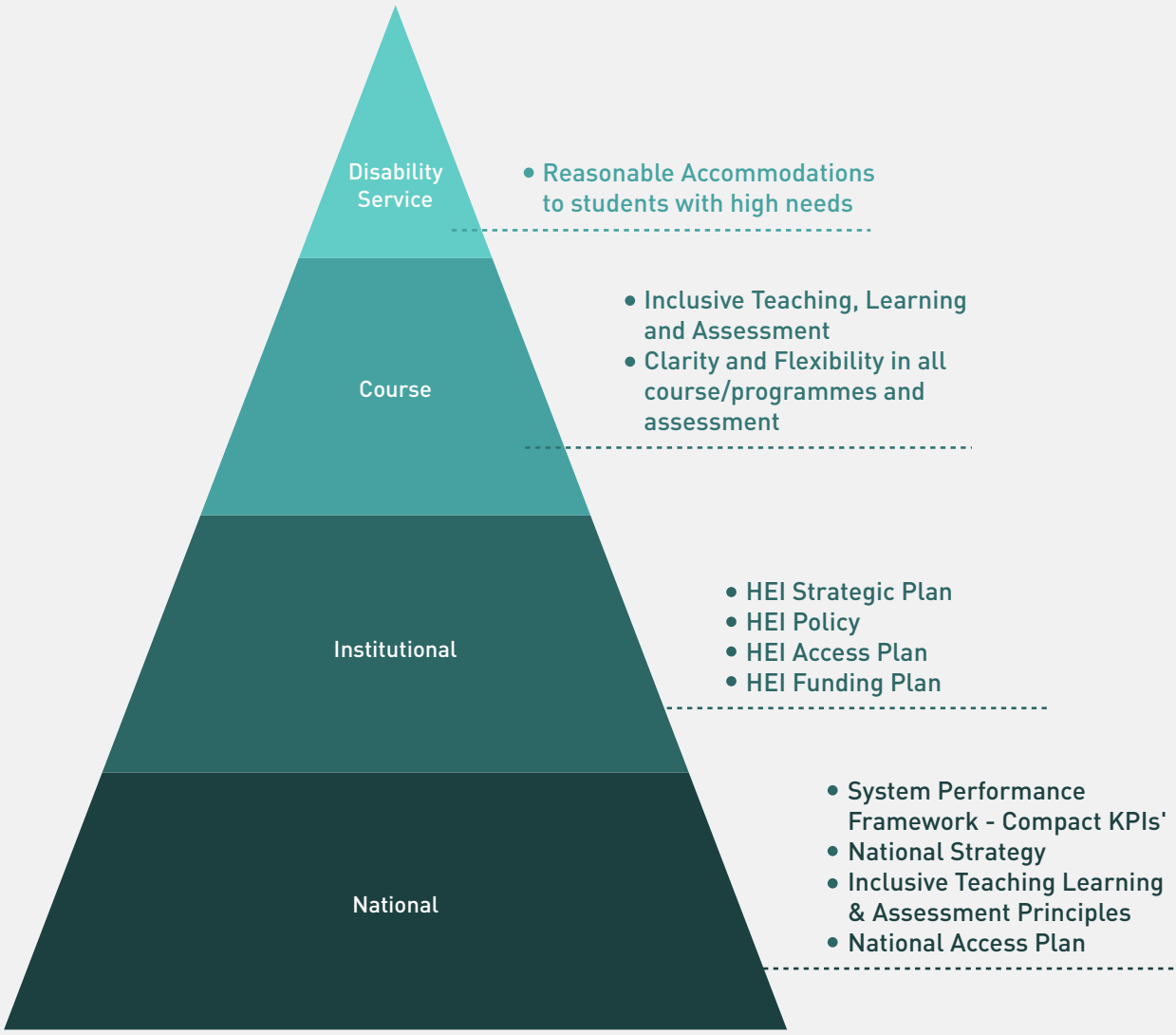

Figure 2 Proposed model of inclusive practice in HE in Ireland.

This model allows for a whole HEI response to inclusive practice as outlined in the HEA National Access Plan. Working at three distinct levels, its purpose is to ensure that all stakeholders are identified, the key areas that they need to work upon are outlined, and suggestions on inclusive practice are explained.

National / HEA Level – As already identified, the National Access Plan 2015 - 2019 announced an overarching vision on equity, diversity and funding arrangements.

Together with the on-going review ESF-FSD allocation to HEIs, future outcomes would suggest a significant increase in students with disabilities requiring inclusive learning strategies and RAs, juxtaposed with a significant decrease in the financial wherewithal to do so. It seems timely, therefore, that the HEA prioritise these objectives and to examine the purpose and efficacy of Inclusive Learning and RAs and to consider how these might function within the future landscape of HE. Through the System Performance Framework and other funding measures within the HEA, they need to act as an influencer to ensure changes lead to a more inclusive learning environment.

HE Institutional level - The benefits for HEIs in developing and embedding a comprehensive approach to inclusive practice can be significant, making a long and lasting difference to opportunities for students with disabilities and for HEIs. There is a need for strong, effective and committed leadership, with the pace of progress determined by the level of engagement and leadership provided by senior teams. They must drive and deliver change to address the many and varied extrinsic and intrinsic barriers faced by students with disabilities.

Course level - It is increasingly recognised that it is inequitable and unsustainable to support students through provision of specialist supports that sit outside mainstream provision.

The HEA emphasises the need to implement more inclusive and integrated approaches in the National Access Plan 2015-19, and specifically state that 'equity of access policies should be mainstreamed into the everyday life of higher education institutions to enhance the quality of the learning experience and progression outcomes for all students'. (p. 18)

The challenge of designing educational environments that are open to all students and in which all students can participate, is a complex one. This requires the design of curricula, teaching practices, assessment methods, services and physical environments that can accommodate the range of needs within a diverse student body. Goal 1.5 of the National Access Plan 2015 - 2019 is to mainstream the delivery of equity of access in HEIs to 'enhance the quality of the learning experience and progression outcomes for students' (HEA, 2015, p. 26). A diversified student body leads to diversified student teaching, learning and assessment needs. Implementing inclusive practices should represent the first line of accessibility rather than the application of specialist supports, reasonable accommodations, and retroactive strategies to overcome barriers found within traditional teaching and learning methodologies.

Disability Support level - The role of Disability Service staff in HE clearly sits in the provision of RAs to students with disabilities who seek support whilst in HE. The pyramid approach shows clearly that Disability Service staff should work at the apex providing specialist supports to the few students who require them. Most students in an inclusive learning educational environment will be able to manage their education, once inclusive practices are thought through and implemented. This will enhance their educational experience.

Disability Service staff are responsible for promoting inclusive practices, and should provide guidance on what these are, and who should provide them. Provision of RAs is based upon an assessment of need, the over-arching tenet of which is person-centered planning (AHEAD, 2012; Ritchie, Sanderson, Kilbane, & Routledge, 2003). It is essential, therefore, that guidelines adhere to this principle, and recognise the individuality of reasonable accommodations.

The Universal Design for Learning and the Provision of Reasonable Accommodations to Students with Disabilities in Higher Education in Ireland report identifies a way forward and comprises three parts:

Part 1 of this report establishes the rational for adopting a Universal Design for Learning (UDL) Model of higher education in Ireland. Higher Education has changed dramatically over the past ten years in particular in terms of its student profile. There is now a significant diversity of students participating with over 40% of students from a non-traditional background including a continuing increase in the number of students with disabilities.

As part of this profile students with disabilities constitute 5.2% of the total student population in 2015/16, (AHEAD 2017) a participation rate that has doubled in the last 5 years.

This change has taken place at a time of significant decreases in funding available to HEIs to support the change management initiative required if this diverse student is to have a quality experience in higher education. The report proposes that the sector consider a model of Inclusive Learning as a solution to the inclusion of all students and makes a commitment to engaging

with the necessary change initiative. An Inclusive Learning model involves the entire college. This involves all faculties, mainstream teaching, study supports and other functions working collaboratively and in a connected way with disability support services to improve the experience of all students.

As an interim step towards an Inclusive Learning model, the report envisages a system of integrated supports within HEIs which incorporate good mainstream teaching and learning practices for inclusion; mainstream study supports; the reasonable accommodations made available through Disability Support Services and supports available through other functions such as Careers. The report is backed up with accompanying guidelines for the provision of reasonable accommodations through disability Support and was developed in collaboration with DAWN HEI members and AHEAD.

Part 2 includes comprehensive guidelines on implementing Inclusive Learning at a national, institutional, course and Disability Service level, together with examples of good practice such as the Trinity Inclusive Curriculum (TIC) Project, and HEI case studies. This model is aligned with Universal Design for Learning and endorsed within the National Access strategic plans regarding teaching & learning policies. It sets out inclusivity in four key areas:

- the physical environment,
- academic skills and support for student learning
- technology
- student services.

A number of high level recommendations are made that will allow for Inclusive Learning principles and practices to be integrated in all HEI's, these are:

- The HEIs should adopt and develop an inclusive/ mainstreaming systematic approach to widening participation, equality and diversity, and improve student retention and success through a series of inclusive change programmes and associated research, publications and events.
- The System Performance Framework subscribed to by all HEIs should underpin the Equality of Access agenda through a clear description of indicators and evidence of inclusive teaching and learning indicators of good practice.
- HEI Access Plans & ESF FSD Service Plans should show clear plan for mainstreaming of teaching, learning and assessment supports, development of an infrastructure that will ensure HEI wide approach is taken.
- Review of the Access Allocation in the Recurrent Grant Funding Model needs to take account of any changes in the ESF FSD and data used to determine HEI allocations.
- The Taskforce responsible for the design, development and implementation of a new model for allocating ESF FSD funding should refer to this report for guidance on changes required to allow for improved efficiencies in allocation of funding and mainstreaming of some disability activities in all HEI's.

Specific guidelines are provided for implementing inclusive teaching, learning, study supports and assessment practices in all aspects of the curriculum and curriculum delivery, including work placements. Consideration is also given to confidentiality and disclosure, support to Erasmus and international students, and streamlined procedures for registering and assessing the needs of students with disabilities, across all HEIs.

Part 3 of the report sets out detailed guidance on the mainstreaming of supports, and provision of individual reasonable accommodations where this is not possible. Template forms and policies are provided to support staff and to ensure endure that procedures are streamlined across all DAWN HEIs.

Conclusion

Inclusive Learning principles are fairly new concepts in higher education. Inclusive learning at is simplest is good practice in teaching, learning and assessment for all students. This means that we have to change how we think about educational practice in order to give all students the same opportunities to learn. A shift away from thinking of inclusive learning as being a disability issue to a more inclusive teaching, learning and assessment environment will be required. There is in place a strategic framework of policy and quality standards within HEIs, the challenge now is to deliver on these policies and to ensure that inclusive learning practices are embedded across the whole institution.

The HEA play a key leadership role in actively encouraging the development of an inclusive/ mainstreaming approach to inclusion. This can happen effectively through the framework of performance compacts and engaging in further dialogue with the stakeholder groups to identify key indicators of minimum practice to be embedded in mainstream functions across the entire institution. Such a change requires leadership, vision and management to be sustainable and requires the commitment of senior management within HEIs to not only promote the vision of inclusive practice but to embed it with quality systems that are monitored. The report Universal Design for Learning and the Provision of Reasonable Accommodations to Students with Disabilities in Higher Education in Ireland 2017, shortly to be published, will assist a range of professionals involved in bringing about these changes.

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A study into the perceptions of students with dyslexia in Higher Education on the effectiveness of the Livescribe Smartpen in accommodating their lecture note-taking needs and if it impacts on their academic self-efficacy

Róisín Kelly

Róisín Kelly is a Learning and Assistive Technology Support Tutor in Athlone Institute of Technology. She completed her Masters in Professionals Studies in Special Education Needs in 2016. Her role involves supporting students with SpLD's in their transition to third level and guiding them in developing academic skills required to access and progress through their studies. Róisín promotes the use of Assistive Technology in compensating for students learning difficulties and allowing them to reach their full potential. Róisín together with the DLSS team facilitate Assistive Technology training for students with disabilities, academic staff and secondary school teachers. Róisín was one of the co contributors of Assistive Technology Outreach Services to Post-Primary and Further Education Report: An overview of the assistive technology facilities, training and support provided nationally by third level institutions.

Introduction

Lecture notes are essential for recalling learning material and promoting reflection afterwards. Indeed, empirical evidence has established a positive relationship between producing rich lecture notes and academic performance (Kiewra et al., 1991; Williams and Eggert, 2002b). The cognitive process of taking notes during lectures is complex and taxing on the brain. Skilled note-taking is dependent on the parallel execution of low order and high order cognitive processes within a limited-capacity working memory system. Peverly et al., (2007) maintain that low order cognitive skills relating to word recognition and transcription must be mastered to an acceptable degree of fluency, so that available space in working memory can be used for executing high order cognitive skills needed for language comprehension. When taking notes during lectures students must

> interpret and select the most important ideas; hold the information in working memory and write them down before they are forgotten
>
> (Peverly et al.,2013, p.115).

Through the voice of students with dyslexia in Higher Education (HE) this research explored the effectiveness of the Livescribe Smartpen in accommodating their lecture note-taking needs and if its use impacted on their academic self-efficacy.

Theoretical framework – specific learning difficulties

Students with dyslexia have notable deficits in the skills required to take effective notes namely Working Memory, Attention, Listening Comprehension and Transcription fluency (Suritsky and Hughes 1991; Suritsky, 1992; Mortimore and Crozier 2006). Asselin (2014) argues that the heavy reliance placed on lecturing in HE does not recognise the cognitive, language, sensory and motor difficulties experienced by students with disabilities.

Cognitive Deficits		
Working Memory	Note-taking ability is highly dependent on the capacity of the working memory to manage selection and comprehension of information and produce written output concurrently under time constraints.	Baddeley (2000)
Attention	Attention and note-taking during lectures are closely related In order to take notes students must consistently focus, sustain, stabilize, shift and encode.	Donaldson (2005)
Listening Comprehension	An important skill involved in note taking is the ability to listen and understand uninterrupted and spontaneous speech."	Heaton (1977)
Transcription Fluency	Transcription fluency is directly related to note quality, i.e., the faster a student can write, the more information they can record during lectures.	Peverly et al. (2007)

It is important to note that difficulties experienced by students with dyslexia are not limited to academic tasks such as note taking, they also struggle to keep pace emotionally. They have significantly lower levels of self-esteem and self-concept compared to their non-dyslexic peers. Riddick (1996) in her study of higher education students with dyslexia, documented that they felt 'disappointed, frustrated, ashamed, fed up, sad, depressed, angry and embarrassed by their difficulties' (p. 129). Poor academic performance diminishes students' belief that they can achieve academic success. It is hardly surprising that they are more likely to withdraw from courses after their first year compared to their non-dyslexic peers (Richardson and Wydell, 2003).

Academic Self Efficacy		
Academic Self Efficacy	'An individual's belief or conviction that they can successfully achieve at a designated level on an academic task or attain a specific academic goal'. Students with dyslexia are more likely to have low levels of academic self-efficacy and less able to manage their learning environment.	Bandura (1997, p.3) Klassen (2008)
Self-Esteem & Self-Concept	students with dyslexia have significantly lower self-concept and self-esteem compared to their non-dyslexic peers. They identify themselves as 'different' from their non-dyslexic peers and less efficacious in academic achievement.	Riddick et al (1999) Armstrong and Humphrey (2009)
Anxiety	Students with dyslexia are significantly more likely to suffer from anxiety with academic and social situations in than students without learning difficulties.	Nelson and Harwood (2010) Carroll and Iles (2006)
Learned Helplessness	Students with dyslexia often exhibit learned helpless behaviour, that is, the giving up reaction, the quitting response that follows from belief that whatever you do doesn't matter'. Such behaviour manifests following regular exposure to academic failure.	Seligman (1991)

The Role of Assistive Technology

It is widely established that Assistive Technology (AT) reduces learning barriers and creates a more autonomous learning environment for students with specific learning difficulties. AT is valuable in increasing academic engagement, productivity, independence and motivation (Day and Edwards, 1996; Raskind and Higgins 1998; Forgrave, 2002). Hand-held recording pens are one of the most commonly used AT tools by students with dyslexia in HE in the USA to facilitate Forgrave and review (Asselin, 2014). The audio capture of lectures is an increasingly popular strategy in alleviating note-taking difficulties in HE. Students place high value on lecture recordings as it allows them to write less and listen more during lectures and revisit material as often as required (Leadbeater et al. 2013). Audio recording therefore proves to be particularly beneficial for examination revision as it aids their retention and comprehension of material as well as reducing anxiety levels while they revise (Woo et al., 2008; Owston et al., 2011). Bjork et al (2013) recommends that learners use technologies to transform their notes into an interactive form in order to facilitate optimal review and retention of lecture content.

Using the Livescribe Smartpen

The Livescribe Smartpen is a computerised pen that works in conjunction with a digital notebook, which consists of plain paper embossed with microdots. As the student takes down notes the Smartpen's microphone records audio and its infrared camera reads the microdots on the notebook paper. After lectures students

can tap on what they have written to hear exactly what was recorded at that time. Students also upload their recordings to the Livescribe desktop where they can:

- Save, search, and play back notes and recordings
- Search handwritten notes for keywords
- Organise notes
- Export and share notes and audio

Methodology for this study

The objectives set out in this study were

1. To identify the lecture note-taking difficulties experienced by students with dyslexia and to explore how and to what extent the Smartpen has changed their experiences.
2. To determine if the Smartpen has impacted on their academic self-efficacy and if so how.

This research study adopted a mixed methods approach and was carried out in two sequential phases. The initial phase applied a quantitative approach by means of an online questionnaire using closed questions. The second phase adopted a qualitative approach through the use of semi-structured interviews using open questions.

Mixed-method approaches to research are undertaken in an attempt to overcome contrasting ideologies of quantitative and qualitative fundamentalists and instead 'focuses on the pragmatic value of each approach' (Trahan and Stewart, 2013 p. 60). Pragmatic researchers put aside the philosophical debate between quantitative and qualitative approaches and concentrate on what works best.

Online questionnaires measured the participants' levels of difficulty with note-taking and the usefulness of their notes prior to and after the Smartpen. Following this the researcher qualitatively analysed the data from the online surveys to inform the qualitative instrument. Semi-structured interviews facilitated the researcher in procuring an in-depth understanding of the participants' note-taking experiences, prior to and after the Smartpen and to determine if this assistive technology impacted upon their academic self-efficacy.

Quantitative Data Collection:	Online Survey
Quantitative Data Analysis:	Bar Charts and Graphs
Qualitative Data Collection:	Semi-structured Interviews
Qualitative Data Analysis:	Coding
Interpretation of Entire Analysis:	Thematic Analysis

A purposive targeted sample approach was adopted by seeking out students who had self-identified as having dyslexia in one HE Institute. Fifteen students participated in this study; five in their second year, eight in their third year and two in the fourth year of their studies.

Presentation and discussion of Findings

Obstacles faced with lecture note taking

More than half of the participants reported that they were not at all able to demonstrate the core cognitive competencies required to take effective notes. The most prominent notation obstacles experienced by participants during lectures pertained to keeping up with the pace of lectures, simultaneously listening, processing and taking notes, and maintaining concentration.

Participants' level of ability with specific lecture note-taking task

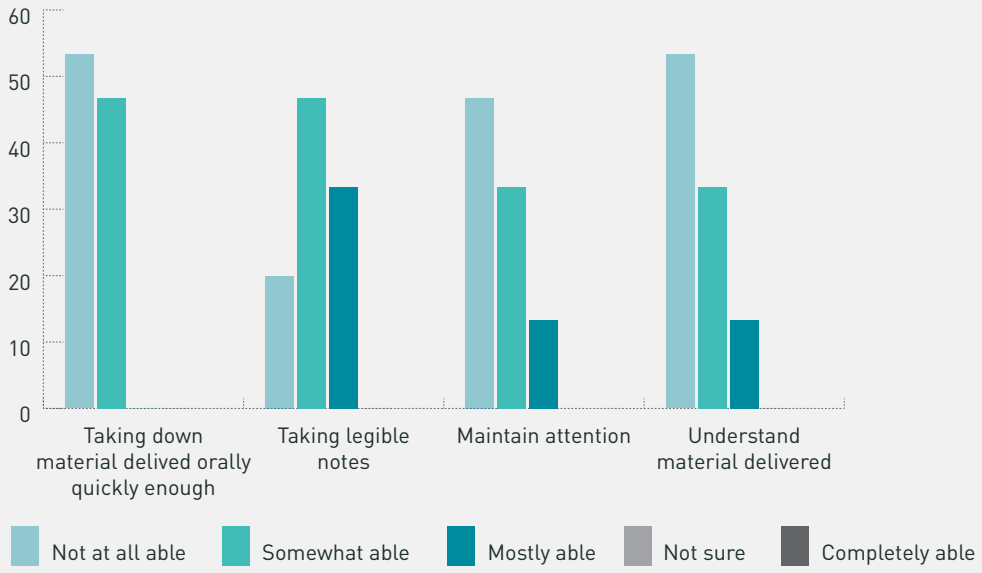

Figure 1: Participants' level of ability with specific lecture note-taking tasks

Working Memory

The complexity of taking notes during lectures placed high demands on the participants working memory. Peter had significant difficulty with the task of simultaneously listening, processing and taking down information. On a few occasions he decided to just listen to the lectures but this proved ineffective, as he did not have any handwritten notes for review. Peter noted:

> I literally could not listen and write at the same time, I either had a choice to sit and listen to the lecturer or try to take notes, I couldn't do both. I decided to sit and listen to the lecturer, but then I had nothing to look back on afterwards.

Transcription Fluency

Weaknesses in writing fluency coined with the prompt and dense delivery of verbal constructs impeded the participants' ability to make note of it. John was unable to take down key information as his handwriting speed was not sufficient to keep pace.

> The bulk and the speed that lecturers were moving at was massive. There is so much additional detail and explanations given around the PowerPoint slides and I would try to get it down but I couldn't because the lecturer is moving on to the next part.

Attention

Attending to lecture content is an essential component of lecture note-taking ability. In order to produce complete and meaningful notes students must maintain focus throughout the lecture to ensure that they do not omit important information. Participants frequently fell behind and missed key information due to lapses in concentration, Sarah notes:

> I have always had trouble with concentration and this really affected me in lectures because, if you miss one word or one phrase, you have missed the whole concept of the lecture.

Losing concentration was a major concern and cause of anxiety for students. Unfortunately, states of anxiety in students with dyslexia restricts already deficient working memory capacity. Donna noted that losses in concentration was a major concern for her:

> I would just float off into the distance for a few minutes. Then when I missed information I would start to panic and when I panicked i would fall behind even more, it was like a vicious circle.

Disengagement

The participants were faced with many note taking obstacles for which they believed they had no control. Their cognitive constraints lead to difficulty in striking a balance between producing notes and understanding information. Their low sense of ability to take notes resulted in frustration, diminished motivation and disengagement.

Matthew explained:

> You wouldn't be able to take down the notes fast enough or hold your concentration and be just like what's the point. I would get frustrated and throw down my pen. Everything would just shut down and a wall would go up, I know it sounds terrible, but there was nothing I could do about it.

Note Quality

Participants attributed little value to their lecture notes. A high proportion indicated that their notes were not at all useful as they were incomplete and unstructured. Eve explained that she was unable to make connections with her notes and had to turn to her peers for notes:

> I had to use other people's notes because my notes were all over the place and there would be bits missing so they didn't really make sense.

Usefulness of notes taken for specific academic tests

Figure 2: Usefulness of notes taken during lectures

Academic Performance

Ineffective notes and poor levels of understanding of material gave rise to impoverished performance. All participants reflected that their academic performance was not indicative of the amount of effort they put into exam preparation. Sarah stated:

> I got extremely high points for this course. I was very academic, throughout my whole life, you know A's B's, in here it was barely passes, I feel that my notes really affected me.

Disempowerment

As participants related back to their difficulty with creating effective notes and the ensuing impact on their academic performance, a sense of disempowerment emerged. They consistently compared themselves to their peers and felt less efficacious in academic achievement. All participants reported to putting considerably more effort and time into academic tasks compared to their non-dyslexic peers and yet achieved poorer grades. These circumstances resulted in feelings of inferiority and disappointment. Ciara explained:

> First year was a full on disaster because I really far behind compared to everyone else. I remember failing two exams that I had studied really hard for and the rest of my class passed. I was so disappointed, I always had to use my friends' notes after that and you feel really down about it; you feel so inadequate.

Smartpen Note-Taking Experiences

Having identified the academic and emotional consequences of the participants' difficulties with note-taking prior to the Smartpen, this study will now investigate to what extent the Smartpen impacted upon the participants' note-taking experiences and determine if it has impacted upon their academic self-efficacy.

Assistive technology plays an important role in supplementing traditional approaches to learning lectures, however in order to truly empower students its usability is paramount. With that in mind, participants were asked to indicate their ease of use with of the Smartpen. Almost all participants indicated a level of ease with using the Smartpen.

Ease of use

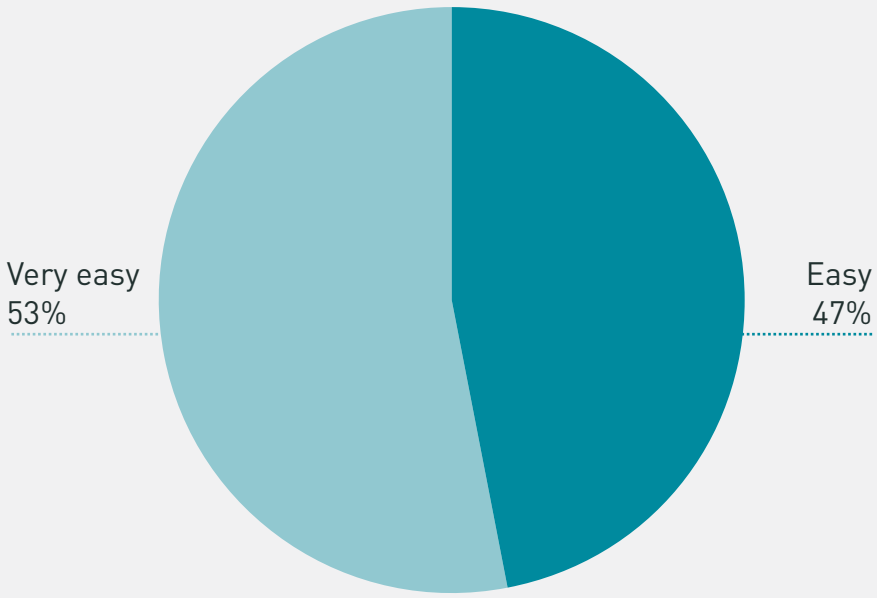

Figure 3:
Ease of Use

Accessibility

The Smartpen alleviated the cognitive demands placed on participants during lectures by allowing them to write less and listen more. When using the Smartpen, participants were only required to make note of headings from PowerPoint slides or key words. The Smartpen, in minimising the negative effects of their learning difficulties, accommodated their note taking and created a more accessible learning environment. Matthew explained:

> I found with the pen, lectures are a lot easier, because before I didn't have a clue what was going on because I couldn't write and listen at the same time. I was writing down stuff and then I was missing stuff after that. With the Smartpen I just write down keywords and key point and I can concentrate more listening.

Autonomy

Participants became more relaxed and motivated during lectures knowing that they have recordings to listen back on. Mary stated:

> I'm actually enjoying college a lot more because I don't have to worry. Let's say there is a big project due and the lecturer was talking about it way too fast, I don't have to stress because the pen is recording it all.

Engagement

Levels of engagement increased upon using the Smartpen as participants no longer had to contend with striking the balance between listening and producing notes. When participants could take fewer notes during lectures they were afforded the opportunity to actively participate in their academic environment. Stacey noted that:

> It makes class more interactive. I like that you have to write down the headings of the slides because I can manage that and it makes me pay attention more. It feels good because I can

really focus in class now.

Quality of Notes

The Smartpen positively impacted on the usefulness of the participants' notes with regard to revisiting difficult concepts, reviewing notes and examination revision. It allowed participants to have more control and flexibility over their learning as they could review material as often as needed in their own time and at their own pace. Darren:

> for exam revision, you can use the pen to go back and listen to the recordings. Its great that you can tap on a heading that you have written down as listen back to that specific topic. I even listen to the recordings on my MP3 player when I'm driving home from college. I can listen as many times as I need to, I just think it's brilliant.

The Smartpen was least effective in supporting participants with

Usefulness of note using the Smartpen

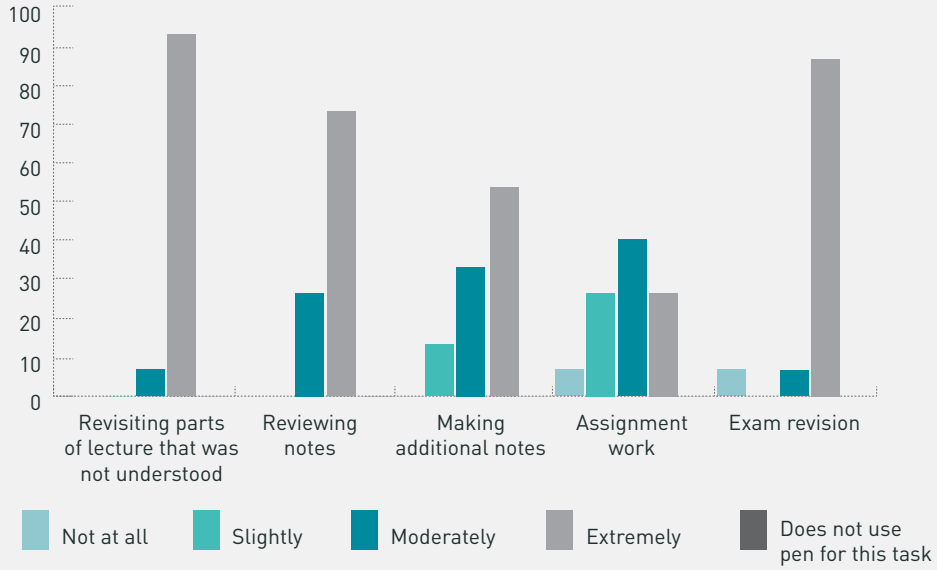

Figure 4: Impact of Smartpen on usefulness of notes

assignment work and making additional notes, this may be due to the self-directed nature of these tasks.

As the quality of the participant's notes increased so too did their understanding of learning material. When participants were asked to indicate the level of impact the Smartpen had on their understanding of lecture material, all participants indicated that it had made notes easier to understand. The recordings aided retention and comprehension of learning material as it allowed them to revisit difficult concepts as often as required. Matthew stated:

Impact of Smartpen recordings on understanding of lecture material

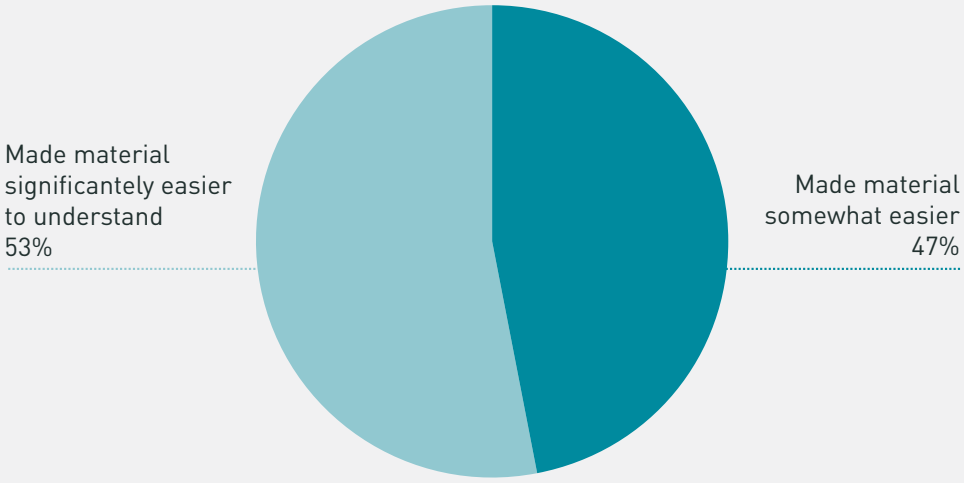

Figure 5: Impact on understanding

> If I don't understand something I can listen to it again and sometimes I could listen continuously four or five times to a three-minute segment just to cement it in my mind.

Empowerment

Upon using the Smartpen participants became more confident and independent. Philip explained:

> I'm way more confident now, like I don't have to use my friends' notes anymore because I have my own notes and they are good.

All participants noted an improved academic performance. Kate stated:

> My grades have gone up, they are all up basically across the board because of my notes and being able to listen more in lectures.

Shane explained that his lab report results have improved because as he is able to put more information into them:

> I am doing a lot better now, my lab report results used to be 40 to 50's and now they are up 60 to 70's, they have gone up a lot because I have a lot more information.

Need for Continued Diligence

Although, participants feel equipped to deal with note taking challenges and have a more positive outlook their ability to achieve academic success they noted that even with the Smartpen they must apply more effort and time with academic tasks compared their non-dyslexic peers.

Jason stated

> Keeping up is difficult, even with the pen. Some subjects are very hard, you have to put the work in, you know the pen isn't magic. If you want to hit the high ones you have to put the work in. I still have to work harder my friends.

Strengths and limitations of the Smartpen

There was a consensus that the most positive aspect of the Smartpen was the recording and playback features. The recording feature made participants more relaxed and confident taking notes during lectures. The playback features were instrumental to their understanding or material particularly when reviewing difficult concepts and revising for examinations.

Limitations of the Smartpen

Participants considered the transfer, download and organising of recordings onto their desktop software as a limitation. They noted that it was an additional filing system and is time-consuming.

Evaluation of Findings

Objective One: Effectiveness of the Smartpen in Meeting Note Taking Needs

Prior to the implementation of the Smartpen, participants perceived meeting note-taking demands within the lecture environment as being above their ability. Upon using the Smartpen the negative effects of their specific learning difficulties were minimised and the lecture environment became accessible. Undeniably, this device positively impacted on the participants' note-taking experience, with all noting increased academic achievement. Nonetheless, two important factors must be considered to offer a more balanced view. It would be negligent to attribute the participants' improvements in performance solely to

the Smartpen. Whilst the Smartpen certainly accommodated their note taking needs the participants' noted that they still needed to work harder than their non-dyslexic peers. Additionally, it is possible that as time passed, and as participants adjusted to the higher education learning environment, they developed skills that may also have impacted positively on their academic performance.

Objective Two: If the Smartpen impacted upon the participants' academic self-efficacy.

Findings from the study reveal that use of the Smartpen positively impacted on the participants' academic self-efficacy. Upon using the Smartpen, participants gained a sense of autonomy within the lecture environment. As their learning environment became more accessible, they became more motivated and engaged. When the participants note taking needs were met and the quality of their notes improved, they became empowered and less reliant on their peers.

Conclusion

With an increase in the number of students with dyslexia pursuing HE, it is critical that practitioners actively explore strategies to support their note taking needs within the lecture environment. Institutions must recognise the importance of Assistive Technologies such as the Livescribe Smartpen in supporting learners with dyslexia in achieving academic success in a confident and independent manner. The Smartpen alleviated note-taking difficulties during lectures whilst enhancing the quality and effectiveness of notes. In doing so participants reported to feeling more independent, confident and engaged during lectures and revision. Dyslexia practitioners and Assistive Technology specialists may use this research to assess the potential of the Smartpen in facilitating students' note taking and enhancing their academic self-efficacy. Indeed, findings from this research will be encouraging for students with dyslexia in HE and second level students wishing to pursue higher education. They may consult findings from this research to help them evaluate if the Smartpen may be advantageous relative to their note-taking needs.

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A holistic approach to enablement

Adam Hyland

Adam Hyland is DnA's co-founder and Campaigns and Equalities Director, edited by Raphaele von Koettlitz, DnA's Communications Director. DnA (Diversity and Ability) is a social enterprise designed and led by, and for, neurodiverse and disabled learners in education and the work place. As co-founder of DnA, Adam's mission is to share information, technologies and knowledge that celebrates diversity and challenges deficit-based conceptions of disability. Adam self-identifies as disabled, having been born with Cerebral Palsy and the can-do attitude that makes all thing seem possible.

After graduating with a first class honours degree in Internet and Communication Systems, Adam was also awarded the Vice Chancellor's Award and the DEC (Design, Electronic and Computing) Award. In 2007 Adam was elected as President of the University of Bournemouth Students Union, after which Adam was elected as NUS National Disabled Students Officer a post he held for two full terms 2008-2010. Adam also continued his work representing disabled students as an Independent Director and Board member of DSA QAG, until 2013. Adam's experience in HE and the NUS makes him a powerful driving force behind the DnA Ambassador Scheme and our broader disability campaigning work.

The 'Universal Design for Learning' agenda is an exciting one. The need for education to become progressively more accessible and inclusive is growing, giving opportunity to institutions in the UK to lead on accessibility and share best practice throughout the world of higher education. The question is however, can Universal Design truly meet its potential without a space for individuals to explore their own diversity and unique ways of working? I would argue not, and here's why...

The Universal Design agenda allows us to move away from the medical model of disability, which is something to be proud of as a sector and a society. The agenda, by its very nature engages with the notion of neurodiversity - that we all learn, do and think differently. In this sense, teaching and studying are becoming more inclusive, which allows us to focus less on medical diagnoses, but instead on working to strengths, achieving and reaching potential. This creates a far more celebratory learning environment, which in turn, has a huge impact on how students think and feel about

themselves in the context of education (and beyond!). This is a really positive shift, but I wanted to unpick the idea that inclusive Universal Design may only be truly effective when combined with individualised support that has been shaped by the end-user. For those with specific needs, requiring different reasonable adjustments than those offered by a universal approach, it seems necessary to maintain tailored holistic support too.

We at DnA have worked over the last six years in providing support to individuals across the UK. During this time it has become apparent that most enabling outcomes need to look at a holistic view of the student's situation. I would quickly point out that the inclusive learning agenda plays a large part in an individual's journey to enablement. However, there is still a need to unpack the individual personal circumstances of each student. To elaborate, when looking at an individual's environment, we need to take into consideration their emotional journey in terms of their diversity and self-understanding of it, including the impact it has on their day-to-day studies. External attitudes and culture regarding their diversity are also important to take into account.

So let's explore this personal and individualised environment further. Still to this day many students are being screened and diagnosed once they have arrived in higher education. Higher education takes a lot of adapting for every student, and not just in the academic sense. Moving away from home from their existing support network, making new friends, adapting to new physical surroundings is no mean feat, on top of meeting the academic requirements of the institution. If you are a disabled student, however, you then have to get your head around this perceived label you have just been given. Even though the student is aware they can get support for their newly discovered diagnosis, which is a positive outcome, there is still a massive unpacking of the emotional connection to their neurodiversity.

Using a metacognitive approach to learning enables the student to establish strategies and techniques that enable them to study effectively, playing to their strengths. This helps create a positive understanding of oneself, with the recognition that all learning styles are valid, a crucial building block to enablement. Once the individual reaches an informed and self-reflective space with their neurodiversity, they can then start to look at the wider barriers they face in society. The student can apply this approach to other personal challenges, whether it be note taking in a lecture or looking after their own wellbeing. Whilst there is a mandate for the sector to support the student's access to learning, it is also crucial that we look at strategies that support them in day-to-day life. For example, whilst building strategies around note taking in a lecture is important, it is critical to assess any barriers the student may have in getting to the lecture in the first place. Therefore, there might be a need to look at strategies around remembering to eat healthily, practice positive wellbeing techniques or time management strategies to make sure they allow enough time to get up and dressed, eat, and to get to the lecture on time.

We also need to address the culture the student is learning and living in. Open-minded, multi-sensory teaching practices, that perhaps allow a student to record their lecture or access presentation slides beforehand, really support the idea that students learn differently, regardless of a diagnosis. Traditionalist approaches that prohibit these kinds of strategies essentially block perfectly valid ways of learning. This can negatively impact on a student's confidence and desire to disclose their neurodiversity.

The continued move towards an accepting and celebratory culture where neurodiversity is seen as a positive difference, will only stand to benefit students and their institutions. Neurodiverse students, when supported well, bring much needed diversity and success to universities. By creating an inclusive and holistic learning environment we widen participation and see things like retention and grade attainment soar. Universal Design, tailored support and celebratory attitudes are all key in enabling disabled students to truly reach their potential!

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A Review of Inclusive Education & Employment Practices

AHEAD, the Association for Higher Education Access and Disability, is an independent non-profit organisation working to promote full access to and participation in further and higher education for students with disabilities and to enhance their employment prospects on graduation.

AHEAD provides information to students and graduates with disabilities, teachers, guidance counsellors and parents on disability issues in education.

AHEAD works with graduates and employers through the GET AHEAD Graduate Forum and the WAM Mentored Work Placement Programme.

AHEAD coordinates LINK, a worldwide network of professionals promoting the inclusion of students & graduates with disabilities in Higher Education managed by 6 European partner organisations.

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