Introduction

This publication was created based on content presented at AHEAD’s international conference 2015. All presenters at the conference were invited to submit a research paper or summary of key points of their conference contributions and 26 of the 37 presentations are represented in this publication. It serves as both a reference for participants of the event and a window into the conference for those who could not attend.

**Conference Title:** Universal Design for Learning: A License to Learn

**When:** March 19th & 20th 2015

**Where:** Dublin Castle Conference Centre

AHEAD’s international conference 2015 was organised with support from the LINK Network and focussed on Universal Design for Learning - What is it, best practice, research and how to implement it in your curriculum.

**Foreword**

From the shoes we wear, to the desks we sit in, good design greatly improves all aspects of our everyday lives. In education we don’t all learn the same way - in fact we can’t - so good design is key in catering for the diverse population of students now entering third level education and improving their experience of it.

The student population in many further and higher education institutions is made up of up to 50% ‘non-traditional’ students including mature students, international students, students from different backgrounds and students with disabilities and it’s not just this cohort that have unique learning styles – all students do. Good design in education is the key to improving teaching and learning and creating opportunities for students to learn on a level playing field in ways that suit them.

Universal Design is a concept borrowed from architecture in which buildings are designed for everyone who might possibly use them – all shapes and sizes, young and old, pram pushers and wheelchair users alike - and it works. Universal Design for Learning is a new way of thinking that is gaining traction in the world of education as a way of solving the challenges posed by a hugely diverse student body and of transforming the learning experience of all students in higher education, including those with disabilities.
When passing through Dublin Airport recently, I noticed a billboard marking the Irish Year of Design 2015. It read:

“To create, one must first question everything” - Eileen Grey

This conference embraced this spirit, tried to raise the right questions and get innovation in our third level education system kick-started. I hope this publication serves to share the learning from the conference far and wide and start an international dialog on UDL and how we can embed it in our practice and policy.

-Ann Heelan, Executive Director, AHEAD

UDL?

What is UDL?

Universal Design for Learning (UDL) is a set of principles for curriculum development that give all individuals equal opportunities to learn, including Students with Disabilities. This growing movement aims to improve the educational experience of all students by introducing more flexible methods of teaching, assessment and service provision to cater for different styles of learners.

Themes & Who Was the Conference For?

The conference addressed the following topics:

- Innovations in Disability Support Services embracing a UDL model.
- Flexibility and variation in teaching, learning & assessment, including in professional courses.
- Practical methods of implementing a UDL approach across student support services.
- Technology & its role in enhancing the educational experience.
- Research in UDL field.

The event was aimed at academics, students, policy makers, faculty staff and disability support professionals with an interest in fully including all students in the learning experience in Further & Higher Education.
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A National Perspective: Education viewed through a Universal Design Lens

Dr Gerald Craddock, Chief Officer, Centre for Excellence in Universal Design

Our vision is for Ireland to be one of the best small countries in the world in which to grow up and raise a family and where the rights of all children and young people are respected, protected and fulfilled; where their voices are heard and where they are supported to realise their maximum potential now and in the future. Better Outcomes Brighter futures 2014-2020

A Policy Framework for Improved Outcomes for Children and Young People.


The important next stage is to implement these policies, which can often stall in the “know-do” gap as coined by the World Health Organisation (WHO 2006). In other words, we have the knowledge but it is the implementation that is the barrier. Universal Design offers a “whole system approach”, which has the capacity to transform our own and future generations and the environments where we live, work, play and learn. It provides both the philosophy and the process to ensure the “do” phase is implemented. Bronfenbrenner (1979) looked at human development from an ecological systems theory perspective, which states that there are many different levels of environmental influences that can affect a child's development, starting from people and institutions immediately surrounding the individual to nation-wide cultural forces.

Simplifying and relating an ecological approach to education through a UD lens can be described as the 5Cs framework: Community, Campus, Curricula, Classroom and the Child.
Figure 1: Universal Design 5C framework in education.

Ireland is the first country to establish a statutory Universal Design Centre, The Centre of Excellence in Universal Design (CEUD). The centre works with government departments, diverse user groups, industry, design, academia, and public services to develop standards, education and awareness of UD at national, regional and local levels. It is defined in Irish legislation as “the design and composition of the environment so it can be accessed, understood and used to the greatest extent possible by all people regardless of age, size, ability or disability” (Government of Ireland, Disability Act 2005. The UN Convention on the rights of People with Disabilities (UNCRPD) calls on governments to embrace UD to develop new products, services and environments that are universally designed, the convention is a landmark for the UD community and its significance cannot be underestimated, to date it has ratified by over 80% of countries in the world. This recognition has further enabled the embedding of UD in research development and innovation, education, policy, practice and industry.

A paradigm shift has occurred over the last decade where we have moved from accessibility that provided basic access and usability of facilities, products and services for people with disabilities, to universal design, that enables independence and social participation for all through continual improvement (World Report on Disability 2011). A UD approach celebrates diversity while emphasising innovative, creative approaches that is more inclusive of all citizens. Its philosophy of “Full Participation” can be achieved by insuring access to and usability of all aspects of society (Council of Europe 2009). The intent of UD is to make things easier for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost (Mace, 1988). A clear set of principles and processes underlines this philosophy, in particular the close engagement of all stakeholders, which in turn is personalised for the individual.

The principle of UD is incorporated into Department of Education and Skills guidance which states that “All new schools and school extensions should be designed to cater for persons with varying
ranges of physical ability and they must not be disadvantaged by design limitations”. In relation to external space, the guidelines specify that “provision should be made for disabled access from the site perimeter to the school, with universal access routes to all main building entrances” (Department of Education and Skills (IRL), 2012b.p17).

From a community or macro perspective, an example of best practice can be found in Norway, where they are proposing to have a Universal Designed country by 2025. It is involving all government departments working together to achieve this vision. At this level in Ireland, CEUD have published “Building for Everyone”, a series of ten booklets which covers the built environment from car parks to entrances, horizontal and vertical circulation, toilets, maintenance of buildings as well as planning from a national, regional and local level.

At the meso level, a practical example of UD on a student campus is the new student centre at the University College Dublin, which won the Universal Design RIAI award in 2013. The student union was the design client, involving participation from students in the planning, designing, and building phases, as they are now the ultimate users. It is essential to have this level of participation on a regular basis, a “briefing process” that guides stakeholders across all the phases of a project. This is a key recommendation of a research report commissioned and about to be published by CEUD. The research was led by TrinityHaus in Trinity College Dublin (2015).

Further examples of UD at a campus level are the newly developed DIT Grangegorman Campus, and the Monaghan Shared Educational Campus. The opportunity to develop specific standards is in discussion with the Dept of Education in particular on Universal Design of key spatial and physical dimensions of a school/Campus. Key work by CEUD involved investigating the roll “shared space” plays in allowing all users (walkers, cyclists, motorists) to share the road/street.
and be safe. (Shared Space, Shared Surfaces and Home Zones from a Universal Design Approach for the Urban Environment in Ireland, CEUD 2013). The recent report “Children’s Independent Mobility on the Island of Ireland” (2015) highlights the need to work on public spaces, the report demonstrates that there is significant work yet to be done for children to walk to school safely. It documents issues around footpaths, cycle lanes, dangerous roads and public transport.

At a classroom level, the Department of Education and Skills has done significant work on developing technical guidance documents (TGD) covering schools (primary, special and secondary). These range from the physical build to particular elements such as class sizes for particular subject matter. An example of a new TGD is Acoustic Performance in Schools (DES 2014). The overall objective of this performance standard is to provide acoustic conditions in schools that, facilitate clear communication of speech between teacher and student, and between students, that do not interfere with study activities.

At a curricula level, CEUD have developed specific content for 3rd level design courses that have been implemented in a number of educational institutions. 2nd level curriculum material is being developed and will be trialled in schools this autumn. It is also important to educate working professionals and CEUD are working closely with the Royal Institute for Architects in Ireland (RIAI) on developing continuous professional development (CPD) courseware for practicing architects. Content is important but the delivery and engagement by the students is also vital. New research on how the brain functions is at the core of Universal Design for Learning (UDL). Dr David Rose, a leading expert on UDL outlines this transformative approach that enables all students to participate in learning. (Rose 2015) UDL has the potential to have a major impact on how education is delivered in Ireland. It can transform the teaching process through the use of UDL teaching resources, classroom design, practices, behaviours, the use of Information Communication Technologies (ICT) and Assistive Technologies (AT).

The focus of learning is now shifting to recognise the learner/child as the cornerstone of the learning journey. In describing the child the language needs to move beyond the social and medical models to definitions developed and agreed in the International classification of function (ICF) by the World health Organisation (WHO). The ICF biopsychosocial model is a combination of both the social and medical models and recognises the biological, psychological and social dimensions that best characterise the person (CEUD 2012b). CEUD have done considerable work on integrating the ICF at both European and International standards level. The publication of the International Standards Organisation (ISO), Guide 71 in October 2014 was the accumulation of five years of work involving over 60 experts worldwide. This guide provides a clear language and structure on describing all key human functional characteristics that are crossed linked to the ICF. This is vital for creating a common language that educators, students, policy makers and designers can use and eliminate the constant miscommunication between professionals in describing the child.

Ireland had the vision and forward thinking to establish CEUD, however in order to deliver on its full remit, the burden of responsibility for initiating, facilitating and sustaining stakeholder
engagement falls heavily on public servants. The government must now create the space and opportunity for the public service to provide the public with the vision of universal design, to engage stakeholders across government departments, public and private bodies and stimulate discussion. It is the promise of universal design to produce sustainable, universally inclusive environments at less cost both financially and socially that was fundamental to its establishment. The government did see the future.

“Our task is to educate their (our students) whole being so they can face the future. We may not see the future, but they will and our job is to help them make something of it.”

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The Healthy Ireland: A Framework for Improved Health and Wellbeing


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An Exploration of UDL and Interaction Design to Enhance the Experiences of Older Adult Learners

Dr. Emma Murphy (Dublin City University)

Abstract

The demographics of higher education are changing rapidly due to global ageing and a growing participation of older adults in lifelong learning. The use of innovative technology for learning holds great potential for older adults who can be otherwise excluded from learning activities due to physical and social barriers. Universal Design for Learning (UDL) promotes the use of multiple representation of information through alternative modalities to support diverse learners. Building on the UDL principle of multiple representation through different modalities this present research proposes an exploration of ways that interaction design can extend this notion of flexibility in UDL. Tangible interactions and participatory design are presented as tools to create a new interface to support older adult learners.

Introduction

Older adult participation in formal and informal learning in the higher education sector is rapidly increasing due to an ageing population while it is also predicted that participation of traditionally-aged students will decrease (Cruce & Hillman, 2012). According to Cruce and Hillman (2012) higher education institutions have been slow to respond to these demographic changes due to the lack of empirical information regarding the educational preferences of older adults. Furthermore sensory, physical, cognitive impairments associated with the ageing process hinder initial involvement as current higher education learning infrastructures are designed for a younger student population.

Universal design for Learning (UDL) proposes that “Learning is most effective when it is multimodal - when material is presented in multiple forms. Students benefit from having multiple means of accessing and interacting with material and demonstrating their knowledge through evaluation.” (Rose and Strangman, 2007). Rose and Meyer (2002) highlight that the flexible features of digital learning materials offer an ideal foundation for the UDL framework in comparison to traditional fixed materials such as printed textbooks. Building on this UDL principle of multiple representation through different modalities this present research proposes an exploration of ways that interaction design can extend this notion of flexibility in UDL and support older adult learners.

This research is part of an Irish Research Council funded project entitled iTELL (Inclusive technology to enhance lifelong learning). The project began with a field study exploring the experiences of older adult learners in higher education investigating potential barriers to learning due to age related cognitive, physical or sensory impairments. This field study has been implemented using a mixed methods approach employing interview, observation and
ethnographic inquiry. The results of this study will inform the design of an inclusive learning tool and guidelines for creating flexible representations of information for older adult learners.

Field Study Methods and Initial Results

Interviews were conducted with 18 older adult learners in higher education exploring their experiences with a view to investigating how UDL and innovative technology could enhance their learning experiences. The average age of participants was 63 years at the time of interview. 13 participants were registered in an undergraduate degree in a higher education institute and 5 participants were registered in an informal learning programme at a university. The main aim of the interviews was to investigate ways that age related impairments impacted their current studies and explore learning experiences and attitudes to technology.

In addition to running interviews with older adult learners I have had the opportunity to work with older adult learners as part of the Intergenerational Learning Programme (ILP) at DCU run by Dr Trudy Corrigan, School of Education. I have designed an 8-week module for older adults (over the age of 55) in Music incorporating principles of UDL and the use of multimodal interaction for learning. This teaching opportunity with older adult students has allowed me to conduct a much richer ethnographic study than originally proposed as I am exploring issues from the perspective of both lecturer and student.

Initial field study results and design Ideas

The results from the interviews, observation and teaching with older adult learners have resulted in a rich data set that will inform the design of a new learning tool but also create a substantial stand-alone piece of research which will be of value to a wider academic community. Analysis of the empirical investigation is currently in progress but I have outlined some initial findings from the field study analysis that are relevant to the design section presented below.

While the adults interviewed in this study had encountered barriers to accessing aspects of technology as part of their learning, they showed great enthusiasm to try out new technologies. This confirms findings from recent studies that have illustrated that older adults for the most part have positive opinions and attitudes about trying and using new technology (Mitzner et al., 2010). Most participants reported at least one area of age related decline across sensory, physical and cognitive abilities. A significant proportion of participants reported a perceived decline in memory and considered it a barrier to learning in the context of formal exams. Anxiety related to memory and learning is a significant issue as it affects confidence and stress levels which in turn can have a negative effect if any memory impairment is present (Peavy, 2009).

Participants with age related sensory impairments did not generally seek help from disability services unless specifically directed there by a member of staff. For those involved in formal learning, the use of assistive technology was seen as an additional burden to learn a new skill, which is difficult under the time pressures of academic life. Participants were positive about the benefits of technology as an information resource and method for organization but they also
showed a striking preference for handwritten notes during lectures and in preparation for exams. While learners of different ages also benefit from handwritten physical notes they display a higher and more integrated use of mobile devices and laptops on campus (Chen and deNoyelles, 2013; Gikas and Grant, 2013).

**UDL and Flexible Multimodal Interactions**

Rose and Meyer (2002) highlight that the flexible features of digital media offer an ideal foundation for the UDL framework in comparison to traditional fixed materials such as printed textbooks. The ability to provide multiple forms of representation using technology and make information flexible hold great potential for the groups of adult learners that have taken part in this study. Furthermore, Lee (2009) investigated the potential beneficial effect of the presentation of multimodal (as opposed to unimodal) sensory feedback on older adults’ performance on a touch screen device. Results of this study clearly show that both objective and subjective measures of older users’ performance were enhanced by the presentation multimodal feedback.

Existing accessibility solutions such as Apple’s suite of accessibility features could potentially give the flexibility to overcome many of the barriers faced by older adult learners due to sensory and cognitive issues experienced. However most participants in this study viewed assistive technology as a separate layer of learning and preferred physical learning aids (printed pages, physical handwriting and notes) to complement their learning. Furthermore older learners have developed strategies and relationships with fixed traditional materials such as printed books, handwritten notes and diagrams and can be reluctant to swap those strategies for new digital tools.

I am currently exploring ideas to overcome the perception of technology as a separate layer of learning while also incorporating effective learning strategies with traditional physical learning. I am particularly interested in the concept of tangible user interface design to solve this design challenge. The intention is to link both intelligent digital systems and familiar strategies and physical tools (such as handwritten notes) that older adults rely on for learning.

**Tangible Interaction and Participatory Design**

Recent advances in the design of tangible interface toolkits as part of the maker movement has made embedded computing more accessible. Makey Makey is a printed circuit board that can send key presses, mouse clicks, and mouse movements from every day physical objects to a computer (Silver et al. 2012). A relevant design possibility with this tangible interaction toolkit is the potential to use physical drawings in lead pencil as a controller. Figure 1 illustrates an example of physical notes as a controller for a detailed interactive presentation with text and video. A significant number of participants in the field study reported anxiety with regard to memory loss particularly in the context of formal learning and preparing for exams. This design idea is intended to support memory by extending the use of physical notes by linking them with more detailed and flexible digital representations. In addition to providing multiple means of
representation this use of multimodal tangible interaction for learning also extends to the UDL principle for multiple means of action and expression. This is particularly important for older adults who may have multiple age related sensory, physical or cognitive age related impairments.

Rogers et al. successfully demonstrated the benefits of using the MaKey MaKey toolkit with groups of older adult users as a catalyst for creative and inventive participatory design (Rogers et al., 2014). I am currently running design panels as proposed in (Pirhonen and Murphy, 2006) with groups of older adult learners to explore this idea of using familiar physical tools to connect to intelligent systems to overcome barriers to learning. The MaKey MaKey toolkit will be used with other multimodal tools and applications to co-design a learning tool based on tangible interactions.

Conclusions

This interdisciplinary research is an exploration of the potential of UDL and interaction design to create inclusive representations of information to support older adult learners. An extensive empirical investigation exploring the experiences of older adult learners in higher education has revealed that learners experience barriers due to age related impairments. UDL and flexible approaches to technology hold great potential to overcome these barriers. Interviews revealed that learners have strong connections and strategies with traditional fixed learning materials but are also open to trying out new technologies. Participatory and tangible interaction design have been presented as a solution enhance and support learning for older adults. It is also hoped that
this research will benefit students of all ages, in particular diverse learners such as those with sensory impairments, physical disabilities, cognitive impairments such as dyslexia and those learning through a non-native language.

Acknowledgements

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References


http://www.udlcenter.org/aboutudl/udlguidelines/principle1


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An Exploration of the Role of Academic Personal Assistants in Higher Education

Shellie Grant (Waterford Institute of Technology)

Reflecting on my practice as an academic personal assistant (PA) at the beginning of my postgraduate studies in 2013, led me to accumulate many unanswered questions worthy of further investigation. What is the PA’s role within the wider context of higher education? Are they carers or educators, or both? How do they feel about the work that they do? Do they all do the same work? What is that work like? Hence, my research dissertation ‘The Role of Academic PAs in Higher Education: A Heuristic Inquiry’ evolved. This paper presents the findings from that piece of research, as well as reflections from my own practice over the last four years.

The role of academic PA is a relatively new one in higher education. It forms part of the supports available for students with disabilities to allow them to participate as fully, and have the opportunity to achieve similar outcomes, as their peers who do not have disabilities (AHEAD, 2014). Academic PAs are employed to assist a student with educational or academic tasks which he/she is unable to complete independently and, more generally, to help improve accessibility and opportunities for such students. However, there is a shortage of literature and data concerning the PA role, both in Ireland and internationally. At first this proved problematic for my research as, following an in-depth review of education and disability policies, there was no clear direction to further literature which could guide the study.

For this reason, heuristic inquiry was chosen as the research design. This method of inquiry studies a particular phenomenon from the personal insight of the researcher ‘and the essential experience of others who [all] experience this phenomenon intensely’ (Patton, 2002, p.107). It encompasses five phases which allowed for a fluid and iterative process of discovery: ‘Immersion – Incubation – Illumination – Explication – Creative Synthesis’ (ibid, pp.486-487). Essentially the literature review, data collection and data analysis took place concurrently, each informing aspects of the other. Research participants included all six PAs who worked in WIT at the time, and 27 lecturers from the institute who answered an anonymous, online questionnaire distributed via the school administrators. The PAs filled in questionnaires and participated in one semi-structured interview each. Three of the PAs also took part in a focus group. Qualitative data was transcribed and coded by the researcher and then re-coded by a neutral observer of the research in order to preserve validity and reliability (Gorden, 1992). Quantitative data was used primarily for demographic purposes, and also to contextualise the findings of the research.

The most common theme to emerge from the data is that there appears to be a significant emotional aspect to the work of academic PAs. The participants predominantly spoke of their role in terms of relationship-building, being in tune with and managing emotions (both their own and those of the students) and providing emotional support. This ties in with Goleman’s (1995, p.268) work around the concept of emotional literacy and the importance of empathy as ‘a key social ability’. In their study of emotional labour, Lynch & Lyons (2009a, p.77) found that regardless of their reasons for doing work that requires what they term emotional labour; ‘care...was integral
to the sense of purposes, values and identities people held in life’. This suggests that for those who care professionally the affective, or emotional, element of their work is central to the development of professional identity.

The devaluation of care and support work, particularly within education settings, also emerged as a theme within the data. Lynch et al. (2009) suggest that the process of tending to emotions continues to be disregarded in education, because of the meritocratic nature of academia. Although it is perceived to be a worthwhile and emotionally rewarding job, the PA role is not recognised as being well paid or having longevity as a career. According to Lynch & Lyons (2009b, p.89) those who deliver care and those who receive care are not held in high esteem in ‘the public sphere of policy-making’. This suggests that the sense of marginalisation which has traditionally been felt by people with disabilities can also be felt by those who deliver support services, such as PAs. For example, almost half of the lecturers surveyed had no experience or knowledge of academic PAs within higher education. In addition, some of the PAs indicated that they had been met with a certain level of suspicion by lecturers which had negatively impacted the student. This highlights a need for greater collaboration in order to cultivate shared meaning and learning, such as is fostered within communities of practice (Wenger, 1998).

A third theme evident in the data is an acknowledgement of the persistence of both physical and attitudinal barriers. Both the PAs and the lecturers perceive a lack of disability awareness to be a formidable barrier to inclusion for students with disabilities. Related to this theme, is the recognition of a need to engage in reflective practice and to challenge assumptions which work against the ideals of inclusive education. The PAs report that they engage in reflective practice to varying degrees. However they highlight a greater need to discuss work with colleagues, seek formalised feedback from students, and open up dialogue about disability and inclusive education with academic staff. This is reflected in current discourse where, in general, a holistic approach which incorporates the rights and needs of students and equips educators and support staff with the necessary skills and knowledge to respond appropriately is favoured (DeYoung, 2014; McCarthy & Byrne, 2014; McMahon & Harding, 2014; NCSE, 2010).

There are several opportunities for further research arising from this study in order to gain a more comprehensive understanding of the role within current models of best practice. For example, expanding the research to include other higher education settings would allow for greater generalizability. This would also give greater depth and meaning to the role-specific data. Furthermore, it would be helpful to expand the sample of lecturers and to have more in depth interviews with them, as the findings here represent only a small snapshot of their perceptions. In addition, the possibility of a community of practice approach to support services could be explored as one means of (a) decreasing the marginalisation felt by the PAs and (b) increasing disability awareness across faculties and challenging the barriers to inclusive practices. A longitudinal study could add other facets to the data that were not possible to elicit in a small scale study such as this one. In addition, the perceptions of students with disabilities should to be explored as they are the true experts in terms of what they need and expect from a PA, and how they experience support services as part of the inclusive education agenda in higher education.
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Application of UDL principles to Practice Environments: Getting it right?

Kathy Martyn (University of Brighton)

Kerry Pace (Diverse Learners)

Nick Gee (Birmingham City University)

Universal Design for Learning is an educational model that supports educators to design and develop curriculum that are accessible to as many diverse learners as is possible. In doing so, it creates products, environment and learning spaces that are usable by individuals with the least amount of adaptation or accommodations possible (Timmons et al. 2006). Whilst it is increasingly being adopted in educational establishments in the England (Schools, Further Education [FE] and Higher Education [HE]), its application to the workplace and workplace learning is not fully developed. In England, the differences between academic education and workplace learning have arguably been influenced by the Disabled Students Allowance that reinforces a traditional model of educational delivery of lectures, exams, and written assignments.

Nurse education, like other professional courses such as teaching, social work, health care professions (HCP) and medicine is positioned at the interface between education and work (Martyn 2014) and as such student learning occurs in both settings, success being dependent on the student achieving the academic and professional requirements of the course. Moreover, student nurses complete fifty percent of their course in clinical practice, and in England validation of their success in practice is dependent on ‘sign off’ mentors verifying their competence to be on the register (NMC 2010). The National Health Service (UK) has at its focus the delivery of effective and efficient health care and is influenced by local and national concerns. In particular successive governments in the UK have struggled in the equable delivery of health care to an increasingly diverse population that is responsive to public demands and meets the fiscal, social and professional standards that are set. Higher Education in delivering its service has broadly recognised their role in widening participation and supporting diverse learners and this is evidenced by the substantive increase in students disclosing a disability at application (UCAS 2014) or during a period of study (Martyn 2014). In nursing, this is evident in the numbers of students who are in receipt of reasonable adjustments, many of which are funded through the Disabled Students Allowance (UB 2014).

The presence of students who have a disability, and the need to implement reasonable adjustments (or accommodations) within clinical practice experiences creates tension for health care professionals as the need for accommodations seemingly collides with the demands of the workplace. Tensions revolve around the demands of the workplace to deliver safe, effective and competent health care that maintains patient safety, with minimal disruption to the organisation. In doing so, health care meets both public and professional expectations and health care policy, and processes are upheld. As a consequence individual practitioners are concerned that in their support of diverse learners they may do ‘too little’, ‘too much’, and patients may be put at risk,
and their personal workload will increase. There is often limited time to fully assess or gain appreciation of a student’s needs in a fast-paced clinical setting, and this can result in snap judgements or decisions being made upon assumptions or based loosely on knowledge received third hand. This is particularly the case with unseen disabilities and can result in a lack of willingness to delve deeply into a student’s situation (Gee 2012).

Using the principles of UDL, the focus is taken away from the individual student by making the general ‘workplace curriculum’ accessible to as many students as possible, thus negating some of the pitfalls above. This is accomplished by focussing on having a curriculum with multiple means of representation (the ‘what’), multiple means of expression (the ‘how’) and multiple means of engagement (the ‘why’) (CAST 2011). This educational language can feel like another barrier to overcome and be difficult to translate into everyday working practices. Reframing the principles by using language that appears applicable to the work context, ‘Simple, Flexible and Efficient’, (Figure 1) can demonstrate that workplace accommodations need not be onerous, and most if not all are of benefit to all learners in a clinical setting.

**Figure 1** Universal Design for learning in the workplace

The key features in the application of UDL to workplace learning are summarised as follows:-

**Simple**

Keeping the student at the heart of discussions so that they can reflect on prior learning, what they can bring to the experience and share their strategies with clinical practitioners is a simple and effective approach. Often a discussion with clinical practitioners commences by being ‘about’
a student with an assumption that the student will lack capability and self-determination (Martyn 2014). Discussing with a student often demonstrates their insight, their understanding and their creativity in overcoming obstacles to their performance and progress.

**Flexible**

Accommodations in the form of learning support plans (Planned accommodations produced by a University following discussions with a student) often focus on the language and expectations of studying including issues of time, writing and examinations. Exploring these with the student and the clinical practitioner in the context of a clinical experience can easily link them to handovers, reports, and patient’s records, planning care and learning new clinical skills.

**Efficient**

At the heart of clinical practice is the need to deliver competent and efficient care. Having policies and processes that break down the barriers to using technology, including mobile devices and APPs in clinical education creates an enabling learning environment. This can then demonstrate how technology can support all those working in practice and address concerns about data protection and confidentiality with students and practitioners.

In exploring the application of UDL to workplace learning, it is evident that despite examples of good practice there is still a preponderance to consider the student who may have a disability as being less capable. The workplace environment of health care is complex and difficult with multiple challenges facing the staff who work there. The hesitancy they experience when considering accommodating reasonable adjustments, and the feeling that it would be ‘too difficult’ could be overcome by considering the principles of UDL. Embedding these as part of a planned strategy to support all workplace learning would take the focus away from the individual student and move some way to creating a truly authentic representation of diversity in the workplace.

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Building Blocks: The development of an ePortfolio system to support students with disabilities in the transition to employment

Claire Gleeson (Career Pathways, Trinity College Dublin)
Dr. Clodagh Nolan (Trinity College Dublin)
Kieran Lewis (Career Pathways, Trinity College Dublin)

Over the past decade in Ireland, the number of students with disabilities entering, progressing and succeeding within the university system has dramatically increased as a result of improved support and resources available at particular transition points (AHEAD, 2012). Transitions for those with disabilities can present challenges. The theme of transition is central to discussion at national level, via policy development and at local level through the development of innovative approaches and collaborations within various educational and employment spheres to support those with disabilities.

Embarking on the transition from college to employment for these students and graduates with disabilities can present the biggest challenge of all. In Ireland, people with disabilities are two and a half times less likely to be in work than non-disabled people (NDA, 2014). Research has shown that students with disabilities find it difficult to seek and negotiate employment (Fichten et al., 2012), as the path to employment can be fraught with extra challenges including; access, and low expectations (Perkins, Farmer & Litchfield, 2009). The Organisation for Economic Co-operation and Development (OECD, 2011) suggest greater emphasis needs to be placed on developing tailored supports for students with disabilities as they transition from college to employment. Furthermore, the National Disability Authority advocates the need to support students with disabilities transition to employment in their National Comprehensive Employment Strategy for People with Disabilities.

As a result, the Disability Service within Trinity College Dublin, have designed tailored supports to enable students to successfully manage the transition from college to employment. This service entitled; ‘Career Pathways’ is an individual transition planning service which aims to prepare the student for the world of work, by supporting students to explore their career options, build and reflect on work related skills and experiences, explore ways to manage their disability in the workplace, and offer a tailored suite of resources. The development of Career Pathways has been guided by research conducted by Nolan and Gleeson (2015), which explored the needs of students and graduates with disabilities as they transition to employment. One of the main findings from this study found that students and graduates must build their work related skills and experiences throughout their college career in order to make the successful transition to the workplace.
Therefore, one of the key components of Career Pathways was the development of an individual, on-line space for students, to gather and reflect upon their work-related skills and experiences that they gather within higher education, in order to create their own ‘Transition Planning Tool’.

The Transition Planning Tool is hosted using Pebblepad Technology, and has been designed with the student in mind. Students have personalised access to the e-portfolio system, where they can design and create their own personal ‘assets’ to produce a CV, and Web folios. Students also have access to ‘Resources’, developed by Careers and Disability Service Staff, and other students which give a template and scaffold to supporting them to think about their transition to employment, examples include; Exploring my Career Worksheet, Developing my Linked In page. Students can reflect on their own personal experiences using reflection tools. Moreover, it is a platform in which students can record their engagement and outcomes from meetings with Career Pathways staff and attendance at Career Pathways workshops and employer events. Post-graduation, students can keep this personal learning space and the resources and reflections that they have developed, to take into the workplace.

Rather than seeing the transition to employment taking place in the final year of college, this approach and use of the Transition Planning Tool aims to enable the students to make the transition and build and reflect on their experiences by having a bank of logged experiences, skills and knowledge in one place. The Transition Planning Tool is not simply the formulation of a CV, but the development of confidence through review and reflection of engagements, and in consolidating personal, as well as professional learning that has occurred over the course of the students’ college career.

The development of this on-line Transition Planning Tool aims to assist students in making the most of their educational and work experiences by offering a creative means of communicating employability skills and promoting the concept of deeper learning and continuous professional development.

For more information, please visit: [http://www.tcd.ie/disability/career/Pathways/](http://www.tcd.ie/disability/career/Pathways/)

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From Universal to Personal: Teaching with universal design for learning (UDL) in heart and mind

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The most consistent finding to emerge from the interdisciplinary study of learning is that when it comes to how individuals learn, natural variability is the rule, not the exception (Universal Design for Learning: Theory and Practice by Meyer, Rose, & Gordon (CAST, Inc. 2014)). What is perhaps most important to understand about learner variability is not that it exists, but that it is predictable. Because some variability is systematic, faculty and curriculum specialists in institutions of higher education can design for it in advance. Universal Design for Learning is an educational framework that guides the design of learning goals, materials, methods, and assessments as well as policies surrounding these curricular elements, with a diversity of learners in mind (Meyer & Rose, 1998; Rose & Meyer, 2002).

Pioneered at CAST, UDL is built on two premises. First, that addressing students at the margins creates improvements for all students. UDL emerges from research that focuses on the needs of particularly vulnerable or underachieving students — historically, those with disabilities — for whom specialized instructional techniques have been shown to be effective and sometimes critical. What the UDL framework throws into relief is the repeated finding that what works for these specific groups also tends to be effective throughout the entire learner population (Meyer & Rose, 2005).

The second premise of UDL is that barriers to learning occur in the interaction with curriculum — they are not inherent solely in the capacities of the learner. UDL ensures that the curriculum is designed to account for systematic human variability without lowering expectations.

Three principles underlie the framework of UDL:

1. providing multiple means of representation,
2. providing multiple means of expression and action, and
3. providing multiple means of engagement (Rose & Meyer, 2002).

A key benefit of UDL is that it enables educators in higher education to plan and create learning environments that are conducive to learning for all students, without needing to identify specific students for whom to target particular interventions on an as-needed basis. The pedagogical, neuro-scientific, and practical underpinnings of Universal Design for Learning (UDL) are now well documented in the literature on teaching and learning (Rose & Meyer 2002; Rose, Meyer and Hitchcock, 2005; Rose and Meyer 2006, Meyer, Rose, & Gordon 2014). Further, the professional literature is replete with examples of how the UDL principles have been successfully applied in
higher education as an approach to faculty professional development (Behling & Hart, 2008; Dar & Jones, 2008; Hall & Stahl, 2006; Scott & McGuire, 2008; Spencer & Romero, 2008; Yager, 2008). For example, in a study by Shaw, faculty trained in the UDL principles made changes to their courses, including restructuring syllabi to provide a greater range in the types of work that contribute to course grades, presenting information in multiple ways, checking student understanding of concepts more frequently, arranging for course materials to be previewed before class and reviewed afterward by students, and supplementing in-class discussions with online options (Shaw, 2011).

In the USA, there has been significant progress in the adoption of UDL practices at the postsecondary level. The California State College System (Project ENACT), Colorado State University, Boston College, The University of Vermont, The North Carolina State University System’s College STAR program—a collaborative program on three campuses: East Carolina University (ECU), the University of North Carolina at Greensboro (UNCG), and Appalachian State University have implemented program-based UDL initiatives with promising results. For example, students participating in UNCG’s intensive program (designed for students with AD/HD) received 0 disciplinary referrals during the 2012-2013 academic year, while students in ECU’s intensive program (targeted for students with identified learning disabilities) achieved a 90% retention rate, higher than the university’s overall retention rate (College STAR, Year 2 Project-Wide Program Evaluation 2012-2013).

Both of the authors of this paper have been teachers for a course at Harvard’s Graduate School of Education. In that course there has been considerable evolution in the actual application of the principles of UDL. In the last two years, the focus has been primarily on reducing the amount of time spent in reading and lectures and devoting that time instead to highly collaborative “laboratory” projects that engage students in “doing” UDL rather than reading or hearing about it. We have learned, however, that students vary widely in their capacity to work productively in teams or to learn from them. As a result, like every other aspect of the course, we have had to learn to do two things:

1. to provide options and alternatives for participation by students with very different skills and abilities, and
2. to provide scaffolds to support students (of all types) in working productively on teams. Those scaffolds supported teams in working together more productively, and most importantly, they resulted in much better final projects (For discussion of this work, see Gravel et al, 2015, in press, Rose et al. 2008).

What is now needed is to increase awareness more broadly among institutions of higher education of the importance of UDL strategies for broadening participation and aiding retention of all students. This will require more comprehensive training, resources, and technical assistance to support institutions of higher education as they begin to implement UDL. Towards this end, CAST developed UDL On Campus, a collection of resources that help educators and administrators...
in institutions of higher education improve instruction through Universal Design for Learning (UDL).

The online resource is provided at no charge to users at http://udloncampus.cast.org. UDL On Campus offers educators tutorials and practical resources in UDL theory and practice across five categories:

1. Assessment,  
2. Selecting Media and Technology,  
3. Improving Institutional Policies and Practices,  
4. Planning Your Course, and  
5. Teaching Approaches.

Within each category users can find resources that demonstrate specific ways to address learner variability in an effort to improve learning opportunities, retention, and outcomes at the higher education level.

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Abstract

This paper explores the potential that assessment for learning (AfL) pedagogy affords all students to self-regulate. Specifically, it considers how the AfL strategy of sharing learning intentions and success criteria might be employed optimally by teachers to encourage and support top-down self-regulation.

Assessment for learning pedagogy comes with a robust, empirical warranty: employed as intended, it can effect “…gains in achievement...among the highest ever reported for educational interventions...” (Black & Wiliam, 1998, p. 61) for all students, including the traditional low-achieving and marginalised. In turn, student self-regulation, a key component of social and emotional learning, is strongly associated with academic achievement, adaptive expertise and life-long learning. The key focus of this paper, then, is the intersection between class-focused learning intentions and success criteria and the individual navigation and management of top-down, growth track, and bottom-up, well-being track, goals. As presented in the literature, student commitment and motivation to achieve identified goals may be sabotaged by personal feelings of insecurity that, in turn, trigger a need to self-protect and restore positive feelings of self-worth and self-efficacy. The central theme of this paper is that judicious classroom management, informed by sound pedagogical understanding of AfL principles and practice, can help steer student engagement along the growth track, towards the development of adaptive, self-regulatory practices. Conceived in this way, AfL pedagogy is proposed as a viable mechanism of universal curriculum design.

Introduction

Amongst the tasks I take most seriously in my work with pre- and in-service teachers is the modelling of assessment for learning strategies and techniques. My reasoning is straightforward: AfL is one of the few pedagogical approaches that has a solid, international research warranty demonstrating that, if it is used as intended, its impact on pupils’ learning, including those with special educational needs, is very significant (Black and Wiliam 1998a). The challenge, however,
is to use AfL in such a way that its potential is maximised. To achieve this, AfL must be woven into the very fabric of teaching and learning, minute-by-minute, day-by-day. And achieving this is no easy task because it assumes, amongst other things, a willingness to plan teaching to the extent that one can articulate clearly both the teaching and learning foci while, at the same time, acknowledging that the principle purpose of teaching plans is not to prescribe or predetermine the teaching/learning process but to position the teacher optimally to respond, in real time, to the needs of the learners, something I call contingency in action. To use an analogy, it is akin to a well-anchored tree that can sway, but remain rooted and grounded, in the most challenging of weathers, yielding but not bending to, or breaking under, the forces around it. Such contingency in action finds currency with other key principles of 21st century learning, notably adaptive expertise and self-regulation (Lysaght, 2012).

Given that sharing learning intentions and success criteria is a fundamental principle of AfL pedagogy on which, arguably, many, if not all, of the other AfL strategies depend, this short paper, which is intended to supplement the presentation given at the conference, presents an approach to formulating, sharing and using LIs to log progress in teaching and learning that researchers and practitioners might find useful. It should be noted that the approach outlined derives from on-going personal research on AfL and work with pre- and in-service – as such, it is the subject of on-going review, revision and refinement.

Unpacking Learning Intentions

Experience of writing and reviewing LIs over many years in the contexts of first, second and third level settings, in mainstream and special education contexts, suggests that LIs that prove most useful to teachers and pupils alike typically include three features:

1. A measurable verb often prefaced by the phrase “X is learning to...” (e.g., John is learning to match...”) that denotes the performance anticipated
2. Reference to the level, nature, extent, degree and/or accuracy of the learning that is expected of pupils collectively and, if required, individually, that is, the criteria of performance (e.g., John is learning to match each of the 10 sight words with the appropriate pictures...”)
3. Reference to the teaching and learning conditions in which the proposed learning is intended to take place, that is, the conditions of performance (e.g., John is learning to match each of the 10 sight words with the appropriate pictures with verbal prompting from the teacher”).

Taken together, these three elements of a LI provide key information to the learner in relation to (a) how he/she is expected to demonstrate the intended learning, (b) the standard or level of learning anticipated and (c) what supports he/she can expect in the process. Additionally, it is recommended that pupils know why the proposed learning is important, that is, how the knowledge, skill, concept or attitude being pursued supports other learning and, ultimately, will of benefit to the pupil later in school and/or life. For instance, taking the example of the learning
intention provided above - ‘John is learning to match each of the 10 sight words with the appropriate pictures with verbal prompting from the teacher’, the learning might make more sense to the pupil if he/she were reminded of some of the common road signs that contain verbal and pictorial information and guide road use. This is referred to in the literature on AfL as linking learning to ‘the big picture’ (Thompson and Wiliam, 2008) and is closely associated with self-regulation and pupil motivation, in particular.

Equally, it is important that the pupil can distinguish clearly between what he/she is learning (in this case, to match words and pictures with automaticity) with the various activities and tasks that he/she may engage in to master this skill (e.g., physically manipulating flashcards of words and pictures, playing bingo games, drawing a line from the picture of a word to its visual representation, undertaking such tasks using software packages etc.). One way of checking for this kind of clarity is by asking if the pupil would be able to explain, using the appropriate language, what he/she was doing if a stranger came into the classroom. Of course, this presupposes that the visitor asks the correct question: ‘what are you learning?’ as distinct from ‘What are you doing?’

Differentiating Learning Intentions

A key feature of pupil-centred learning and teaching is that it is differentiated in reflection of individual and collective strengths and needs. There are a number of very simple ways in which LIs can be differentiated. Take the following LI, for example, pitched at a senior class level in primary school. Please note that the phrase “We are learning to…” (WALT) is used to signal that this is something that the whole-class is learning and the formatting of the font is intended to convey the three distinct elements of the LI outlined previously: we are learning to identify the key differences between high level and medium level clouds by reviewing the National Geographic website in pairs.

One of the most straightforward ways of differentiating this LI is by putting one of the following qualifiers after it: all; most should; some might. So, if the expectation is that this is fundamental knowledge that each pupil should be able to access, then the word ‘all’ might appear as follows: we are learning to identify the key differences between high level and medium level clouds by reviewing the National Geographic website in pairs (All).

A second LI might also be shared with the pupils to guide this lesson, such as: we are learning to prepare a ten minute presentation on our findings to be shared with the class using PowerPoint. Clearly this learning is more complex and it is likely that not all pupils in a class could undertake it successfully without scaffolding of some kind. But it is also possible that it would be difficult (and potentially unfair) to predetermine which pupils should be given the opportunity to attempt this LI. In this case, the LI might be differentiated as follows: We are learning to prepare a ten minute presentation on our findings to be shared with the class using PowerPoint (Some might). In turn, a midrange LI, such as: ‘we are learning to identify some of the steps involved in preparing a ten minute PowerPoint presentation for the class on clouds by watching a similar presentation online’
might be qualified by including the phrase ‘most should’ to signal the expectation that the objective or target is considered to be within the range of most pupils in the class.

In each of the preceding examples, differentiation has been achieved by adapting the content (indicated by the verb), process (condition of performance) or the product of the learning (criteria of performance). It is worth noting also how Bloom’s taxonomies of cognitive and affective verbs provide ready-made, multi-tiered, scales to help practitioners formulate LIs in order of increasing complexity. For example, the lowest level of expertise in Bloom’s taxonomy of educational objectives for knowledge or cognitive-based goals is ‘knowledge’; the highest is ‘evaluation’, the presumption being that before a pupil can evaluate an idea or concept, he/she must first have some rudimentary knowledge of it. The taxonomies also help practitioners to decide the broad category of learning to which the LI belongs: knowledge, psycho-motor or affective (i.e., relating to pupils’ values, attitudes and interests) domains. Hence, when reviewing teaching plans for a designated period, one would anticipate seeing objectives and LIs aimed at developing knowledge, skills, concepts and attitudes amongst pupils across different categories of learning, organised incrementally in keeping with the natural hierarchies within Bloom’s taxonomies. And the verbs chosen should be SMART: LIs such as WALT know..., WALT understand..., WALT develop an awareness of... should be avoided because they beg the questions: As teachers, how will we know if the pupils ‘know’, ‘understand’ or have ‘developed an awareness of’ something? Unless LIs identify measurable, observable behaviours, e.g., WALT list, explain, review..., ideally with reference to conditions and criteria of performance, the LIs are at best woolly, at worst, misleading and/or of little value to guiding teaching and learning.

Communicating Learning Intentions

In the preceding examples, it is evident that the responsibility for differentiating the LIs rested with the teacher, presumably on the basis of his/her knowledge and understanding of the pupils’ individual and collective strengths and needs. However, if pupils are to learn how to assume greater responsibility for, and control over, their own learning (self-regulation), then they need to be given routine opportunities to reflect on proposed LIs, by, for example, traffic lighting them or undertaking a think, pair, share activity with peers to identify the elements of the learning that are likely to be more or less challenging and so on. For example, at a junior level, pupils might use clothes pegs, either timber (with their names on them) or plastic (in traffic light colours with name tags attached), to indicate how challenging they anticipate a stated LI might be. This can be done by inviting them to attach a timber peg to a life-sized set of traffic lights, for example, which provides an immediate window into pupils’ self-assessments of their own knowledge, skills, concepts and/or attitudes. Assuming pupils are also encouraged to speak openly about their reactions and thoughts, and the information they provide is used to adjust teaching and learning in response in the immediate term (contingency in action), then the potential for learning is significantly enhanced.

As is the case with differentiating LIs, there is no right or wrong way to share LIs or, indeed, engage pupils in critically reviewing them. However, as a rule of thumb, it is recommended that
pupils have visual access to the LIs during, and subsequent to, learning; this de-privatises and democratises the learning positioning teachers and pupils to assume shared responsibility for the individual and collective achievement of the whole class. When LIs should be introduced, again, depends on the context. For some, sharing LIs explicitly at the beginning of a lesson serves the function of focusing attention; for others, it detracts from the potential to explore with pupils what the LIs might be. Most agree, however, that LIs should be shared at a key point in the lesson when an explicit statement in relation to the focus and purpose of the learning would serve to motivating and guiding force and that pupils should be encouraged to use them routinely during the lesson to monitor, evaluate and record progress.

Using Learning Intentions to Record Progress

Once LIs have been committed to writing, they offer teachers and pupils great potential for recording the ongoing challenges and successes met in teaching and learning. Imagine a second level situation, for example, in which pupils are provided with printouts of the LIs for a designated period, at the beginning of which they use highlighter pens (green, orange and red) to record their baseline knowledge, skills and attitudes in relation to the proposed LIs. This small act, if harnessed cleverly, presents endless opportunities for on-going individual, peer, and group review in the immediate and long-terms. From the outset, the collation of individual pupil reflections on the LIs, if aggregated, could provide very useful information about perceived group needs that, in turn, might result in conversations about the nature, extent and degree of support required and how the resources and skills of the whole class could best be harnessed to full advantage. In essence, this equates to contingency in action: the adaptation in real time, through collaboration between teachers and pupils, of the content, criteria and conditions of performance governing teaching and learning. Viewed retrospectively, the sustained, incremental review of the LIs over the designated time period by teacher and pupils would provide fine-grained assessment data that would serve both reporting (e.g., at parent-teacher-pupil meetings) and accountability purposes – but only after the potential of the data had been thoroughly exploited in support of minute-to-minute, day-by-day teaching and learning.

Conclusion

The practices recommended in this paper require much more than cosmetic tinkering around at the edges of teaching, learning and assessment: they demand very fundamental re-envisaging of tradition classroom organisation, structure and dynamics. At the very least, two big challenges require attention, both of which have been well documented. It relates to the need for teachers to relinquish control, albeit it gradually and judiciously, so that teaching, learning and assessment become the preserve of teachers and pupils alike. Whether framed as a call for increased self-regulation (Lee, Palmer and Wehmeyer, 2009), adaptive expertise (Darling-Hammond and Bransford, 2005) or core competences such as ‘learning how to learn’ (European Commission, 2007), the out-dated, but still frequently observed, teacher-dominated, ‘sage-on-the stage’ model must give way to one with the potential to yield graduates ripe to embrace the uncharted and
unpredictable challenges of an increasingly globalised, technology-driven world. The links between this approach to teaching, learning and assessment and universal design are axiomatic.

It should be noted that the democratisation assumed by AfL refers to the nature and extent of the minute-to-minute engagement between all who participate in classroom life: teachers, special needs assistants, pupils – and the intra-dynamics that are encouraged and fostered. As such, it differs fundamentally to that which drives developments such as Massive Open Online Courses (MOOCs). Indeed, the frenzy to develop online, scalable evaluation systems for the mass measurement of participants’ engagement has the potential to distract from the core issue of the quality of teaching, learning and assessment such media off, the danger being the development of yet another pedagogical black box, this time an e-black box.

The second challenge, derived from the first, relates to teacher professional development. As someone who works in a College of Education with pre- and in-service teachers, I can personally attest to the challenges that teachers at all levels of the system face in trying to ‘nail’ assessment for learning, and formulating learning intentions in particular. And while articles, such as this one, provide some guidance, they do nothing to diminish the need for routine, site-based, continuous professional development that is responsive, in real time, to the specific, tangible, school-specific issues that arise when AfL is honestly and wholeheartedly embraced. It would be prudent of us to heed the lessons learned by our UK colleagues in this regard.

References


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How Can Teaching for Understanding Act as a Vehicle for Universal Design for Learning

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There are critical points of contact between TFU and UDL that make them of great benefit to one another. The objective of this exercise is to identify the points of contact that exist between TFU and UDL and demonstrate how a solid pedagogical framework like TFU can be used as a vehicle for the principles and guidelines of Universal Design for Learning.

TFU is a pedagogical framework conducive to a scholarship of teaching and learning and provides a reflective research approach to learning, thus creating opportunities from which research data is collected from the teaching and learning process. When implementing the principles of UDL within the pedagogical framework of TFU opportunities are thus created from which the successes and failures of UDL can be measured. Within a scholarship tradition A reflective research approach provides the opportunity to make teaching public, to make such findings open to the criticism of peers, and to share one’s findings with others.

The 3 principles of UDL carry 9 guidelines. Guidelines 1 to 3 are contained in principle 1, guidelines 4 to 6 are contained in principle 2 and guidelines 7 to 9 are contained in principle 3. Each of these guidelines each contains a list of checkpoints for additional guidance. The principles and guidelines have been drawn up by the Centre for Applied Special Technology (www.cast.org)) and the research that supports these principles and guidelines falls into 4 main categories: foundational research, research on the UDL principles, research on promising practices and research on the implementation of UDL. (Meyer, Rose and Gordon, 2014)

Foundational research draws upon several different research strands. These include neuroscience, the learning sciences and cognitive psychology. It is deeply rooted in concepts such as the zone of proximal development and scaffolding. It also draws upon the foundational works of Piaget, Vygotsky, Bruner, Bloom and others who espoused similar principles for understanding individual differences and the pedagogies required for addressing them. (UDL Guidelines 2.0)

The research for the general principles of UDL is also based upon modern neuroscience. This is based upon the knowledge that our learning brains can be divided into 3 main networks. These are recognition networks, strategic networks and affective networks. The 3 principles are aligned with these 3 networks: recognition with Multiple forms of representation; strategic with multiple forms of expression and affective with multiple forms of engagement. The alignment is further extended and clarified by the guidelines and their checkpoints. (UDL Guidelines 2.0)
Promising practices research refers to the many practices developed over time which address the learning needs of the individual learner. Many of these appear to adhere to UDL principles, but need to be tested in a UDL learning environment. (UDL Guidelines 2.0)

Implementation research refers to research on specific applications of the UDL principles and these are important in measuring the strengths and weaknesses of UDL. This research is only beginning to grow and will play a far stronger role as time progresses. The application of the UDL principles and guidelines within a pedagogical framework like TFU should provide much opportunity for such research. (UDL Guidelines 2.0)

Before identifying the points of contact between the UDL principles and the pedagogical framework of TFU I will just outline what the principles and guidelines of UDL are:

**Principle one Provide Multiple means of representation – the ‘What’ of learning**

Guideline 1: Provide options for perception.

Guideline 2: Provide options for language, mathematical expressions and symbols.

Guideline 3: Provide options for comprehension.

**Principle 2 – multiple means of expression – the ‘How’ of learning.**

Guideline 4: provide options for physical action.

Guideline 5: provide options for expression and communication.

Guideline 6: provide options for executive functions.

**Principle 3: Provide multiple means of engagement – the ‘Why’ of learning.**

Guideline 7: provide options for recruiting interest.

Guideline 8: provide options for sustaining effort and persistence.

Guideline 9: provide options for self regulation.

**Teaching For Understanding**

Teaching for Understanding can be viewed through both a pedagogical and a disciplinary lens. The pedagogical lens of Teaching For Understanding divides teaching into 4 separate elements. We will first investigate these 4 pedagogical pillars that support Teaching For Understanding theory and the way in which they can act as a conduit for the principles and guidelines of UDL.
The 4 elements of TFU and the UDL principles and guidelines.

Element 1 - Generative Topics

The criteria of this element of TFU suggest that such topics should be (i) central to the discipline, (ii) interesting to students and teachers, (iii) accessible to students through a variety of resources and entry points and (iv) Provide opportunities for multiple connections with other topics on the course.

UDL Principle 1: Guideline 1 of this principle asks that a teacher provide options for perception.

The checkpoints of this guideline ask for ways to customise the display of information. They ask for alternatives to visual information supplied and alternatives to auditory information supplied. These can be addressed within criteria (iii) of the Generative topic element of TFU.

Guideline 2 asks to provide options for language, mathematical expressions and symbols. This can also be addressed within criteria iii) of the Generative Topics element.

Guideline 3 of principle 1 is to provide options for comprehension. The checkpoints of this guideline ask a teacher to ensure background information is provided, that a teacher highlights patterns, critical features, big ideas and relationships and to ensure maximization of transfer and generalization.

This can be adhered to within criteria IV of the generative topic element.

Element 2 - Understanding Goals

The use of long term goals or through lines and, within these, short term goals are important to help students know the path they should be taking and to help them identify exactly where they are on the learning journey.

Principle 2 guideline 6 of UDL demands that a teacher provides options for ‘Executive Functions.’ The checkpoints of this guideline ask that the teacher guide appropriate goal setting, support planning and strategy development and enhance capacity for monitoring of progress.

This can be worked towards within the second element of TFU.

Two of the demands of principle 3 guideline 8 are to ‘heighten salience of goals and objectives’ and to ‘increase mastery oriented feedback’.

Principle 3 guideline 9 asks to ‘promote expectations and beliefs that optimise motivation’.

These demands can also be addressed within element 2 of TFU.
Element 3 - Performances of Understanding

Performances of understanding consist of activities that both expand and demonstrate understanding of goals or learning outcomes. These performances provide important opportunities for active learning. Students are required to do things and think about them. These performances make students thinking visible and therefore are conducive to a scholarship of teaching and learning.

TfU has identified 3 phases of performance that encourage a scaffolding approach. These are Introductory, Guided Inquiry and Culminatory performances. (McCarthy, 2011)

Principle 2 guideline 5 of UDL demands that a teacher provide options for expression and communication. The checkpoints of this guideline ask for the use of multiple media for communication, multiple tools for construction and composition and that a teacher build fluencies with graduated levels of support for practice and performance. These demands can be achieved within the TFU model of a performance view of understanding and the 3 different levels of performance.

Understanding performances or a performance view of understanding can also facilitate principle III guideline 7 which asks a teacher to provide options for recruiting interest. The checkpoints of this guideline ask that a teacher optimise individual choice and autonomy, and also optimise relevance value and authenticity.

Principle 3 guideline 8 asks that a teacher provide options for sustaining effort and persistence. The checkpoints of this guideline ask that a teacher foster collaboration and community and increase mastery orientated feedback. This can also be encouraged within the parameters of the third element of the TFU framework.

Finally, principle 3 guideline 9 can also be included within this element of understanding performances. This guideline asks that a teacher provide options for self regulation. The *checkpoints of this guideline ask that a teacher promote expectations and beliefs that optimise motivation, and facilitate personal coping skills and strategies.

Element 4 - Ongoing Assessment

Ongoing assessment is the process by which students receive continual feedback about their performances of understanding in order to improve them. Ongoing assessment creates a focus on rubrics which makes assessment criteria public. This gives students a chance to develop and demonstrate understanding. This also creates opportunities for peer and self assessment and brings students into the assessment process. Ongoing assessment provides opportunity for early intervention when necessary, thus is also important in supporting a scaffolding process. This approach is also conducive to a scholarship of teaching and learning as it provides important data to the teacher who takes a reflective approach to teaching and learning.
This fourth element of TFU impacts upon both principle 2 and 3 of UDL thus impacting upon the how and why of learning.

Principle 2 guideline 4 asks that a teacher provide options for physical action. It also asks that one vary the methods for response and navigation and optimise access to tools and assistive technologies. Multiple forms of assessment as provided by the TFU framework ensures that both formative and summative assessment is physically demonstrated in a variety of ways depending upon a student’s choice of expression.

Guideline 5 asks to provide options for expression and communication. This asks for use of multiple media for communication, use multiple tools for construction and composition and build fluencies with graduated levels of support for practice and performance. For similar reasons a TFU approach will ensure that such a variety of expression will provide students with a creative approach in expressing their work.

Principle 3 guideline 7 asks a teacher to provide options for recruiting interest. This guideline asks one to optimise individual choice and autonomy, optimise relevance, value and authenticity, and minimize threats and distractions. The fourth element of TFU can be employed here to draw students into the planning of assessment and help ensure a range of assessment methods that address the range of expression within a particular classroom. This choice and flexibility provides assessment methods attractive to individual students.

Guideline 8 provides options for sustaining effort and persistence. This asks to heighten salience of goals and objectives, vary demands and resources to optimise challenge, foster collaboration and community, and increase mastery orientated feedback. Feedback is essential in bringing a student to the next level and is a central part to the fourth element of TFU.

These guidelines and their demands can be facilitated within the 4th element of TFU as a teacher makes continuous assessment a central part of the learning process. Continuous assessment is central to both the How and Why of learning.

**The disciplinary lens of TFU**

**The 4 dimensions of TFU and the UDL principles and guidelines.**

The teaching for understanding model insists on four different dimensions of understanding within a discipline if a performance view of understanding is to take place. These dimensions are *knowledge, methods, purposes and forms*. These four dimensions are important in the understanding of a discipline.

The *knowledge* dimension involves assessing where the student is and being aware that students come from different backgrounds with different assumptions. Some of these will conflict with the discipline and disciplinary knowledge needs, therefore, to be modelled and provided if the student is going to perform with the knowledge. Principle I of UDL can be part of the knowledge...
dimension as it provides a platform to ensure that knowledge can be perceived in multiple ways (guideline 1) to address the learning needs of the broad spectrum of students in the classroom. This provides the opportunity for the student to customize the knowledge source to their own requirements. Guideline 2 of principle I ensure access to the use of different symbols, mathematical expressions and vocabulary. The third guideline of this principle ensures that background knowledge is provided, that critical features, big ideas and relationships are identified and that examples of transfer and generalization of the knowledge of the discipline are expressed.

The methods dimension involves opportunities to discuss and test knowledge. The teacher uses various methods of encouraging students to discuss, question and analyse knowledge in a new and more systematic way. This involves rational methods and careful dialogue. Principle II can be easily addressed within the methods dimension of understanding as it demands flexibility and variety in expression and action. Principle II asks for the use of multiple tools and media in demonstrating knowledge. Guideline 3 of Principle II also addresses executive functions, which includes goal setting, goal strategy and review.

The purposes dimension opens a student’s eyes to how the knowledge of a discipline is applied in the world. This encourages a student to see how knowledge is created, how to take ownership of knowledge and how to apply it in a practical way to real world issues. Principle III becomes very relevant to the purposes dimension as it is in creating purpose for knowledge that a student becomes engaged. Features of the guidelines of principle III include providing more autonomy for students, creating group collaboration and receiving and acting upon mastery oriented feedback.

The forms dimension relates to the forms in which knowledge of a discipline is presented. Knowledge can be presented in many ways for many reasons and it is important to be familiar with the forms and how they can be drawn upon and applied within a discipline. The forms chosen will be determined by the particular performance of knowledge taking place. (McCarthy, 2011, 91-95) Choosing from the variety of forms available to a discipline provides the opportunity to ensure adherence to Principle I of UDL. Thus a teacher can provide options for variety and flexibility in perception, comprehension and the use of symbols and vocabulary.

The disciplinary lens of TFU acknowledges that each student is at a different place in the learning journey and suggests four different levels of understanding. These are naive, novice, apprentice and master. The naive level of learning is based on intuition and it would be usual that a student’s sharing of knowledge occurs in an unreflective and non-thoughtful manner in which no ownership of the knowledge is evident. The novice level turns to the discipline, but rather than drawing upon discipline criteria to support argument, external sources of authority are used. Common and more familiar concepts of the discipline are drawn upon and presented in a step by step manner. At the apprentice level a student is capable of employing concepts and ideas from the discipline in a flexible, imaginative and complex manner. With guided support a student at this level will also demonstrate their ability to relate and apply knowledge to everyday life and events. Students at the master level demonstrate integrative, creative and critical thinking.
Complex knowledge is manipulated and conflicting theories can be handled successfully as the student uses the knowledge of the discipline to interpret and address the world about them. The resulting outcomes can be presented in creative and imaginative ways. (McCarthy, 2011, 95-98)

This approach ensures a scaffolding approach to each individual student allowing different levels of support to be withdrawn as the student progresses on the learning journey. This serves principle II of UDL by providing options for multiple forms of action and expression, and building fluencies with graduated levels of support for practice and performance. It also allows for feedback to help guide the student forward. This feedback is also useful as research data to the teacher taking a scholarly approach to teaching and learning.

This brief outline has attempted to demonstrate the potential of TFU as a vehicle for the implementation of the principles and guidelines of Universal Design for Learning. In doing so it has outlined in theory how the full set of principles and guidelines can be applied when drawing on this pedagogical framework. This does not, however, take place automatically, but requires a teacher to be mindful of the UDL principles and guidelines while operating within the pedagogical framework of Teaching for Understanding.

**Case studies**

The following are brief accounts of 2 case studies based on two of the candidates from the Postgraduate Diploma in Teaching and Learning in Higher Education at University College Cork. Teaching staff participating in this program of study were required to design a module within the pedagogical framework of Teaching For Understanding theory, while implementing the principles and guidelines of Universal Design for Learning. The results of their work had to be produced in a portfolio and presented under 3 headings. These are the headings of Module design, teaching and student learning.

**Case study 1.**

In this case the module was a History module and the teacher concerned decided to create a blended learning experience to ensure more discussion and interaction in the classroom. In drawing upon a blended learning approach this teacher provided much of the course knowledge online and this was done in many formats and by drawing upon multiple forms of digital media. This adheres strongly to principle I of UDL and the objective was to create much more discussion and interaction in the classroom. This in turn adhered to principle II and this teacher also highlights the variety of learning performances and assessment modes. Students were asked to take part in role play and simulation and attempted to get inside the mind-set of a particular historical character and defend arguments made and actions taken. This creates lots of opportunity for learning performances and provides great variety in the expression of knowledge. Students were also required to write up a blog defending the case of their character. Lots of opportunity is created for multiple forms of representation, expression and engagement.
The teacher concerned felt class interaction could have been better and felt that if more of the assessment mark went on class participation it would have made a difference. This teacher also felt that more opportunities for online discussion would have provided extra feedback. One other issue was that a student whose first language was not English found things difficult and though putting a lot of material online helped it did not solve all the students’ difficulties. Finally the teacher does not discuss the importance of ensuring that online media and software adhere to accessibility standards, and indeed one section of this teacher’s online portfolio was not accessible to screen reading software.

Case study 2

Case study 2 relates to a module taught by a teacher of Marine Biology from the school of Biological, Earth and Environmental Sciences. This teacher writes their portfolio on a module supported by a field trip to a marine centre based in Scotland. The students visit the marine centre for a week and are required to attend class and conduct field work. The teacher sees field work scaffolded by class work as the signature pedagogy of the discipline. This teacher sees the ability to apply and present knowledge as essential. The importance of a variety of performance based learning is discussed and both formal and informal methods of assessment are highlighted. Multiple forms of representation are achieved via class, guided field work and lab work. Because of the presence of students with specific learning difficulties the teacher does not request reports to be written up until the class returns home. Discussion and verbal presentation are all that is used for formal and informal assessment during the trip. To reduce the need for note taking a manual with notes is provided. The teacher is conscious also that the task in question is not a physical test of ability, but a test of scientific skill. The teacher therefore likes to discuss performance and assessment issues with the student or students concerned rather than assume that a student can or cannot undertake a particular task. The teacher wonders how many teachers ask a Disability Support Service for advice before designing a module. Realizing that all students learn differently, and to address the principles of UDL, the teacher and his colleagues have provided as wide a range of assessment methods as possible. This teacher is quite willing to learn from his experience with the students:

The students are exposed to the animals everyday throughout each of the guided performance activities of the field course and become familiar with them very quickly. In addition, as was seen in my video diary of the sub-tidal boat day in the previous assignment I usually run a hands on revision session for the students at a touch tank with the animals in it, so they see the material that may be in the ID test and I get them to describe the key features that help them identify any particular organism. When my video was critiqued by the class, it became apparent that I had missed a fantastic opportunity for the students to lead the revision class and put the emphasis back on them by taking control of their learning and not let it be guided by me. It was suggested that I should just facilitate the session by letting the students choose an animal and let them explain to their class mates, so encouraging peer assisted learning not just me dominating the session. I fully intend to utilise this idea on the next field-course in September.
The teacher also realized, when looking at a video of the revision session taking place at the touch tank, that the wind was interfering with the sound, which made it difficult for the students to hear what was going on. This is important to be aware of for the future. Students also had the opportunity to work in groups during the trip and peer learning was facilitated. Students were exposed to a variety of ways to experience and express their learning as they worked on the shoreline, at sea in the labs and in the classroom. Multiple forms of summative assessment were used for the course and no piece of work weighed more than the others. This ensured that students would have equal opportunity to demonstrate their skills in a way that suited their own individual strengths.

Both these case studies demonstrate that a Teaching For Understanding pedagogical framework can act as a vehicle for the principles of UDL, and demonstrate in a practical sense how this can be achieved. However, what was lacking on this occasion among the teaching portfolios in general was that teachers were not good to name the parts of the UDL framework as they attempted to implement it within the TFU pedagogical structure. The portfolio assignment has therefore been re-emphasized to ensure that UDL is highlighted as part of the course and needs to have the names of its parts shown clearly within the pedagogy.
How Far Have We Come? How Far Do We Have to Go? Issues around Universal Design for Learning and the digital divide - A Nigerian Perspective

Dr. Onyenachi Ada Ajoku (Equality Focus)

“Those being left behind with technology are being left behind across many spheres”

(Martha Lane Fox)

Introduction

The digital divide and the Universal Design for Learning (UDL) are two separate concepts that do not appear to have common ground. However for the UDL to be evidenced in schools there has to be a good demonstration of varied forms of curriculum and instruction delivery. The use of technology is one way of approaching teaching and learning in a diversified way. It then follows that the lack of use of technology implies that instruction is not taking place in a contemporary fashion that involves the use of ICT to engage learners in these modern times. One could further argue then that for the UDL to be adopted the digital divide has to be bridged so that ICT is accessible to all. This paper proposes that the accessible world is mainly accessible to people and societies that can access it, that can afford it, that know how to use accessible services, and to societies that are culturally receptive to accessibility. The digital divide is one of the reasons for the poor implementation of inclusive practices in developing societies. In addressing the digital divide, schools face a critical need to provide full access for learners with disabilities (Mason and Dodds 2005). However as highlighted above, this is not a reality for many schools in developing societies. The study this paper is based on is evidence of this. The schools investigated for the study were found wanting in the areas of accessibility, inclusive practices, disability awareness, curricular design and the use of ICT.

While it is obvious that the bridging of the digital divide as well as applying the UDL is necessary for positive educational development, the study however emphasises that without a positive change in disability perceptions, better disability rights and awareness and improving instruction through the use of ICT in schools there is little hope of robust inclusive practices in the Nigerian educational system. This paper addresses the challenges primary schools in Owerri West, Imo State, Nigeria are faced with in relation to the prospects of adopting the UDL. The findings of the study show that these challenges are as a result of the digital divide and the predominant societal modes of thought of disability which are moral and medical model by nature.

Methodology

This paper is but part of a broader study and is limited to discussions on issues around the use of ICT in teaching, facilitating and enhancing the learning experiences of children with learning difficulties and disabilities. The study adopted the qualitative research method. Data for this
study was gathered through questionnaires, interviews and observations. Observations took place in six primary schools located in the three wards in Owerri West, Imo State, Nigeria.

Summary of findings

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>Teachers lacked awareness of the benefits of using assistive technology in classroom teaching</td>
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<td>Teachers admitted that some children struggled with the didactic method of teaching</td>
<td></td>
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<tr>
<td>Lack of specialist training needed to empower teachers to cater to different learning styles and support pupils with learning difficulties/disabilities</td>
<td></td>
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<tr>
<td>The lack of assistive technology used in classrooms</td>
<td></td>
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<tr>
<td>Training needed in the area of assistive technology to enhance learning opportunities</td>
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<tr>
<td>Lack of a broad range of instructional materials to meet diverse learning needs of the pupils</td>
<td></td>
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<tr>
<td>Predominant perceptions of disability practices in the society investigated hinged on the medical and moral models of disability</td>
<td></td>
</tr>
<tr>
<td>Limited inclusion awareness in the schools</td>
<td></td>
</tr>
<tr>
<td>Limited disability and learning difficulty awareness</td>
<td></td>
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<tr>
<td>Teachers did not appear to miss the use of technology because they had never used it</td>
<td></td>
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<tr>
<td>The children seemed to have adapted to the educational system in that they did not appear to expect anything more than what was offered</td>
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Disability perceptions and inclusion

The study highlights that cultural perceptions and awareness of disability carry great weighing in the way people with disabilities are perceived and included in society in general and schools in particular. These perceptions are played out in policy and inclusive practices in schools. The study also highlights that predominant perceptions of disability practices in the society investigated hinged on the medical and moral models of disability with very little evidence of practices advocated by the social model. The implication of this is that inclusive approaches to curriculum
planning and delivery were observed to be limited and curriculum planning did not appear to take into account neurodiversity and therefore presented a great disadvantage especially for the atypical learner. The illustration below demonstrates the differences in disability ideology and in doing so portrays the difficulties schools will have in demonstrating and implementing inclusive practices seeing as the moral and medical models are far off from any approach considered embracing and accommodating of people with disabilities. Furthermore the illustration demonstrates how inclusion could be achieved through the social model but more so through the universal design approach.

<table>
<thead>
<tr>
<th>Moral/Religious Model</th>
<th>Medical Model</th>
<th>Social Model</th>
<th>The Universal Design</th>
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<tbody>
<tr>
<td>Disability is seen as retribution from God.</td>
<td>Disability is a deficiency or abnormality. People with disabilities need to be ‘treated’ and/or rehabilitated into society.</td>
<td>Disability is a difference. Adjustments are made to accommodate differences.</td>
<td>Being disabled in itself is neutral. Products are designed to be used by virtually everyone, regardless of their level of ability or disability.</td>
</tr>
<tr>
<td>Disability results from sin, bad actions and curse.</td>
<td>Disability is a thing of shame.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People with disabilities are marginalised, stigmatised and excluded. The burden is on the person with the impairment.</td>
<td>A person’s medical diagnosis is used to define the person. Emphasis is on the inability to perform.</td>
<td>Reasonable adjustments for people with impairments is a key characteristic, however the need for identification before provision could affect the flow of service.</td>
<td>Access issues become the designer’s problem to solve from the onset/during the planning stage.</td>
</tr>
<tr>
<td>Being disabled is negative. Disability resides in the individual.</td>
<td>Being disabled is negative. Disability resides in the individual.</td>
<td>Disability can be examined as a social problem caused by social structures, social</td>
<td>Anyone could be disabled at some point in their lives. Environments are designed to be</td>
</tr>
</tbody>
</table>
Family members share the burden of shame.

The person with the impairment is morally responsible for their disability.

The remedy for disability-related problems is cure through spiritual intervention.

The remedy for disability-related problems is ‘cure’ or normalization of the individual.

The remedy for disability-related problems is a change in the interaction between the individual and society.

The criterion of reasonable adjustments becomes arguable because the idea here is that environments should be designed to be adaptable, flexible and multi-faceted.

Remedy resides with the intervention of a higher power.

The agent of remedy is the professional.

The agent of remedy is the individual, an advocate, or anyone who affects the arrangements between the individual and society.

People with impairments do not have to constantly advocate for reasonable adjustments (provision is already in place from the start). This causes less obstruction to the flow of services.

Inclusion through UDL: the role of ICT

The universal design is the answer to current global trends and the increasing need for less restrictive products and services that could be widely used by all whatever one’s generation,
ability or inability. According to Audirac (2008:5) the universal design is a new paradigm resulting from the convergence of four factors:

1. Disability civil rights legislation and ensuing implementation programs
2. The aging demographics, particularly in industrialised countries
3. The information society’s dual exclusionary (i.e., digital divide) and enabling effects (i.e., information and telecommunications innovations including assistive technologies)
4. The corporate response to potential markets for universal design products

The UDL is an offshoot of the universal design. UDL is a framework that addresses the primary barrier to fostering expert learners within instructional environments (CAST 2011) and is aimed at providing instructional material in a variety of ways that embraces a diversity of learning styles and educational needs. CAST (2011) demonstrates three principles that guide UDL and provide the underlying framework for the guidelines.

Principle 1: Provide multiple means of representation (the “what” of learning)

Principle 2: Provide multiple means of action and expression (the “how” of learning)

Principle 3: Provide multiple means of engagement (the “why” of learning)

The UDL could be used to foster robust inclusive practices. Inclusive education is a practice that is valued at global level, a practice that many children with disabilities have benefitted from, a practice that many children with disabilities are still yet to benefit from. The invention of computers and other forms of information technology has revolutionised the world. The advantage of the use of ICT as a medium for inclusion is limitless. Although the awareness of the theoretical aspects of inclusion with regards to ICT application may abound in some societies due to wide-spread research and literature in this area, the actual practice of it in developing societies leaves much to be desired. As such many children are excluded in schools due to poorly designed and inaccessible curriculum. An inaccessible curriculum is limited in its representation of diversity. An accessible curriculum however is one that promotes learning through various mediums and styles and dynamic approaches to instruction. Planning a curriculum that supports all learners is a challenge but is a necessity in our diverse world. The UDL acknowledges this by emphasising a more ‘forward-thinking’ approach from the onset of curriculum planning as opposed to making adjustments as the need arises. In other words there is a shift from accommodation to modification where the reality of diversity is the focal point of curriculum design.

Inclusion practices differ in the extent to which they are applied and could vary from country to country, from society to society, from culture to culture and from school to school. This variation of practice is as a result of many factors such as the digital divide, the lack of funding and disability awareness. The gap between variations of inclusive practice is seen clearly between developed and developing countries where there are huge disparities in economic and social inequalities in the knowledge, access and use of ICT. On the one hand developed societies are seen to be making a shift into new evolutionary practices that have transcended making
reasonable adjustments as advocated by the social model to encompass a universally designed approach to access for all irrespective of age, ability, inability or disability. On the other hand some developing societies are still grappling with the idea of inclusion - who to include, how to include and how to identify those in need of reasonable adjustments. The problem is compounded when there is limited awareness of the broad spectrum of disabilities coupled with the understanding of disability being more or less limited to physical disabilities. Thus the fate of people with hidden disabilities is rather grim as the lack of awareness brings about a lack of inclusion.

Learners who are “in the margins”, such as learners who are gifted and talented or have disabilities, are particularly vulnerable as well as learners who are identified as “average” who may not have their learning needs met due to poor curricular design (CAST 2011). Soujah (2014:445) identifies underprivileged learners as being underexposed to technologies needed to develop 21st century skills and as a result are unable to reach minimum standards. Access to ICT has the potential to enhance learning experiences for children with or without disabilities or learning difficulties. For many learners without internet access at home, the school is a primary source of computer access (Kaiser 2004). As part of educating the future workforce schools are expected to be able to provide opportunities for learners to access the digital world in order to be able to compete in the current global trend. Schools have a great part to play in ensuring development in this aspect. The availability of funds invariably is a presiding factor when it comes to available infrastructure, quality of learning materials and the empowerment of teachers. The lack of it unfortunately impacts on learning experiences and the quality and means of instructional presentation as demonstrated in the illustrations below.

Figure 1. Lack of funds to provide instructional materials and infrastructure
The lack of varied use of instructional materials. A disadvantage to the atypical learner

The availability and access to information and knowledge in our modern digital world is a distinguishing feature between rich and poor societies. There is universal recognition of the need and importance of the use ICT in education as we enter the era of globalisation where the free flow of information via satellite and the internet are great forces in the global information and dissemination of knowledge (Aduwa-Ogiegbaen and Iyamu 2005:104). One of the factors that has characterised our changing world is technology and the diversified application of it. ICT use is an important element of effective participation in 21st century society and can be said to be firmly at the heart of the interconnected logic of 21st century life (Selwyn and Facer 2007). Likewise in education, ICT has been continuously linked to higher efficiency, higher productivity, and higher educational outcomes, including quality of cognitive, creative and innovative thinking (Adeosun 2010:193). The need for a highly skilled and educated workforce with skills in the application of ICT as very essential (Adeosun 2010:194), because as Aduwa-Ogiegbaen and Iyamu (2005:104) posit, modern life is dominated by technology. As such our relationship to science and technology today is different from that characteristic of earlier times as we live in a fast-changing ‘runaway world’ where the social, economic, cultural and political foundations of society are being redefined on a continual basis (Giddens 2000). Unfortunately Nigeria is one of many West African countries that have been found wanting in this respect due to the digital divide. Aduwa-Ogiegbaen and Iyamu (2005:108 -109) identify factors such as cost (the price of computer hardware and software), weak infrastructure (electricity supply), lack of skills (inadequate human skills and knowledge to fully integrate ICT into schools), lack of relevant software (software that is appropriate and culturally suitable to the Nigerian education system) and limited access to the internet as obstacles to the use of ICT in schools in Nigeria.
Conclusion

The issue of the digital divide and the lack of robust disability awareness have been identified as factors affecting the UDL from being practiced in Nigerian schools. This paper has identified the need for projected vision beyond the medical and moral models of disability which appear to be prevalent in the society investigated. Also identified is the need for schools to practice a social model approach to curriculum design and the hope for the gradual shift to a UDL approach to designing the school curriculum in order to meet the diverse needs of learners. However for this to happen, the digital divide must be bridged.

References


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Implementing UDL in a Non-UDL Environment: lessons learned at a Dutch Higher Education Institute

Irma van Slooten (UDL Nederland)
Judith Jansen (handicap + studie)
Linda Nieuwenhuijsen (UDL Nederland)

In 2014 we joined forces to implement Universal Design for Learning (UDL) at a Dutch Higher Education Institute (HEI). Although not all critical elements for implementing UDL were met, it was considered worthwhile starting with UDL because the staff had the potential to make the curriculum more inclusive.

Why: Curriculum Reform Due to Social Welfare Changes

On the 1st of January 2015 various Dutch social welfare regulations were radically reformed. These reforms have huge implications for the next generation of social workers. As a result, reforms in the curricula of social work studies are necessary. One Dutch HEI wanted to use this change as a trigger to make their education ‘more flexible, accessible and inclusive’. Various teachers that participated in a UDL workshop suggested UDL might be the framework with which to implement that ambition.

What: Using UDL as a Way to Make the New Curriculum More Inclusive

UDL is relatively unknown in The Netherlands. Therefore, the HEI decided to work with ‘handicap + studie’ (Dutch Expert Centre for studying with a disability) and ‘UDL Nederland’ to run a pilot. A project was formulated, funded, and in September 2014, started.

How: Pilot with UDL Training & Coaching In Parallel with the Curriculum Reform Process

The HEI decided to start with a pilot. They selected a small group of teachers to be trained in UDL. These ten teachers also played a key role in the curriculum reform. The teachers did not have any experience with UDL. The group was mixed: experienced and not so experienced, young and old, male and female, with diverse educational backgrounds. During a period of 5 months 4 sessions were organised by UDL Nederland. Between the sessions participants were offered individual coaching. They were invited to use this in whatever way fit their needs best. For example they could have a coaching session with one of the trainers, get feedback on their teaching materials or receive feedback on their work for the curriculum development. At the start of the first session a baseline assessment was done by handicap + studie. The aim was to measure their current level of inclusivity in education. The teachers were asked to formulate their own preferred learning outcome and to choose a specific target for the training program. Handicap + studie interviewed the participants a month after the last training session and wrote a report with recommendations for management.
Result: Implementing UDL in a Non-UDL Environment Works as a Catalyst for Further Implementation

The results of the pilot can best be presented by using the four critical elements for implementing UDL as identified by UDL-IRN and a fifth one identified by UDL Nederland. Not all these conditions were met during the UDL implementation phase. Despite that, it was considered valuable to start delivering UDL-training & coaching. In this way the process of working in a UDL way can evolve on the work floor.

Below, in a nutshell, our findings and questions for further investigation:

1. **Clear Goals**: educational goals were not clear to a number of the teachers. A lot of time was spent getting the goals clear, which could not be spent on other UDL topics. However, it was very valuable to devote time to reflect on the goals. It gave the teachers space to think of variability in the materials and methods they used.

   **Question**: Is it critical to have educational goals clear in advance?

2. **Embrace diversity & plan accordingly**: proactive planning was not common practice at the HEI. Due to the reform the teachers could create opportunities to do this much more in the future. By sharing their insights with colleagues in the department they became more aware of the necessity of pro-active planning.

   **Question**: Should this UDL mindset be there from the start? Or is creating this UDL mindset part of the training?

3. **Flexible Methods and Materials**: using a scheme of the UDL Principles & Guidelines was very helpful for the teachers to be able to identify where their curriculum was already UDL proof and where they had to improve. Many realised that they were ‘unconsciously skilled’ and became more ‘consciously skilled’. The use of IT is of course important to make the curriculum more flexible. However, the participants tended to see IT as a goal instead of a means. The relationship between UDL and IT was a continual concern.

   **Question**: How does IT relate to UDL, and how best to embed it?

4. **Timely Progress Monitoring**: at this HEI a quite inflexible central assessment policy was in use. Changing this policy was beyond the capability of the teachers, or so they thought. During the training participants became aware of the fact that they do in fact can influence the de-central assessment policy. Also they became more aware of the value of formative assessments. They worked together on developing alternatives to monitor progress during the semesters. This critical element is also about the professional development of the teachers.
Question: Do you need to train teachers before implementation? Or is training a crucial part of the implementation process?

5. Involve all relevant actors: Dutch research indicates that teachers in HE have many concerns about the quality of the education, but they do not feel responsible for this. They tend to point to their managers as being responsible. In this pilot the main actors we worked with were the teachers. During and after the pilot it became clear that the management lagged behind in their UDL mind-set. This had a negative effect on the progress of some of the participants. In such a large HEI many decisions are beyond the scope of the individual teacher. We conclude that other key actors like facility managers, timetable makers, and student services need to be on board to create a truly inclusive learning environment where all can play their part in implementing UDL.

Question: Is UDL implementation possible when not supported by managers / other relevant actors?

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✓ Pictures used to highlight the Critical Elements:
  ▪ Picture Critical Element 1: Haiku Deck, Photo by Brintam
  ▪ Picture Critical Element 2: Haiku Deck, Photo by colemama
  ▪ Picture Critical Element 3: Haiku Deck, Photo by a4gpa
  ▪ Picture Critical Element 4: Haiku Deck, Photo by Mylla
  ▪ Picture Critical Element 5: Google, BC Studentencafe
Investigating Disability Support across Europe in the Electrical and Information Engineering Disciplines: Experiences from the SALEIE project

Ian Grout (University of Limerick)

Tony Ward (University of York)

Introduction

This paper presents some of the experiences obtained by undertaking the European Union Lifelong Learning Programme project SALEIE (Strategic Alignment of Electrical and Information Engineering in European Higher Education Institutions). This is a three-year project with a focus of the electrical and information engineering (EIE) disciplines with the aim to bring together academics and disability support officers from 45 partner higher education institutions and centres within Europe and Russia. The project is also supported by the European Association for Education in Electrical and Information Engineering (EAEEIE). This paper focuses on results from the “widening participation and student support” activity within the overall project.

Purpose of the project

The SALEIE project is a three-year duration project funded by the European Union Lifelong Learning Programme. It Involves 44 partners across Europe plus 1 in Russia. The project sets out to firstly explore and then provide models for ways in which Higher Education Institutions of Europe in the Electrical and Information Engineering disciplines can respond to current challenges. The main challenges addressed by this project are:

1. Ensuring graduates are prepared to enable Europe to respond to the current global technical challenges in the Green Energy, the Environment and Sustainability, Communications and IT, Health, and Modern Manufacturing Systems (including Robotics), that is, a “new skills for new jobs” approach. This will embrace conventional education, lifelong learning and training for entrepreneurship.

2. Ensuring that programme and module governance is sufficiently well understood that issues of mobility, progression and employment are understandable by appropriate stakeholders including the accrediting bodies for professional engineers.

3. Ensuring all learners, irrespective of their background or personal challenges, including: dyslexia and dyspraxia; visual and hearing impairments; Asperger’s, autism, depression, anxiety; are given equal opportunity to education and are appropriately supported.

This paper is concerned with point (3) above. Supporting a diverse learner population requires a range of supports to be put in place and for the different roles in support to be clearly identified, understood and the individuals undertaking these roles to be suitably supported. The work undertaken in (3) above has concentrated on the perceptions and approaches to student support,
primarily considering the academic side, that exist and how the project partners can better understand existing and develop new supports.

In an education environment, the 3 concerns identified above are interlinked with specific common areas of interest as shown in the figure below (Fig. 1). Specifically, in the context of this project and EIE, the key common areas of interest are identified.

**Fig. 1.** The trilogy of (i) key global challenges, (ii) governance, and (iii) widening participation and student support (focusing on students with disabilities).

### Widening participation and student support: experiences from the project

One of the actions with the overall project is to investigate and further understand how widening participation and student support is provided in the different project partner institutions. The focus is on the electrical and information engineering (EIE) disciplines, but also considers wider institutional level, national level, European level and international level considerations and attempting to understand how these different levels of considerations interact. Hence, the work undertaken is aimed to develop:

- A better understanding amongst the staff involved: at International, European Union, Institutional and Departmental levels.
- A forum to “get people talking” – involving the academic community.
- A way to find out what is going on – sharing information and experiences; identifying who is doing what around the world.
- A way to find out how we can contribute – understanding the current situation and looking at ways forward in which to contribute.
• A focus in the electrical and information engineering (EIE) areas – one focus area being inclusion in EIE laboratories.
• An increase in the interactions between the academic and disability support perspectives amongst the project partners.

As part of the project, a survey was created and disseminated to the partners to identify, where possible, approaches to widening participation and student support. The identified focus for the survey was on support for students with disabilities. Within the project (30 responses (28 partners and 2 non-partners) are considered here), the survey had the aims to:
1. Cover national and institutional level approaches and support measures.
2. Focus on the EIE departments.
3. Provide a “snap shot” of what is undertaken – a wider survey covering more institutions and countries would be beneficial if a more comprehensive analysis was to be required.

From an analysis of the survey, including partner discussions and follow-on questions, key general results from the survey indicate:
1. A higher level of awareness is required amongst academic staff and greater interactions between the disability support and academic departments.
2. Most partner institutions have a disability support office, but not having a disability support office does not mean a lack of commitment or support.
3. Roles and responsibilities vary between institutions between the administrative support and academic staff.
4. Most academics questioned had an awareness of disability support requirements and supports.
5. Information is not always available or able to be provided.
6. More training for academics on how to support students is required.

Furthermore, a number of key general points in how the partners participated in the work undertaken and experiences gained are identified in Table 1.

Table 1. Participation and Experiences

<table>
<thead>
<tr>
<th>Participation</th>
<th>Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initially, a small group within the overall project involved in this work package, but increasing participation in the work package as the project has progressed.</td>
<td>A good level of understanding amongst the academics and institutions in disability support, but variations in approaches and maturity of supports.</td>
</tr>
<tr>
<td>Initially, a hesitancy to be active in discussions, but now we have a good</td>
<td>Achieved really a “snap shot” of what is happening.</td>
</tr>
<tr>
<td>Level of discussion achieved amongst the work package participants: building up confidence in sharing information and experiences.</td>
<td></td>
</tr>
<tr>
<td>Identification of institutions involved at local, national and EU level in specific projects which was not known before.</td>
<td></td>
</tr>
<tr>
<td>People interested in participating, but a hesitance to be active. Reasons – multiple.</td>
<td></td>
</tr>
<tr>
<td>Need more training for academics.</td>
<td></td>
</tr>
<tr>
<td>Different levels of awareness across the partners.</td>
<td></td>
</tr>
<tr>
<td>Need more interactions between the disability support offices (where they exist) and the academic departments. How to achieve this?</td>
<td></td>
</tr>
<tr>
<td>A need for more targeted and useful information.</td>
<td></td>
</tr>
<tr>
<td>Realistic and non-realistic expectations: differences in requirements for disability support offices and academic departments: awareness.</td>
<td></td>
</tr>
<tr>
<td>Language and terminology barriers across the different European countries.</td>
<td></td>
</tr>
</tbody>
</table>

The results from the SALEIE project will be made available on the SALEIE project website, including detailed reports on the results of the different project activities.

**References**

SALEIE project homepage. ONLINE, available: [http://www.saleie.co.uk](http://www.saleie.co.uk)


**Acknowledgment**

This work was supported under the EU Lifelong Learning Programme "SALEIE", Project Reference No. 527877-LLP-1-2012-1-UK-ERASMUS-ENW.
IRIS- the Irish Remote Interpreting Service

Elfrieda Carroll (Sign Language Interpreting Service)

What is Sign Language Interpreting Service?

Sign Language Interpreting Service (SLIS) is the national agency funded through CIB with the mission “to promote, represent, advocate and ensure the availability of quality interpretation services to Deaf people in Ireland”. Its overall goal is to ensure Deaf people can easily exercise their rights & entitlements under the Equal Status & Disability Acts and access their rights and entitlements to public and social services. SLIS promotes best practice in the field of sign language interpreting by advocating quality standards among interpreters and their client organisations.

SLIS actively works towards the introduction of new technologies with the potential to improve the quality of interaction for Deaf people through the Irish Remote Interpreting Service (IRIS) project. IRIS has been developed in partnership with DeafHear.ie and the Irish Deaf Society. This new and innovative method of interpreting works as an add-on to existing ISL/English Interpreting services and does not replace face-to-face work.

Irish Sign Language and the experience of a Deaf student.

Irish Sign Language (ISL) is the primary language for over 3,500 Deaf people in Ireland, it is a visual language utilising not only handshapes and placement but also facial expressions and body movements to indicate its own grammatical and syntax structure making it unique to the Irish Deaf community. It bears little resemblance to spoken or written English and it is important that as Educators we recognise that English may be a Deaf person’s second language.

This presentation highlights how easily IRIS can be used as a means of improving access and communication for Deaf students and staff alike. Communication through interpreting is the responsibility of Educational facilities and IRIS offers a new means to do so. Oftentimes people believe that an interpreter is required solely for the Deaf person; however SLIS firmly endorse the fact that an interpreter is required for both parties in any interaction. In fact SLIS believe that in working with Deaf service users or students- hearing staff members are more in need of an interpreter, so as to ensure they carry out their duties without discrimination and in line with Equality and Disability legislation.

Barriers encountered by Deaf students in educational settings may be the major contributing factor to the decline in numbers of Deaf students as evidenced in the latest and recently released AHEAD figures for 2013/14. In 2014, a mere 271 Deaf students accounted for 2.8% of 10,000 students with disabilities in Ireland - this showed a drop from 3.2% the previous year, at a time when there was an overall increase of 7% of students with disabilities. The figures tell a story- but one that as a hearing person can be hard to truly comprehend.
Imagine for a moment being a native English speaking student with a limited grasp of the Irish language in a campus where Irish was the only language used to communicate all verbal and written messages. Every message you encounter is perceived as a foreign language—posters you see make partial sense, the lecturers talk too fast to fully understand what they say, you ask for notes but they too are presented to you in Irish. These cumulative experiences of college life may lead you to feel isolated or perhaps frustrated; create more challenges for the completion of assignments and possibly encourage you to drop-out altogether. This is the daily experience of a Deaf person whose primary language is ISL—college life can be far more of a struggle than for their hearing counterparts purely as a result of the language barriers and perhaps this is why the figures are as they are.

Yet we have legislation to try to limit isolation and discriminatory practices. Publicly funded educational facilities are obliged under Equality and Disability legislation to provide access for their students (and Deaf staff) to their services. So if the legislation is there to protect and promote access, why is it that access remains a barrier to Deaf student life? Access Officers provide a great service to Deaf students and the scarcity of interpreters does mean that some additional planning is required to ensure the student’s needs are met.

**Using IRIS to improve your service**

SLIS, in conjunction with its partner organisations DeafHear.ie and the Irish Deaf Society have been developing the Irish Remote Interpreting Service (IRIS) as an add-on service to traditional face-to-face interpreting services. IRIS is a video-link interpreting service carried out with the Deaf student & hearing person together in the college and the Interpreter is located in our offices and appears on screen to interpret for your appointment. We use programmes such as Skype, ooVoo and Webex to conduct the assignment and offer a range of payment options to suit both regular and once-off users.

IRIS is not suitable for certain activities such as lectures or large group interactions, but it can provide a means of improving communication for short informational exchange meetings. We don’t recommend that colleges or Access Officers dismiss face-to-face interpreting; however the additional use of IRIS for other aspects of college life might when interpreters on not available on site—may increase the college’s accessibility.

<table>
<thead>
<tr>
<th>IRIS may be suitable for</th>
<th>IRIS is not recommended for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Officer meetings</td>
<td>Lectures or group tutorials</td>
</tr>
<tr>
<td>Short meetings with Tutors</td>
<td>Replacing Tutorials where Face-to-Face interpreters are booked</td>
</tr>
<tr>
<td>Short meetings with College Administration to check on grants/fees/housing/welfare</td>
<td>To replace an existing interpreter/agency already engaged to provide ISL/English Interpreting</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Relay phone calls to or from Departments to Deaf students</td>
<td>Sessions with heavy information or where Face-to-face interpreting is preferable</td>
</tr>
<tr>
<td>Facilitating staff and students discuss administrative forms required for college</td>
<td>Sessions lasting longer than 30 minutes</td>
</tr>
</tbody>
</table>

The overall goal of any educational facility is to impart knowledge onto all its students and much has been done by colleges and Access Officers to remove the obstacles that Deaf students face, however there are still a range of activities, practices and policies that can be implemented to decrease those obstacles and remove any distinction between Deaf and hearing students. Third level education focusses young (and perhaps the not-so-young) minds on widening their experiences, learning through doing, thinking critically and “outside the box” to improve our society.

Perhaps, it might be time to look to our own practices to see what can be changed to improve the experiences of Deaf students and their teaching staff through both the marvels of new technology as well as the marvels of traditional interpreting models.

For further information and demonstrations of IRIS- please contact us at the following:

Website: [www.slis.ie](http://www.slis.ie)

Facebook: [www.facebook.com/#I/IRISinterpreting](http://www.facebook.com/#I/IRISinterpreting)

Email: remote@slis.ie

SMS/ Voice: 087 980 6996

Lo-call telephone: 0761 07 8440

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Nursing Students with Dyslexia: Applying a UDL approach to conducting a Clinical Needs Assessment

Dr. Phil Halligan (School of Nursing, Midwifery & Health Systems, UCD)
Dr. Alison Clancy (School of Nursing, Midwifery & Health Systems, UCD)
Frances Howlin (School of Nursing, Midwifery & Health Systems, UCD)
Kerry Pace (Diverse Learners)

Background

Irish Nursing undergraduate degree programmes are comprised of 50% theory and 50% instruction and include five Domains of Competence and related standards of Practice. Each year, competence levels increase yet students must pass the expected standards of practice before moving to the next year. Programme requirements demand that students complete theoretical instruction of no less than 1,533 hours and clinical instruction of no less than 2,300 hours which amounts to 81 weeks over the four years (NMBI 2015).

Over the past decade we have observed that the number of nursing students registering with a disability now mirrors that of all other higher education institutions with dyslexia being the most common disclosed disability in nursing (AHEAD 2015). Students registered with a disability are entitled to an equal opportunity to avail of an education and examination needs assessment undertaken by a disability officer (Disability Act 2005). In addition, students registered with a disability in University College Dublin (UCD), School of Nursing, Midwifery and Health Systems are offered an additional option to have a Clinical Needs Assessment (CNA) conducted by the Disability Liaison Team (DLT) to provide additional support to students with a disability before and during their placements.

Clinical Needs Assessment

The clinical needs assessment proceeds through a number of stages as illustrated:
Figure 1. Outline of Clinical Needs Assessment Stages

Overall to date, evaluation of the CNA has shown that the provision and use of accommodations enabled students to access learning opportunities more readily, experience greater satisfaction with their learning and feel more supported on clinical placements. Students also placed great emphasis on ‘not being treated differently’ because of their disability. This poses a major challenge for clinical educators, the creation of a balance between the provision of reasonable accommodations while acknowledging and honouring the students need, not to be treated differently.

So what does it mean to be treated differently? In the Thesaurus, synonyms for being ‘treated differently’ are ‘disfavour’, ‘judge’ ‘victimize’ ‘set apart’ ‘show bias’ ‘treat as inferior’ ‘separate’ and ‘favour’. Thus, students may view being treated differently either positively or negatively leading us to question whether justice or equality apply. For example, if we have three students in clinical practice - all the students have difficulty with reading and writing and one of the students has dyslexia. Application of ‘justice’ requires that all three students get the same ‘accommodations’ i.e. the same extra time to read and write; but the student with a disability may be disadvantaged as they may require additional accommodations to assist them to meet the standard criteria. Application of ‘equality’, requires that all three students receive the same extra time to read and write, but that the student with dyslexia is provided with additional accommodations to facilitate the attainment of standards of practice. This is termed, ‘positive discrimination’ and is levelling the playing field for the student with dyslexia. Using a Universal Design for Learning (UDL) approach supports both justice and equality in that the same additional accommodations are offered to all students hence the student with a disability is not disadvantaged or more importantly not ‘treated differently’!

NMBI (2015) requires that all nursing students, including those with disabilities, reach the five Domains of Competence and standards of practice required for each stage of the programme. As nursing is a physically and mentally challenging profession (NMBI 2015), it may cause additional stress for the student who has dyslexia and the provision of additional reasonable accommodations (RA’s) may assist the student to meet these standards. However, application of Universal Design for Learning (UDL) principles within the curriculum could reduce the number of individual student RA’s by its flexible list of ‘approved’ approaches/accommodations thus decreasing the risk of ‘being treated differently’.

Case study

In 2013, Mark applied to UCD via the Direct Access Route to Education to study a BSc (Hons) Nursing degree. Mark accepted a place and had an academic and educational needs assessment completed by the UCD Access Centre as he had dyslexia. Mark also had a CNA completed by the DLT to identify supports for clinical placements and the following challenges for reading and writing on nursing placement were identified:
- Exposure to a lot of different reading and writing – handwriting, written, small print, abbreviations, phrases
- Read a lot and quickly
- Present to other staff re patients conditions
- Access and understand important written information
- To document care accurately

Using a UDL approach a number of the accommodations identified in Table 1 below could be implemented in a more inclusive way thus benefiting all students and support staff.

**Table 1 – Example of traditional accommodations using a UDL approach**

<table>
<thead>
<tr>
<th>Accommodations</th>
<th>UDL approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra time to read</td>
<td>Use of mini iPad preloaded with relevant readings and documentation (disability friendly) for all students to document</td>
</tr>
<tr>
<td>Quiet location to read/write</td>
<td>Use of dedicated resource room for students</td>
</tr>
<tr>
<td>Patient handover forms in advance</td>
<td>Preload proof reader software - Grammarly/Ginger on all PCs</td>
</tr>
<tr>
<td></td>
<td>Provide material in multi-method formats – written, electronically and on podcast</td>
</tr>
<tr>
<td>Preceptor checks nursing documentation for spelling and grammar errors</td>
<td>Have available Medical electronic spellcheckers + dictionaries at all nursing stations or where students document care</td>
</tr>
<tr>
<td>Grammar and spelling waiver on some documentation</td>
<td>Install proof reader software (Ginger/Grammarly) on all computers</td>
</tr>
<tr>
<td></td>
<td>Provide a list of commonly used words in advance of placement</td>
</tr>
<tr>
<td>AT – TextHelp</td>
<td>Install speech to text software on all computers</td>
</tr>
<tr>
<td>Electronic medical dictionary and spell checker, Dragon Medical device</td>
<td>Install Dragon Medical on device on all PC’s</td>
</tr>
<tr>
<td>Uses terminology and abbreviation booklet /iBook</td>
<td>Pre teach commonly used medical and nursing words, abbreviations and symbols ahead of clinical placements</td>
</tr>
<tr>
<td></td>
<td>Supplement text with audio and illustrations</td>
</tr>
<tr>
<td></td>
<td>Provide Booklet for all</td>
</tr>
</tbody>
</table>
To conclude, using a UDL approach will provide different options using different and multiple senses and promote diverse teaching methods and assessment options. More importantly, it does not require the student to disclose their disability and avoids the student being treated differently.

References


Recommendations for Supporting Students with ADHD and Asperger’s Syndrome in Higher Education Environments

Maria Clince (Trinity College Dublin)

Dr. Clodagh Nolan (Trinity College Dublin)

Laura Connolly (Trinity College Dublin)

Background

The numbers of students with Attention Deficit/Hyperactivity Disorder (ADHD) and Asperger’s Syndrome in Irish Higher Education Institutes (HEIs) is on the increase (AHEAD, 2013) which places on onus on college support services to ensure they can provide the right type of supports to facilitate the integration of these students. The aim of this research was to explore how students with ADHD and ASD can be best supported within higher education environments.

Methods

Two mixed methods studies were carried out simultaneously across four Irish HEIs. An online questionnaire consisting of Trinity Student Profile (Nolan, 2011) Adolescent/Adult Sensory Profile (Brown & Dunn, 2002), Occupational Self-Assessment (Baron, Kielhofner, Iyenger, Goldhammer, & Wolenski, 2006) and Irish Survey of Student Engagement (ISSE, 2013) was used in both studies. Individual student interviews were carried out in both studies. In addition, in the ADHD study interviews were carried out with staff members in student support services and in the ASD study a focus group with Disability Advisors Working Group (DAWN) members was carried out.

Findings

A number of difficulties with academic activities, social life and living skills were identified by both groups of students in the questionnaire and in interviews. This is illustrated in the tables below which show the results of the Trinity Student Profile.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Concern</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Person</td>
<td>Maintaining concentration during study</td>
</tr>
<tr>
<td>2</td>
<td>Person</td>
<td>Getting started with studying</td>
</tr>
<tr>
<td>3</td>
<td>Person</td>
<td>Procrastination</td>
</tr>
<tr>
<td>4</td>
<td>Occupation</td>
<td>Getting down to writing</td>
</tr>
<tr>
<td>5</td>
<td>Occupation</td>
<td>Dealing with work overload</td>
</tr>
<tr>
<td>6</td>
<td>Person</td>
<td>Concentrating during lectures and tutorials</td>
</tr>
<tr>
<td>7</td>
<td>Occupation</td>
<td>Balancing college work and life</td>
</tr>
<tr>
<td>8</td>
<td>Occupation</td>
<td>Managing free time</td>
</tr>
<tr>
<td>9</td>
<td>Occupation</td>
<td>Structuring or planning the essay or project</td>
</tr>
<tr>
<td>10</td>
<td>Person</td>
<td>Getting enough good quality sleep</td>
</tr>
<tr>
<td>11</td>
<td>Environment</td>
<td>Tolerating external distractions</td>
</tr>
<tr>
<td>12</td>
<td>Person</td>
<td>Knowing how best to study</td>
</tr>
<tr>
<td>13</td>
<td>Occupation</td>
<td>Writing study notes after class</td>
</tr>
<tr>
<td>14</td>
<td>Occupation</td>
<td>Organising Information</td>
</tr>
<tr>
<td>15</td>
<td>Occupation</td>
<td>Continuing writing, avoiding “writer’s block”</td>
</tr>
<tr>
<td>16</td>
<td>Occupation</td>
<td>Dealing with time pressures and deadlines</td>
</tr>
<tr>
<td>17</td>
<td>Person</td>
<td>Managing anxiety</td>
</tr>
<tr>
<td>18</td>
<td>Person</td>
<td>Managing negative thoughts</td>
</tr>
<tr>
<td>19</td>
<td>Person</td>
<td>Remembering what I have studied</td>
</tr>
<tr>
<td>20</td>
<td>Occupation</td>
<td>Finishing the work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domain</th>
<th>Concern</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Person</td>
<td>Managing Anxiety</td>
</tr>
<tr>
<td>2</td>
<td>Person</td>
<td>Managing Negative thoughts</td>
</tr>
<tr>
<td>3</td>
<td>Person</td>
<td>Managing stressful situations</td>
</tr>
<tr>
<td>4</td>
<td>Person</td>
<td>Procrastination</td>
</tr>
<tr>
<td>5</td>
<td>Person</td>
<td>Concentrating during lectures and tutorials</td>
</tr>
<tr>
<td>6</td>
<td>Person</td>
<td>Maintaining good mental stamina/endurance</td>
</tr>
<tr>
<td>7</td>
<td>Person</td>
<td>Being Confident</td>
</tr>
<tr>
<td>8</td>
<td>Person</td>
<td>Getting enough good quality sleep</td>
</tr>
<tr>
<td>9</td>
<td>Environment</td>
<td>Making friends outside college</td>
</tr>
<tr>
<td>10</td>
<td>Person</td>
<td>Being a perfectionist</td>
</tr>
<tr>
<td>11</td>
<td>Occupation</td>
<td>Dealing with work overload</td>
</tr>
<tr>
<td>12</td>
<td>Person</td>
<td>Maintaining concentration during study</td>
</tr>
<tr>
<td>13</td>
<td>Environment</td>
<td>Communicating with people</td>
</tr>
<tr>
<td>14</td>
<td>Occupation</td>
<td>Getting down to writing</td>
</tr>
<tr>
<td>15</td>
<td>Occupation</td>
<td>Working in groups</td>
</tr>
<tr>
<td>16</td>
<td>Occupation</td>
<td>Goal Setting</td>
</tr>
</tbody>
</table>
Results of the Occupational Self-Assessment and Irish Survey of Student Engagement also provided insight into many of the difficulties these students have. Patterns of sensory processing which differ from those of the general population were identified in both groups using the Adolescent/Adult Sensory Profile as shown in Table 3.

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Less than most people</th>
<th>Similar to most people</th>
<th>More than most people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Registration</td>
<td>ADHD</td>
<td>AS</td>
<td>ADHD</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>28.6% (8)</td>
</tr>
<tr>
<td>Sensation Seeking</td>
<td>42.9% (12)</td>
<td>60.7% (17)</td>
<td>46.4% (13)</td>
</tr>
<tr>
<td>Sensory Sensitivity</td>
<td>-</td>
<td>-</td>
<td>42.9% (12)</td>
</tr>
<tr>
<td>Sensation Avoiding</td>
<td>-</td>
<td>-</td>
<td>60.7% (17)</td>
</tr>
</tbody>
</table>

Recommendations for Supporting Students:

From the results of this study a number of recommendations can be made to enable support services to meet the needs of these student groups. These recommendations are divided into three categories; Person, Environment and Occupation.

Person:

- Explore sensory preferences for both groups of students - Adolescent/Adult Sensory Profile results indicated that students with ADHD and AS may have patterns of sensory processing which differ from those of the general student population. As sensory processing difficulties can impact on a student’s ability to engage in college life it is important that these issues are identified and that the student is supported to manage them.

- Job interviews/ Preparation – Preparation for work is something which students identified as challenging. In addition to supporting students to manage in college it is important to help them prepare for life after college.

- Promote and develop self-management skills for with those with ADHD – Many of the challenges identified by students with ADHD relate to executive functions such as planning, organising, managing time etc. Helping students to develop organisational and time management skills can help them to manage college and prepare them for life after college.

- Explore possible other issues – Difficulties with sleep, anxiety, anger, medication management and drug/alcohol use were identified as issues in this study. It is important that these issues are considered when working with these students.
Environment:
- Re-advertising Supports and following up with students – Although students recognised that supports were available to them many found it difficult to engage with these services. Forgetting appointments and forgetting to reply to emails/texts was also a problem for some students so continuous follow up is needed to ensure that students access the supports they need.

- Increasing the visibility of services through Posters and using newer technologies such as apps

- Training with staff on ASD and ADHD and how it affects the student performance- Many students noted that there was a lack of understanding from academic staff about their condition. Training with staff which focuses on the potential challenges for students with ADHD or AS and explains how to work with their strengths may be beneficial.

- Examine study/exam spaces for students and adjust to suit the student (noisy v. quiet) – It was clear in these studies that students had many different preferences for study and exam spaces. Exploring the individual needs of students and providing a range of study/exam environments can ensure that every student has access to an environment that suits them.

- Clubs and Societies Awareness Training – As being involved in societies was identified as a difficulty for students, especially those with AS, creating a programme which educates other students, particularly those involved in clubs and societies, about these conditions may be helpful.

- Examination – As continuous assessment and end of term examinations were mentioned by some students as more helpful methods of assessment it may be helpful to have different types of assessment in every course so all students can be assessed in ways which use their strengths.

- Orientation to course information – Understanding course structure was a difficulty for many students so supporting them to locate course handbooks and understand their course might help them to engage in their student role.

Occupation:
- Buddy systems for those with ASD to assist them in joining societies – Some students identified that having one person to attend events with them would be helpful if a buddy system could be implemented it may help some students to engage in social events

- Group Work – Group work was identified as challenging for both groups of students. It may be helpful to support students in disclosing to their group or to help them manage group dynamics. Ensuring that academic staff understand potential difficulties with group work may also be useful.
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Technologies and Strategies for Creating Universally Designed e-Learning.

Karl O’ Keeffe (Enable Ireland)

Introduction

This presentation will outline Enable Ireland AT Service’s experience in migrating their Foundations in Assistive Technology (AT) Certificate course from 10 days traditional “face to face” training to a blended style delivery with the majority of content delivered through eLearning. How, after some initial mistakes, through the use of UDL and new media technologies the new mode of delivery is more accessible, effective and engaging than the previous model.

Background

Enable Ireland Assistive Technology Training Service, with the support of DIT and Microsoft have provided an annual 5 ECTS (European Credit Transfer and Accumulation System) Foundations in Assistive Technology Course since 2002. The model upon which the original course was developed put an emphases on enabling all stakeholders involved in AT (AT users, friends, family and professionals) to come together, to learn about the latest developments in technology and service delivery, to use the equipment and to learn from the people who use AT on a daily basis. With over 300 graduates to date this course’s long running success is testament to this inclusive, practical, hands on approach which is even more appropriate today due to the rapid pace of technological development in the area.

So why try and change the tried and tested traditional course model if it was so successful? There are a number of broadly accepted reasons why an organisation in any field might choose to make training available online or partially online rather than using traditional face to face methods: Efficiency (in terms of time and cost for both those receiving and providing training), Effectiveness, Reach (scale) and Accessibility. By making some training available as e-learning, two of the biggest barriers are removed, i.e. time and geography. This is of particular relevance in the area of AT, where associated professionals tend to be geographically dispersed. Furthermore, uptake on the course had suffered over the previous few years for various reasons; weakened economic conditions led to less time and budgets available for training, increased staff workloads etc.

Initial Steps (in the wrong direction)

As previously outlined, the face to face course worked, but we needed to ensure it remained successful under these new conditions. Our initial question was “How do we replicate this model online?” We had learned from feedback surveys over the previous 10 years that participants consistently identified the following features of the course as being particularly valuable:
  - Meeting and conversing with AT users.
  - Practical hands on time with equipment.
Of course both of these pose particular challenges in an online environment but as we were proposing to deliver the course as blended learning (combination of both face to face and eLearning) we had the option of continuing to address these areas in the face to face sessions. In hindsight having this option actually slowed up our progress, we were asking the wrong question. Rather than asking ourselves “How do we replicate this model online?” we should be asking “How can we improve the course with online delivery?”

Back on track – UDL Approach

The SAMR Model is a framework developed by Dr Ruben Puenteudura to assist educators in integrating technology in the teaching and learning process. Although not strictly speaking designed for migrating face to face courses to eLearning, we found this approach along with the UDL checkpoints very helpful. We looked at the various elements of the face to face course and discussed them under the headings: Substitution, Augmentation, Modification and Redefinition. In our first attempts at creating eLearning we were very much taking the Substitution approach rather than looking at how we could redesign the content and approach (augment, modify or redesign). We chose the subject areas to be delivered as eLearning that we felt suited online delivery with the minimum of modification.

Working in the disability sector and in particular in AT, accessibility was a major concern for us. It is through our accessibility concerns that we became interested in Universal Design for Learning (UDL). Making the content accessible is the baseline however and not sufficient when it comes to educational content. UDL can elevate pure information to instructional content and in the process increases its accessibility. We use the CAST UDL checkpoints document as a reference during the design of the learning materials and as a way of evaluating our finished content. When we evaluated the 4 Pilot modules from 2012 we found that they were weak in the areas of higher learning (the affective) and failed a couple of checkpoints in the strategic area because we didn’t use multiple media or encourage flexibility. This is because as mentioned earlier, we were taking a substitution strategy. We were sticking with text because we didn’t have the resources to put together accessible multimedia content and we chose the modules based on that. We also weren’t properly utilising the features of the LMS which are designed to facilitate learning in the lower part of the evaluation sheet (affective area, engagement and motivation). Over the subsequent three iterations of the course through the use of the UDL Guidelines and new media technologies we have significantly improved the evaluation results of our content. In the next section I will outline some of the technologies we used to create our current course and achieve the improved evaluation results.

Technologies

One of the most significant improvements to our content over the last few years was thanks to of use of Xerte. Xerte is an open source Web based content authoring and delivery platform. It encourages good practice when authoring learning materials and has allowed us to standardise our user interface. It allows linear or menu based navigation, is keyboard accessible and offers
the facility to change the colour of the text and background. To assist in both the recognition and strategic areas we also embedded the TextHelp SpeechStream toolbar web app into Xerte by placing a button on the bottom left of the Xerte interface to allow the participant to turn on the toolbar if needed. The SpeechStream toolbar provides high quality text to speech with highlighting, dictionary, a text highlighting and note gathering feature.

The main reason that the 2012 pilot modules were weak in the affective areas of UDL was because we hadn’t utilized the most effective tool at our disposal which is common to all LMS, the Forum. With proper use the Forum can be the most valuable tool for engagement and motivation. In order to foster participation and collaborative practice instructors should become facilitators and be available to guide discussions on the forums, respond to messages and questions and offer timely and supportive feedback. It is a good rule of thumb when allotting time to facilitate a module to heavily weight it in favor of the first few weeks. This is the time most support will be needed and once people start participating early in the collaborative aspects of the module they are more likely to continue. We also encourage the use of multimedia on the forum.

This brings me back to the two aspects of the original Face to face AT course that people found most valuable and that we avoided because we couldn’t “substitute” them with an online activity.

Meeting and listening to the experiences of AT users; For the last two courses we have built on this feedback and Augmented and Modified this activity by commissioning an AT user who presents in person on the first day to continue working on the forum for the duration of the course. This has worked really well and has been a huge boost to forum engagement. Subjects and topics get discussed that would never have been covered in a brief presentation. As participants learn they have new questions and ideas that they can relate to a real world situation. The AT users have both been really proactive bringing a massive amount of additional value through their experience and technological awareness. We have built on the practical hands on aspect of the course using the forum also. Course participants are now invited to browse our internal AT loan library and select equipment to borrow on a long term loan. This gives them the opportunity to thoroughly familiarise themselves with their chosen equipment and also try it out with clients. Those who take up this offer are asked to post a product review, tutorial or account of your experience on the forum in the format of their choice (text, audio or video).

**UDL is Achievable**

The downside of UDL is that it costs time and therefore money/resources. Creating anything to a very high standard takes longer, but the added value makes this a worthwhile investment. Some suggestions for making it a bit easier might be to reuse content that has already been made to a UDL standard. There is a massive resource instantly available of video, audio, photography, illustrations, animations all under the creative commons (CC) licence that can be reused, remixed and repurposed. Many prestigious third level institutions also release learning materials under the CC licence.
Another idea would be to cooperate and collaborate with others. Organisations could pool skills and resources to create content. Enable Ireland’s AT Service is currently partnering with Dyslexia Ireland to produce eLearning about Literacy Support Technologies. This is an example where two organisations with complementary strengths can come together to increase the quality of the end product while halving the work. We are beginning to see some movement towards the international sharing of UDL content and strategies. UDLnet is a European network of which Enable Ireland is a member. As part of their remit, UDLnet are creating a web based platform to grow a European community of UDL educators where ideas and content can be freely shared. Platforms like this where we can build up repositories of high quality materials will greatly reduce the burden because not all content will have to be created from scratch. Another good example of organisations cooperating to create high quality UDL content in a specialist area is the MOOCA project that DIT are involved in. DIT are working with a range of other European third level institutions to create a massive open online course on Universal Design, Accessibility and AT aimed at ICT Professionals.

Future Work

Audio is the perfect medium for mobile learning. Offering additional or alternative audio content offers people the opportunity of learning in many situations that wouldn’t be possible with other media; in the car, while jogging or cycling. Some people just learn better by hearing rather than reading or looking. So over the next year we are going to start supplementing our text and video content with high quality 20 min Podcasts on a range of AT and accessibility related topics. Our second aim is directly related to our first, although perhaps somewhat less appealing. If you produce any significant quantity or video or audio subtitling and transcribing is a constant battle. We hope to look into using the crowd sourced subtitling platform Amara.org to see if that might offer a solution.

Conclusion

New technologies and new media mean new opportunities. Don’t just substitute, modify and transform. Accessibility is the baseline but don’t let this restrict you or your participants, be creative. Used well, the Forum will be your most useful tool for engagement and motivation. Reuse and share content and ideas, there’s lots of good stuff out there! Finally, partnerships are key; identify likeminded organisations with complementary skills.

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The Development of Digital Study Material for Learners with Intellectual Disabilities in Post-Secondary Education

Dr. Treasa Campbell (Mary Immaculate College)
Orla Slattery (Mary Immaculate College)

Introduction

This paper summarises the development of learning objects, which we have termed Guided Interactive Study Objects (GISOs), to support the learning of adults with Intellectual Disabilities completing ‘The Certificate in General Learning and Personal Development’ (CGLPD) at Mary Immaculate College, Limerick. The principle goal of the initiative was to build study materials that would reinforce in-class learning by providing students with supports to engage in active learning during independent study.

Description of the Program

The CGLPD is designed on an inclusive model of education. It is uniquely tailored to enhance the academic, social and personal development of learners with intellectual disabilities in a mainstream educational setting. The CGLPD has been developed in partnership with a number of key stakeholders from across the sector, including the Brothers of Charity (Clare) and Enable Ireland (Limerick). The program development was informed by national policy documents such as the 2012 HSE report New Directions. This document emphasises the need to create mainstream opportunities for people with intellectual disabilities and places “a premium on community inclusion.” (New Directions, 2012: 15). The CGLPD is designed with a view to enabling students to obtain recognised credits through the FETAC system. Participants can choose from a range of level 4 minor awards. Participants can also audit mainstream undergraduate modules and/or undertake a range of specialised modules under the guidance of a dedicated teaching team. One strand of the program leads to a major award, this strand comprises of eight modules delivered over a two-year period. This accredited certificate programme links to the ‘National Framework of Qualifications’ and provides students with a gateway to further education and training. The Guided Interactive Study Objects (GISO) were developed for both the ‘Mathematics and Financial Management Module’ and the ‘Interpersonal Communication Skills Module.’

The design and implementation of this new programme was driven by the need to provide participants with the same equity of access to education as their mainstream peers. These include the opportunity to obtain a recognised qualification, to access a wide range of learning options and to participate in mainstream educational and social settings. Our aim was to maximise the potential of the FETAC/QQI system. Exploring opportunities to provide students with a genuine college learning experience, while offering exposure to the same conceptual landscape as their mainstream peers, at an ability appropriate level. In order to operate within the FETAC/QQI...
system, all providers must conform to the requisite quality standards. Our learner profile is among the mild to moderate range and covers a wide range of learning preferences and styles.

Supporting Students Study Activity

The subject matter covered at level four poses a significant challenge to students in the course target group. If students are to meet the demanding learning outcomes set for the various course modules within the FETAC/QQI system it is essential that they engage in effective and intensive study. During in-class activities we ensure that students are engaged in active learning (Bonwell and Eison, 1991) through the design of teaching materials and interactions with tutors, mentors and fellow students. We sought to support our students to actively engage with the material covered in-class in the same thoughtful, purposeful ways during their independent study time. Having been provided with lots of support to facilitate their in-class learning, it was essential to ensure that students were not simply cut adrift during their crucial study time. In developing these study supports we wanted to balance the need for supported study opportunities with the desire to foster independent study skills. For this reason we sought to adhere to ‘The Gradual Release of Responsibility Model’ or GRR Model (Fisher and Frey 2008) in which the goal of guided instruction is to guide students toward using different skills, strategies and procedures independently. The type of study support we envisaged was one in which the activities were guided and interactive, providing students with supported, out of class, active study opportunities.

Given the distance from onsite teaching supports during student independent study time, we turned to the field of Blended Learning Education (Bonk and Graham, 2006) to find possible solutions. There are many distinct blended learning models all of which vary in the degree to which they see digital tools supplementing or replacing face-to-face instruction. The hidden curriculum of social interaction and community engagement as well as visibility and inclusion in a mainstream setting is key to meeting the learning objectives of the program. For this reason our goal was to design computer-mediated activities that would reinforce face-to-face classroom learning rather than replace it. To this end, we set about building learning objects that combined the revision of information covered in class with self-assessment elements. A learning object can be defined as a web-based interactive chunk of e-learning designed to explain a stand-alone learning objective. (RLO-CETL)

Construction and Design Rationale

A Guided Interactive Study Object (GISO) was first developed for the ‘Interpersonal Communication Skills Module.’ This module comprises of six individual learning outcomes each requiring its own GISO. We used existing study resources such as lecture notes, video tutorials and class handouts to identify the vocabulary used to convey key concepts. This vocabulary was replicated in each GISO to ensure the consistency of material and presentation across the module. Drawing on this content we developed a script for a GISO that would revise the class material relating to the designated learning outcome. This script contained the narrative for the
object. We then built the activities using Articulate Storyline e-learning authoring software. This software was selected primarily for its ability to generate interactive e-learning elements without programming.

Our design and content choices were guided by the principles of Universal Instructional Design (UID). Given the diverse learning needs of our student group utilising a Universal Instructional Design model was essential to ensure equal access to learning. According to Burgstahler (2004), Universal Instructional Design is “the design of instructional materials and activities that make the learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember.” (2004: 9). We wanted each GISO to be accessible to diverse learning needs and styles. Great efforts were made to accommodate a wide range of design features that were accessible to all students without the need for adaptation. Once the first prototype was built we recruited students to join us in the design process. Using the prototype as the basis for discussion we began to make changes. It was essential for us that the voice of the learner would not be excluded from the design process. Participatory design (Konings, Brand-Gruwel, Saskia & van Merriernboer, 2010) includes any initiative that has as its basis the involvement of the end-user in the design process. The Participatory Design process we engaged in led to key additions and rewrites.

Evaluation and Deployment

Once the design was finished we moved to the testing phase where we carefully monitored a separate group of students completing the activities. The monitors did not help the student with the activity they observed and made notes of various difficulties students encountered. When the students completed the exercise they were then asked questions to establish if difficulties they may have encountered were related to the clarity of layout and instruction or if they arose as a result of difficulties in understanding the module content. As a result of this process additional alterations were then made. The entire process from script development to testing was then repeated for each of the learning outcomes until the full suite of GISOs were completed for the Module. The GISOs were then added to the study resources stored on the module page in the Internet-based learning management system Moodle. Students were strongly encouraged to use them in conjunction with their lecture notes to assist them in getting the most out of their study time. Plans are currently underway to design a process of evaluating the impact that the GISOs have on student experience, performance and transferable skill base.

Conclusion

Providing students with effective guidance in their study is an important part of the supports students require to successfully complete a level four program such as the CGLPD. Transitioning from a dependant learner to independent study is not an inevitable process for all students but one that requires deliberate and focused interventions on the part of course providers. In providing guided revision and self-assessment opportunities, GISO’s make a valuable contribution to the process of fostering active independent study. In addition they provided a valuable
resource to assist students in attaining their learning goals and successfully completing their assessments.

References


The New Frontier: Universal Design & reasonable accommodations on professional placements

Declan Treanor (Trinity College Dublin)

The challenge for professional courses and practice educators is to develop professionally-defined, workable, and reasonable accommodations (RAs) that are appropriate to the practice setting, and are easily managed by the disabled student. This new frontier paper explores how universal design principles can assist this challenge.

Trinity developed the Trinity Inclusive Curriculum (TIC) Strategy in 2008 to assist academics in making an inclusive curriculum. Universal Design (UD) is a ‘common sense approach’ (Institute for Human Centred Design, 2011) and moves beyond accessibility for disabled users, to recognise and respond to the great diversity of the human population. The Centre for Applied Special Technology (2011) presents an alternative description of UD for learning as providing multiple means of representation, expression and engagement. This means that information is presented in diverse ways, assessment methods allow for alternative means to express understanding, and teaching is done in such a way as to stimulate interest and motivate learning.

Trinity has combined and simplified elements from both approaches when describing inclusion, and advises lecturers to strive for flexibility and clarity, as encapsulated in Figure 1 below. Trinity has devised five steps towards inclusion:

1. Flexibility in placement methods. Placement design builds in a range of inclusive methods to accommodate diverse backgrounds and learning preferences.
2. Flexibility in assessment methods. Placement design builds in a range of assessment methods to accommodate diverse backgrounds and learning preferences.
3. Flexibility in placement materials. A range of placement materials is used to accommodate diverse backgrounds and learning preferences.
4. Clarity in placement outlines and requirements. Documentation is accessible, responsive to student needs, and available on time to allow optimal preparation.
5. Clarity in placement materials. Materials are accessible and available on time to allow optimal participation.
While there is extensive literature on the theoretical basis for inclusion and UD for learning, there has been limited empirical research into outcomes and use in placement (Roberts et al, 2011; Shelly, Davies and Spooner 2011). Research addressing inclusive assessment strategies has reported that clarity regarding academic expectations can contribute to student success and attainment (Hills and Thom, 2005), and that offering choice and flexibility in assessments is experienced positively by both staff and students (Garside et al, 2009; O’Neill, 2011). Hence the literature indicates that the move towards an inclusive teaching and assessment environment is one that benefits all students.

The professional placement planning programme (Programme) developed in Trinity has allowed all stakeholders to open a dialogue, discuss placement design & RAs, implement in practice, feedback and ultimately develop a catalogue of clinical RAs that can be further enhanced as the process is rolled out across the sixteen professional courses in Trinity. Three strands were developed to facilitate the Programmes inclusive design implementation across all elements of the course from pre-entry to placement success.

**Policy and Procedural strand:** The College had developed clear policies (Fitness to Practice policy specific section 4 dealt with reasonable accommodations for students with disabilities). To ensure adherence to this policy the Disability Service developed a professional placement planning process which was trialled with 20 students in 2013-14 (appendix 4). This process allowed for reasonable accommodations on placement to be discussed, developed and trialled on placement. Information and resources to support all stakeholders were developed:

- **Guide for students with disabilities on professional placements**;

![Figure 1 - the interconnection between flexibility and clarity for inclusion on placement.](image-url)
• **Professional Placement reasonable accommodations** explained (website and booklet for practice educators and students – outlining all reasonable accommodations that can be applied to placement situations with real examples);

• Inclusive design of professional programmes - The TIC online self-evaluation tool ([www.tictool.ie](http://www.tictool.ie)), has been developed to provide staff seeking to enhance the inclusivity of their teaching practices with the opportunity to complete a comprehensive evaluation of these practices and to get feedback on changes they might make to them for the benefit of their students. Areas reviewed see appendix 1.

![TIC tool](image)

**Figure 2 - Evaluation options on the TIC tool**

**Research strand:** A research project ‘A Model Of Support For Students On Professional Placement In College’ which resulted in a publication in the International Journal of Inclusive Education (Nolan, et al 2014). Findings revealed that Professional Educators were found to be concerned with students reaching the professional standard, and how to support disabled students. Students, on the other hand, identified stigma and disclosure of a disability as a concern. Disclosure of disability is still a significant issue with over 50% of students on course such as nursing and medicine not disclosing a disability to the course or to the work place.
Disability Support Service strand: A clearly defined placement support process was developed for students and Practice Educators (PEs) to work collaboratively to ensure students with disabilities can participate effectively on placement. Elements of the programme include:

- Programme explained and level of engagement decided: see Appendix 3.
- Practice Educator Responsibilities defined: level 3 student engagement makes this clear and the Placement report articulates this clearly.
- RAs and resources (booklets) relevant to placement were defined with clear evidence that they can work in placement (Appendix 2).
- Placement Planning Report: LENS for placement outline the students’ requirements.

Review of Programme

Regular review of RAs is required. Annual (or more frequent) review is carried out by the Disability Service, and departments and placement educators should also review supports for disabled students on a regular basis. An audit of 2013-14, in which 20 students participated in level 3 of the programme (Appendix 4), showed most RAs requested were accepted by PE and worked well. Feedback from both parties has allowed the Programme to develop and will continually be enhanced. It has demystified RAs on placement and ensured PE are aware of what can be done to support students with disabilities. Most importantly it raised confidence in students, allowing them to positively disclose their disability and manage their disability on placement. The supports, when deemed successful, in that they alleviate the disadvantage caused by disability, enabled the student to compete on an equal footing to other students, and it is expected that they will be assessed as with any other student.

Issues and conclusions: Universal design applied to professional placement can assist all stakeholders in ensuring students are properly supported. The resources required and ownership of the process needs to be work through to ensure it embedded in to the professional course. The lack of consistent information at all levels from pre-entry, through the course material, learning outcomes and competencies on to employment for disabled students, is also an issue requiring attention. There is also significant disconnect between professional bodies and regulations, the laws governing professional registration and equality legislation in which universities are required to operate.

Appendix 1: Guidelines for Inclusive Teaching, Assessment, and Supervision

http://www.tcd.ie/CAPSL/TIC/guidelines/

Universal and inclusive design required that the Trinity Inclusive Curriculum principles are adhered to http://www.tcd.ie/CAPSL/TIC/guidelines/. A review of all information including admissions, course documentation, occupational health information forms and learning competencies measured on placement is important and required. Improving the learning and
placement landscape add significantly to the professional courses, placement and professional bodies taking the disability reasonable accommodation agenda on and ensure good practice is developed.

- **Course Design:** How to enhance inclusivity within the design of programmes and modules to ensure your teaching foundations are inclusive.
- **New Students:** How to enhance inclusivity within the application process and student induction/orientation to ensure prospective students make informed choices, and new students settle down easily within your programme of study.
- **Physical Environment:** How to enhance inclusivity within the teaching environment to ensure it is an effective environment for learning.
- **Teaching Methods:** How to enhance inclusivity within your teaching methods to ensure student engagement and effective learning.
- **Supervision:** How to enhance inclusivity within the supervision process to ensure research student engagement and effective learning/researching.
- **Off Campus Teaching:** How to ensure off campus teaching including placements is inclusive and accessible to all.
- **Inclusive Assessments:** How to enhance inclusivity within common assessment methods to ensure students are given the opportunity to demonstrate their attainment of learning outcomes effectively.

**Appendix 2: Reasonable Accommodations on Placement**


- Maintain confidentiality/do not disclose to other students, staff or clients of the service
- Disclosure of disability
- Allow student to choose placement option
- Provide accessible placement locations
- Pre-placement visit
- Allow an assistant to attend placement with student
- Flexibility of scheduling of attendance as appropriate
- Flexibility on placement deadlines as appropriate
- Allow or provide time and space for the student to take rest breaks, self-administer medication or monitor blood sugar levels as required
- Allow additional time to develop practical placement skills
- Allow student to record notes and alternative administrative management strategies on placement
- Managing Handovers - Allow extra time to prepare for handover. Receive verbal patient handover with peers and additional one to one handover to review patient notes and ask questions
- Provide daily/regular feedback on progress on placement and as requested.
• Provide relevant placement procedures and information in alternative formats or as enlarged copies if required.
• Adaptation of placement working hours and/or days
• Avoid or reduce manual/patient handling tasks
• Allow student to use assistive technology such as a digital recorder, laptop etc.
• Personal Emergency Evacuation Plan
• Management of Risk for Students with Disabilities

An example of a reasonable accommodation:

Allow student to choose placement option

Some students may have a number of disability related reasons why they may need to select their placement venue. Some students will have difficulty travelling significant distances due to a physical or medical disability. Other students may not be ready for particular placement settings or types of settings such as a mental health placement or a physically demanding placement; such as A&E. Additionally, some students may opt to have a placement where there is additional support such as a Practice Tutor who also meets with the student regularly to support them on placement. Options can be discussed well in advance with the placement co-ordinator.

Examples: Sean is training to be a teacher and has a physical disability. He is unable to use public transport and relies on taxis to get to College and placements. He has met with the Placement Coordinator to discuss placement options and was given support in identifying a suitable school close to where he lives.

John has a physical disability and is in his first year in OT, he has a 2 week placement, and following discussion with the practice placement coordinator was able to negotiate to get a placement closer to where he lived in Dublin.

Mary is training to be an OT and following discussion with her practice coordinator was able to request a more supportive placement environment where a Practice tutor was available weekly for additional support.
Appendix 3: Procedures for assessing reasonable accommodations on placement in Trinity

The professional planning process involves a discussion at the initial needs assessment when the student registers with the Disability Service.

Student is referred to the Unilink Occupational Therapist to discuss course and placement requirements and student decides what level of support they require:

Student engagement in the programme:

At Level 1, Students have a general discussion with their Disability Officer about placement and any disability issues. The student may decide that no support is required and they will self-manage, knowing support can be requested if required. At Level 2, Students decide they need some assistance with managing placement and they are referred to an Occupational Therapist to do a Self-assessment of placement requirements and RAs, and placements are discussed. Students also discuss disclosure of disability and how to manage disability-related issues on placement. At that stage - or later – the student decides whether or not they wish to proceed to
the Level 3, formal placement planning meeting stage which involves organizing a meeting with academic staff, placement staff and/or work based placement coordinators. Decisions on what RAs are necessary for the student to participate on practice placement.

Following this meeting, the student’s **Professional Placement Report** is produced which explains their reasonable accommodations for practice placement. With the student’s consent and agreement, this Placement Planning Report is then circulated to selected individuals within the department or school and then forwarded by them to the placement staff concerned.

At the beginning of the placement the student should meet their placement supervisor to confirm practice place reasonable accommodations and talk through these to ensure they are understood and fit for purpose in the placement situation.

Feedback throughout the placement is essential and all parties should ensure this is given - not just towards the end of the process.

Any difficulties arising with implementation of practice place reasonable accommodations should be discussed with all parties and revised accordingly to ensure the student are supported to meet the core competencies required.

If required, a review meeting will take place with all parties to ensure the student is reasonably accommodated.

**Appendix 4: Audit of students on professional courses 2013-14**

**Student demographics**

**Gender**

The vast majority of students in this pilot were female, probably representative of the overall student body on the professional courses listed below.

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>18</td>
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</tbody>
</table>

**Course**

The majority of students participating in the programme were in nursing and midwifery courses (67%) with the remainder mostly in the therapies.

<table>
<thead>
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<tbody>
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<tr>
<td>Year of Course</td>
<td></td>
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<tr>
<td>----------------</td>
<td></td>
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<tr>
<td>First</td>
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<tr>
<td>Second</td>
<td>3</td>
</tr>
<tr>
<td>Third</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Post grad</td>
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<table>
<thead>
<tr>
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<tr>
<td>Physical</td>
</tr>
<tr>
<td>ADHD</td>
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<tr>
<td>ASD</td>
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</tbody>
</table>
Reason for Placement planning

Reasons for participating in this programme varied, with students entering College wanting to prepare for placement, those experiencing significant stress and anxiety issues and failing placement all equally sharing the majority of reasons for participation.

| First year PPPP introduced as part of Needs assessment | 4 |
| Experienced stress & anxiety on placement | 4 |
| Failed a placement referred to DS for support | 4 |
| Disability issues and concerns | 4 |
| Meetings/ speaking in public/ presentations/ carrying out specific tasks/ interacting with public | 3 |
| Fatigue issues | 1 |
| Sought support with placement planning from DS | 1 |

Impact of disability on placement

When students were asked about how their disability would impact upon them whilst on placement most students gave a variety of answers. The most common reasons were fatigue and stamina issues, along with stress and anxiety relating to placement. Issues relating to report writing and communication rated highly. Others issues, such as concentration issues, physical access and mobility and management of disability in the workplace (attendance issues and flexibility) also rated highly. Students gave 59 impact indicators.

<p>| Fatigue and Stamina | 11 |
| Stress &amp; anxiety related to: attendance/ self-confidence/ groups/ formal | 11 |
| Communication: verbal, written, non-verbal | 7 |</p>
<table>
<thead>
<tr>
<th>Reasonable Accommodation while on placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students who participated in the programme on average had 3 reasonable accommodations recorded. The most important being confidentiality and disclosure management. This was followed by requesting feedback on a regular basis. Permission to take rest breaks and pre-placement or early induction into placement rated highly. Students gave 83 reasonable accommodation requests as listed below.</td>
</tr>
<tr>
<td>Maintain confidentiality/do not disclose to other students, staff or clients of the service</td>
</tr>
<tr>
<td>Provide daily/regular feedback on progress on placement</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Allow or provide time and space for the student to take rest breaks</td>
</tr>
<tr>
<td>Pre-placement visit or early orientation of site and staff working there</td>
</tr>
<tr>
<td>Allow additional time to develop practical placement skills</td>
</tr>
<tr>
<td>Managing Handovers - Allow extra time to prepare for handover. Receive verbal patient handover with peers, and additional one to one handover to review patient notes and ask questions.</td>
</tr>
<tr>
<td>Adaptation of placement working hours and/or days</td>
</tr>
<tr>
<td>Flexibility of attendance as appropriate e.g. attend medical or support meetings</td>
</tr>
<tr>
<td>Allow student to record notes and alternative administrative management strategies on placement e.g. using assistive technology</td>
</tr>
<tr>
<td>Allow student to use assistive technology such as a digital recorder, laptop etc.</td>
</tr>
<tr>
<td>Disclosure of disability</td>
</tr>
<tr>
<td>Allow student to choose placement option</td>
</tr>
</tbody>
</table>
### References:


The SKYPE’s the Limit: Opportunities to enhance the educational experience for students and staff

Kerry Pace (Diverse Learners)
Andrew Pace (Diverse Learners)

Introduction

The use of technology in HEIs to increase curriculum accessibility has dramatically increased in recent years (REF), and students are able to access online platforms that support learning environments. Less widespread is the use of telecommunications software applications in student support. This paper presents an example of the use of Skype*, a popular telecommunications software application often shipped with PCs, laptops, and many mobile devices, as a simple and powerful method of promoting access to support for students. As part of an ongoing development in student support, a project was undertaken at Hull University in 2012, in which Skype was trialed as a method of promoting student access to support, particularly amongst health and social care students whilst on placement, and those students with Specific Learning Difficulties (SpLD) and/or mental health difficulties. The feedback from students and staff was very positive. However, the institutional response to the project (HEI and NHS) was less positive, reflecting a reluctance to adopt and adapt technological innovation. The validity of Skype as a tool in promoting student engagement has been borne out through the founding and success of our company, Diverse-Learners, which provides both support to students and training in the use of Skype to universities.

Background

The Skype project in 2012 developed from screening and embedding projects which took place between 2007 and 2011, co-funded by University of Hull Student Support Services, HEA Health Sciences and Practice Mini-Project Funding, Yorkshire and Humber Strategic Health, and carried out by Wray et al (2011, 2012). A cohort of pre-registration nursing and midwifery were screened for dyslexia, using the Adult Dyslexia Check List (ADCL), and those students identified as ‘at risk’ of a SpLD were invited to attend targeted study skills sessions (SSS) delivered by a Specific Learning Difficulties Tutor and the Student Support Lecturer (SSL). All students were encouraged to access additional testing and support through Disability Services to confirm the identification/diagnosis, and data was recorded on the number of students accessing the SSS and attendance patterns.

The recommendations of the screening project were embedded in Nursing and Midwifery degree course, in 2009, as part of the first module, raising general awareness and understanding of SpLD, promoting speedier identification of SpLD and access to Disabled Students Allowance and services (rather than at crisis point). Staff awareness of SpLD also increased across faculty, promoting engagement and development in alternative study skills resources.
Skype project

The NSS survey (NSS, 2011) found a recurring issue for students was that of staff availability for support, an issue mirrored in comments collated from students via focus groups and evaluation forms during the screening and embedding projects with the Faculty of Health and Social Care and Sport Rehabilitation. Although access to staff support is a recurring theme for MOST STUDENTS NEED REF, those students with placement elements to their course find it particularly difficult, as they are off campus during ‘office hours’. The use of Skype was initially used in Student Support Services in response to the student voice for an alternative way to access for support whilst at university, especially on placement. The LTSU-funded project ‘Enhancing Student Support via Telecommunications’ (Pace, 2012) sought to address these access issues, and followed the university drive to enhance student experience by “going beyond” (University of Hull, 2011).

The project looked into the use of Skype across the whole university but no coherent policy was found and the use Skype was being undertaken on an individual, isolated basis that reacted to a need. A ‘café-style’ learning event was set up in the Faculty of Health and Social Care where staff were trained in the use of Skype, and staff were informed of Skype Project Blog where news about Skype, the project, and its usage in the University could be shared along with usage tips. The blog can be viewed at: http://slb-ihall.hull.ac.uk/skypeprojectblog. Three mobile devices were selected across three different platforms, and three students were allocated these to access support whilst on placement, with protocols having been established that took into consideration the concerns from clinical placements around issues of patient confidentiality and data protection. Feedback from students and staff was positive, and underlined the flexibility, functionality, immediacy and ease of use of Skype.

Despite this, however, there was an institutional inertia in moving forward with the findings of the project, and developing a more widespread use of Skype, and this lead to Kerry Pace setting up her company, Diverse-Learners, which provides all SpLD tuition, Assistive Technology training, and mentoring solely via Skype, as well as train institutions in the use of Skype-based support services for their students. It has the experience of Diverse Learners that Skype is ideal in promoting engagement through increased access and inclusion.

References

Pace K, (2012) Enhancing Student Support via telecommunications, University of Hull https://hydra.hull.ac.uk/assets/hull:5256/content accessed 07/03/15

University of Hull (2012) “Skype blog”, http://slb-ihall.hull.ac.uk/skypeprojectblog accessed 07/03/15


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The Transition of the Use of Assistive Technology from an Educational 3rd level setting to Workplace Environment

Andrew Costello (Trinity College Dublin)

Background:

The transition of students from a 3rd level education to a working environment can be a complex and challenging proposition especially for students with a Disability. The Disability Service Trinity College Dublin via Career Pathways project emphasis the need to assist students with disabilities as they progress through higher education and move into the workplace. The use and transition of Assistive Technology is promoted as a support the student can manage their disability in different environments.

Evidence Base:

The level of people with a disability working in employment is disproportionate compared to the able-bodied population. The recent 2011 census statistics have shown 33% of people with disabilities of working age are employed, compared to 66% of nondisabled people (Ireland and Central Statistics, 2012). However, most disabled young people see work as vital to their life as it gives them status, independence and choice and allows them achieve “adult status” (McGinty & Fish, 1992).

The use of assistive technology in the workplace is low, a comparable report by the British Assistive Technology Association on research into assistive technology in the workplace states: “that employees are generally reluctant to declare a disability at work. Whatever the reasons for this – fear of losing a job, being passed over for promotion or feeling stigmatised – it is clear that an essential pre-requisite to the wider and more effective use of AT is a management culture within which an employee is offered or feels comfortable enough to ask for support to identify, provide, and maintain whatever AT they need” (British Assistive Technology Association (B), 2013).

The use of assistive technology and its benefits should be viewed as a skill/attribute potential employees possess. Feeling stigmatized around the use of such enabling technologies reduces the user’s self-confidence and minimizes their potential job opportunities.

Introduction:

This research was developed as a part of an MSc in Computing (Universal Design & Assistive Technology) Dissertation by Andrew Costello (Assistive Technology Officer, TCD). The aim of this project was to explore the transition from education to employment for
assistive technology users and to develop a framework for a transition planning assessment tool to enable the transfer of assistive technology supports between Educational and employment environments.

**Objectives of the Programme:**

- Develop an experiment based on literature that will ascertain and evaluate the enablers and barriers to Assistive Technology use/satisfaction of current 3rd level students and compare this against a graduate viewpoint of use of Assistive technology use/satisfaction in a workplace environment.
- Gain feedback and views on the use of assistive technology from a selection of current Assistive Technology Officers and employers.
- Develop a framework/exit strategy for the successful transition of acquired assistive technology skills from an educational environment to and Employment environment.
- Provide recommendations for any future research in this area

**Research approach:**

This research used a two phased approach to enable themes to evolve on the barriers that exist in the transition of assistive technology to a working environment:

**Phase 1:**

A qualitative life time history methodology approach to make a connection between the users’ events in the use of technology and activities in which the technology has been used. The life history approach places “narrative accounts and interpretations in a broader context – personal, historical, social, institutional, and/or political” (Hatch and Wisniewski, 1995).

The relevant data was collected using a life history methodology from eight students; 4 current and 4 past students of Trinity College Dublin under the follow broad terms:

- Support channels
- Evaluation of need – match of technology
- Institutional culture

**Phase 2:**

In addition to using a one-to-one interview process to evaluate and assess the participants, the use of the modified QUEST tool (Demers et al, 2002) provided quantitative data on the participants’ satisfaction with two aspects of their present assistive technology use – the use of the technology itself, and the support network available to them.

The purpose of the QUEST questionnaire is to evaluate how satisfied the user is with their assistive device and related service experiences.
Evaluating Themes results: Phase 1

5 main themes were extracted by the participating students:

1. Support Environment

The Support topic highlighted benefits of expert assistive technology support available to the participants while in an educational environment, following this, in a work setting, a lack of expert support results in frustration that curtail the transition and satisfaction with assistive technology.

2. Assistive Technology Design and Procurement

All eight participant themes commented on the usability, high cost and use of low tech supports such as mobile apps in breaking down barriers in accessing information in an accessible format.

3. Ability and Perception

These themes centred on the independence gained from engagement in such technology, Exclusion and perception factors that prohibit the disclosure of such need and how their non-use of their AT creates barriers.

4. Assessment of Need

Results show the advantages of such a formal process to set expectations and build supportive relationships for further training as needed. Results from graduate participants highlight the non-existence of a similar process in an employment environment and the barriers that occur as a result.

5. Legal Provisions

The lack of awareness of these provisions by the younger participants strongly contrasted with a greater knowledge and use from the mature participants. The sentiment of a lack of enforcement and available loopholes were also noticeable.

Quest Result Phase 2:

The below table shows a contrast of satisfaction with the use of Assistive technology in contrasting environments. With an educational setting there was a high level of satisfaction of users with both their device and support. This is in contrast to graduate participants where there is a poor dissatisfaction rating of support level.
Development of an exit Assessment – Matching Employees and Technology (MET)

This research resulted in the drafting of an exit assessment for use by students looking to transition to a working environment. This assessment is currently part of an active worksheet students are encouraged to engage with via an online e-portfolio system – Pebble Pad, as part of the Career Pathways Service within TCD.

- The MET assessment tool is designed to be a concise assessment allowing both the exiting student or current employee to highlight areas of concern for future use of assistive technology that may have been previously used within an educational environment.
The MET also aims to provide a potential link to external resources, which may be a government agency or educational disability service for expert help if needed by the employer. The MET highlights the potential use of open source software, either free or low cost, as an alternative, and to eliminate the barrier of cost.

Figure 3 Screenshot from the Pebblepad E-Portfolio system

Future Work:

- To get further feedback on the effectiveness of the Matching Employees with Technology Assessment (MET); a future roll-out and piloting within an existing employment area could be looked at. This further work could engage fully with the respective management structures and view current existing employment policy along with any potential employee requesting or presently using assistive technology accommodations.
- Future work coming from this investigation would be an extended pilot involving a greater cohort of students across separate higher education institutions. Increasing the use of the MET amongst a greater cohort of current education students would increase validity of the study and allow for a greater integration of the MET amongst a wide range of disability cohorts.
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Trends in the Participation of Students with Disabilities in Higher Education in Ireland

Dara Ryder (AHEAD)

Ann Heelan (AHEAD)

In order to ascertain the number of students with disabilities in the Irish higher education system for the academic year 2013/2014 who were registered with a Disability/Access Service, AHEAD surveyed all HEA funded Higher Education Institutions plus one non HEA funded institution (with a large volume of students and thereby considered too significant to omit). A structured questionnaire was sent out and responses were received from 28 institutions. Following data collation and analysis, the following represent the most salient findings emerging from the research process concerning students with disabilities in higher education for the academic year 2013/2014:

- 28 HEI’s in Ireland identified a total of 9694 students with disabilities representing 4.7% of the total student population.
- 2310 of these were new entrants, representing 29% of the disabled undergraduate student population.
- 2185 of these were final year undergraduates, representing 25% of the disabled student population.
- The participation rate of students with disabilities in full time courses (5.4%) is almost 5 times the rate in part time courses (1.1%). Only 4% of students with disabilities study part time courses, well below the national average of part time students at 7% and below the national target for participation of part time students in higher education, which is at 17% of the total student population1.
- In terms of disability profile, the vast majority of students with disabilities have a specific learning difficulty (50.9%). However, this cohort has reduced as a percentage of total students with disabilities, on average 3.2% every year for the last three academic years, when it peaked at 60.5% in 2010/11.
- While the overall numbers of students with disabilities has increased 7% year on year, a worrying trend among the Deaf/Hearing Impaired cohort has seen the numbers enrolled drop by 6% to 271 and they now make up just 2.8% of the total population of students with disabilities (down from 3.2% last year).
- Responding institutions reported more than twice as many Blind/Visually Impaired new entrants in 2013/14 as compared to the previous academic year. A trend identified in last year’s report of a decreasing number of new entrants in the Blind/Visually Impaired category appears to have been arrested.

1 HEA 2008, National plan for Equity of Access to Higher education 2008 - 2013
When compared with the general student population, students with disabilities remain particularly underrepresented in subjects related to ‘Health & Welfare’ and ‘Education Science’. Interestingly a significantly higher percentage of students with disabilities are studying in the fields of ‘Humanities & Arts’ in comparison to their non-disabled peers.

78% of the disabled student population received an examination accommodation in the academic year 2013/14. Extra time was by far the most common support provided with 72% of students with disabilities receiving extra time in their examinations in 2013/14.

The responding institutions reported an average of 140 students per disability support staff member and 321 students per learning support staff member. The combined average of 97 students per staff member remains unchanged year on year.

60% of disability/access staff on the ground believe that academic staff are not doing enough to include students with disabilities in their courses through the use of flexible teaching methods in accordance with the principles of Universal Design for Learning.

Full report and interactive tables available at www.ahead.ie/datacentre.
Understanding Fairness and Meeting Competence Standards through Universal Course Design, and the Relationship with Reasonable Accommodations

Barbara Waters, (BLS Associates)

Guidance has been prepared for publication based upon research carried out by Barbara Waters and Liz Maudslay on behalf of the Equality Challenge Unit (ECU) between November 2013 and March 2014. The research brief was to examine the interaction between competence standards and reasonable adjustments and in the light of this evidence to produce Guidance for HEI staff including managers, academic staff and student services. The particular areas to be covered in the research were:

- How institutions identify the non-negotiable core competencies required for a course, including national fitness to practise requirements of regulatory bodies where appropriate
- How institutions assess competencies
- How disability equality is considered by staff when developing and assessing competencies
- How prospective and current students are informed of competencies and how adjustments can be made to the way they are assessed
- Examples of adjustments that are made for disabled students.

The curriculum areas stated in the brief included two areas where competence standards are drawn up by bodies external to HEIs, Nursing and Teaching; a subject which includes a physical/outdoors component; a language course and a vocational further education course in Scotland.

Methodology

For the subject which included a physical/outdoors component the decision was made to look at Geography, Earth and Environmental Sciences (GEES) as a STEM subject requiring both laboratory and fieldwork. French and Spanish were chosen as the modern foreign languages as they were subjects which together covered a similar sized student body as GEES and had the additional element of placement abroad. To ensure a sound basis for the research an initial literature review was conducted and a wide Call for Evidence sent out through the ECU. Literature examined included:

- General guidance documents on how HEIs need to respond to current equalities legislation in relation to disabled students
- Specific literature which looks at particular issues in relation to the four key subject areas – Nursing, Teaching, GEES and modern foreign languages especially French and Spanish
- Literature produced by disability organisations
- Guidance documents produced by individual HEIs
Following on from the Literature Review data was collected through:

- Face to face group interviews with groups of staff in England, Scotland, Wales and Northern Ireland covering, in total, 16 HEIs
- Individual telephone interviews and meetings including Quality Assurance Agency (QAA), Higher Education Academy (HEA) subject specialists, University Mental Health Advisers Network (UMHAN) and the Health and Care Professions Council (HCPC)
- Questionnaire surveys completed by both subject specialists and Disability Advisers in the areas of GEES and French and Spanish
- Specialist e-groups within the HE sector, including Higher Education Academy and JiscMail groups.

About the guidance

Guidance will be published in 2015 to provide information on the nature of competence standards and their interaction with reasonable adjustments.

The guidance is divided into four main sections

- Drawing up competence standards
- Assessment
- Information for students
- Delivering reasonable adjustments within course programmes

There are examples from the research throughout the guidance to demonstrate how the recommendations apply equally to classroom based courses, courses which include off-campus learning environments, and those with additional professional standards.

At the end of each section some reflective questions are included to assist the continuing development of policy and practice. Separate fact sheets for each subject area have also been prepared

The guidance is for all departmental academic staff including course directors, course programme managers, course tutors, departmental disability representatives, external examiners, disability services staff, inclusive practice managers, placement tutors, placement mentors, admissions staff, marketing and recruitment staff.

Research findings and recommendations

The findings are summarised in the following emerging Issues:

- Teams who develop and design course programmes need to fully understand the course requirements in relation to the competence standards legal requirements
A wide range of experience and practice on inclusive design and the review of over reliance on commonly used reasonable adjustments is needed

• Student information on course requirements/learning outcomes and competence standards should be clear and available in advance so that students can make informed choices
• Understanding the power of inclusive design and embedding it in quality
• Communicating inclusive design developments to disabled students who have only experienced individual adjustments
• Evaluating the progression and achievement of disabled students to inform future course development
• Developing supporting procedures for staff and students when difficult decisions need to be made

Potential was identified for a wider partnership approach to universal programme design in order to review existing programmes, draw up competence standards for new or revised course programmes, make decisions on the methods of assessment and communicate these to prospective students. The wider team should include not only academic staff – subject and team leaders – but also the subject department disability representative, disability services staff, and work placement organisers

Definitions

The guidance is based on the Equality Act 2010 that applies in England, Scotland and Wales. Northern Ireland does not have a single equality act, but on disability related matters the Disability Discrimination (NI) Order 2006 lays down similar expectations on HEIs. Further information for colleagues in Northern Ireland is available from ECU and at www.equalityni.org

Competence standards

In relation to competence standards the Equality Act 2010 sets down the definition that a competence standard

• is an academic, medical or other standard applied by or on behalf of an education provider or qualifications body for the purposes of determining whether or not a person has a particular level of competence or ability
• used by an education provider to determine whether a person has a particular level of competence or ability
• should apply to all students, not just disabled students
• must be objectively justifiable and proportionate and must be genuinely relevant to the particular course

HEIs are required to make reasonable adjustments to enable disabled students to demonstrate how they meet the competence standards but not to the competence standard itself.
Most HEIs express these standards as learning outcomes. Learning outcomes should be seen as the competence standards for any particular course.

Whichever description is used, the competence standards must be easily identifiable and meet the legal criteria above.

**Academic standards**

Academic standards are defined by HEIs by setting the pass marks and determining the grading or marking schemes and any criteria for classification of qualifications that differentiate between levels of student achievement. They must meet the minimum threshold standards in accordance with the QAA. Under the legal definition above these are not competence standards.

**Course requirements**

Some courses will lay down requirements specific to that course, for example a foreign language course might require students to spend a year abroad, GEES courses might include a range of field work placements. These requirements may not be the same as competence standards.

Similarly, HEIs may have in place rules necessary for the smooth running of a programme, for example regarding the location of work placement, or the hours required. It is clearly helpful to those managing courses to have rules and regulations which send a clear message to students about what is expected and that everyone must keep to the rules. However, they are not competence standards, and a disabled student may need reasonable adjustments, for example, related to travel or flexible placement hours.

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Universal Design in Erasmus+: Can we make it work for all?

Ágnes Sarolta Fazekas (Eötvös Loránd Science University)
Viktor Piorecky (Teiresias – Support Centre for Students with Special Needs)

One of the main goals of the European Union is to strengthen social cohesion, including fostering the access of under-represented groups (including people with disabilities) in higher education. In education and training policy the questions of access and inclusion of those who more likely face social exclusion have become increasingly important. People with disabilities in Europe are still facing barriers in tertiary education and they are affected by limited access to the labour market (69% of all Europeans employed, compared to 19% of disabled) and they are exposed to a much higher risk of poverty (62% live below the poverty line). (EDF, 2009) The topic is on the agenda not only because equality legislation of Member States should follow the European Union social dimension plans, but also because it is important for both the economy to employ people with disabilities just as it is for the people themselves to be employed. In the current labour market atmosphere where there is more competition and international experience is more than essential than before among employees to fill jobs, greater opportunities should be fostered for people with disabilities to participate in and gain access to employment.

Studies have shown that participating in higher education and in international study or training prepare students to work in an interconnected and complex world. It gives them opportunity for self-development and gaining skills, which enhance their future employability. Access & non-discrimination gradually happening in study abroad but there are still barriers to make it a real option for students with disabilities. Restrictions such as mobility (portability) or different level of available support services between countries are still obstacles.

**Erasmus+ Programme in Higher Education**

Erasmus+ is the new European Union programme for education, training, youth and sport for 2014-2020, which joins seven existing EU programmes, covering all sectors of education. ERASMUS+ in Higher Education enables students to study and/or train abroad for up to 12 months within each study cycle including Bachelor, Master or Doctorate Programmes. It aims to boost skills and employability (European Commission, 2014). It promotes cooperation between higher education institutions and enterprises or organizations and contributes to the development of a pool of well-qualified, open-minded and internationally experienced young people as future professionals.

**Supporting staff and students with disabilities**

The former Erasmus Programme and the new Erasmus+ aims to ensure that students or staff with special needs can take full advantage of the European mobility arrangements. Erasmus+ grants can be higher than the normal study or traineeship grant to cover extra costs regarding the person with
disability’s access needs. The National Agencies in the involved Erasmus+ countries are responsible for the supplementary grant procedure and assess applications to determine the additional amounts that may be required. Disability falls under data-protection and confidentiality and following this, the supplementary documents are also under confidentiality and data protection. “With respect to data protection, the European Commission collects only anonymous data about the number of students receiving supplementary grants. In academic year 2012/2013 only 388 students with special needs received a supplementary Erasmus grant. This represents only 0.14% of all Erasmus students. However, there is an increase over the last years, there is significant room for improvement (Erasmus Report, 2013).

Terminologies

The situation when someone is being considered „a person with disabilities“ differs among the EU member states & countries involved Erasmus+ Programme. It is understandable that the EU would like to use a broad framework to cover all, who might be entitled for the supplementary grant, but it is important to re-consider the current „special needs” term as well. Terms like "special needs" can be considered to be euphemistic. It’s essential that people are aware of the meaning behind the words. People with disabilities are the same as everyone else they are not necessary super humans. It is recommended to avoid “special needs” terminology and make coherency in EU jargon and use the term “people with disability”.

Policy framework in a nutshell

With respect to the sovereignty of member states including policies like Social and Education Policy, the EU’s policy has a role in promoting cooperation and creating action programmes for the whole community. The social dimension and education gradually became more relevant in the actions of the community. Study abroad for people with disabilities across EU covers education, social dimension & disability related strategies and recommendations. Without the comprehensive list, documents such as the European Disability Strategy, EU2020 strategy, Education & Training Strategy 2020, the Social Dimension in the Bologna Process and the UNCRPD (which was ratified by the EU as a body at the end of 2010) must be considered in conjunction in international exchange across Europe (EDF, 2011).

Challenges

Social and Education Policies are the autonomy of the EU member states and there are limited tools to intervene from the EU level. The supplementary grant is a great tool but faces limitations in the inter-institutional cooperation in Erasmus+. The allocation and management of the

1 Source: European Commission, Erasmus Statistics.

3 http://ec.europa.eu/education/opportunities/higher-education/special-needs_en.htm

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supplementary grants are different among the involved Erasmus+ countries. From the National Agencies’ perspective there is a challenge how to distribute the supplementary grant among the numerous applicants and meantime fulfil the access needs of all applications. From the applicant’s perspective, it is difficult to pre-plan the supplementary grant budget and calculate all the unknown costs, which can emerge during the stay abroad. Students with disabilities face challenges while studying abroad, such as limited or no access to adapted learning materials, different level of support services at the host university, limited access to sign language interpretation and personal assistance. Besides the cross-national costs and legislation related challenges concerning personal assistance, the personal factor and trust is essential in a work relation with a personal assistance.

"Universal design" means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. "Universal design" shall not exclude assistive devices for particular groups of persons with disabilities where this is needed” (UNCRPD, Art, 2).

It is time to reconsider what makes a programme usable by all, and how we apply it for the study abroad programmes, including the Erasmus + Programme. It is essential to create dialogues with relevant stakeholders in order to make it beneficial for all, regardless of disability in this case. There has been a lot done, but there are still a room for improvement.

Recommendations

It is useful to collect and create a European wide data-base covering who is falling under “students with disability” in tertiary education in the Erasmus+ countries’. It is necessary to provide information about the support services students with disabilities are entitled to in Higher Education\(^4\) and make these services a right, not only an applicable advancement. It is important to provide more specific guidelines for National Agencies how to manage the whole supplementary procedure, and assess the needs of the students. In order to better allocate the supplementary grant, a cost analysis of the support services would be helpful. In order to reduce the unknown risks, a comprehensive checklist for mobility of students with disabilities is recommended. Last but not least, it is crucial to create monitoring mechanism about the fulfilment of responsibilities of the home/host universities and to conceive how to better implement rights of people with disabilities in Erasmus+ in relation with UNCRPD.

Sources:

Agnes Sarolta Fazekas: Participation of Students with Disabilities in Erasmus Programme – Comparative study on Ireland and Hungary Eötvös Loránd University, Budapest, 2013. (Master Thesis)

\(^4\) Find further recommendations by ExchangeAbility and its MapAbility sub-project, by Erasmus Student Network [www.exchangeability.eu](http://www.exchangeability.eu)

Council of EU: Erasmus+ explained https://www.youtube.com/watch?v=GR9pws_BtGw

ExchangeAbility Project of Erasmus Student Network http://exchangeability.eu


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EU Social Security Coordination URL: http://ec.europa.eu/social/main.jsp?catId=26&langId=en

Council conclusions on the social dimension of higher education URL:

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It is vital that all university staff have awareness of the difficulties which may be experienced by students with disabilities. Staff must be given the knowledge and resources to support all students effectively. UCD Access Centre has developed a communication and training strategy to improve disability awareness among staff in UCD.

In determining the message for staff communications and training we looked at our most common staff concerns and queries. From staff, the most common queries involved how to support students in class and how to equitably assess all students. Students queries often involve how best to communicate with academic staff and how to get information regarding assessments and class materials. In order to ensure that our strategy was evidence-based rather than developed solely from anecdotal experience, we also looked at the detailed quantitative and qualitative data gathered from students registered for disability support on their experiences in UCD. Ultimately we determined that the key messages to be communicated to staff regarded: information for students, communication with students, how to support students with disabilities (providing reasonable accommodations), and assessment.

The audience for our communication and training was determined to be from staff across the university rather than just those directly teaching students. This was based on feedback from students: they reported discussing their support requirements not just with the staff teaching them, but also with school administration staff and other support units in the university. Reported student experiences seemed to point to an inconsistent level of understanding of how reasonable accommodations should be provided and who was responsible for taking action when a support was requested. It was clear that a more comprehensive communication strategy was required.

We developed our partnerships with the two key units involved in staff training: UCD HR Learning & Development and UCD Teaching & Learning. The suite of workshops developed for delivery through HR are designed to be accessible and useful for all staff in the university. The workshops delivered through UCD Teaching & Learning are designed specifically for teaching staff. We are acutely aware of the increasing time pressure faced by all members of staff working in the education sector. As such we developed a series of workshops – one hour lunchtime sessions and two hour sessions; we felt that any time commitment beyond two hours within one day would place too much of a burden on staff with demanding workloads. We also developed an information email to be sent to all academic staff at the start and end of each semester, outlining important information regarding student supports, promoting upcoming training opportunities and reminding staff that we are available as a resource to those with any queries or concerns regarding students with disabilities.
When developing resources, designing communications and training workshops three key areas were identified as the most important areas for development among staff:

- Universal Design in Education
- Tips for Providing Disability Supports
- Understanding Accessibility

The most important area is undoubtedly Universal Design in Education. Much work has already been done on developing a model of implementation for various aspects of Universal Design in post-secondary education. The implementation of the principles of Universal Design is beneficial to all students in education. However, it is particularly helpful for those students who are currently under-represented in third-level education, in particular students with disabilities. Often these underrepresented students feel as though they are marginalised or isolated from their peers because they are marked out as ‘different’ due to financial status, educational background, age or disability.

By implementing Universal Design universities can show a commitment to ensuring that these students are treated as equal to their peers. Lack of awareness and the environment are the key factors affecting the impact of a person’s disability in their day-to-day life. At universities we must ensure that all staff are aware of the impact they can have on a student’s experience so that they can do all that is possible to ensure equality and equity – that they are encouraged to take on the role of student in every way without segregation, de-valourisation or discrimination. In fact, research has shown that while students may come from a diverse background they do share some similar concerns. Therefore staff must remember that all students should be encouraged to seek an equally positive and enlightening experience at university as students with a disability enter university with the same expectations and trepidations as their peers.

The training offered by UCD Access Centre has had a number of benefits including:

- Greater awareness of the difficulties experienced by students with disabilities in UCD and how staff can work to alleviate some of the challenges experienced by these students.
- Increased awareness of the responsibilities of staff in UCD with regard to accessibility. In particular,
- Implementation of accessibility guidelines when producing communication materials i.e. documents, websites etc.

We have experienced a number of challenges as we have rolled out our training strategy. In particular we have noticed that those attending the training sessions are already interested in supporting students with disabilities. While the training is still beneficial for these staff members, our target group are those who are unaware of their responsibilities or unaware of the needs of students with disabilities. It has also taken a considerable amount of time to design and deliver training. Currently within our service we have a limited number of staff, having recently lost two staff who have not been replaced. We have also come across a perception that ‘support’ staff shouldn’t train academic staff. While this opinion is not shared by most staff members it can cause some difficulty. We also must acknowledge that many academic staff have an increasingly
large work load meaning that professional development can be perceived to take up too much time. We are currently working to develop an online CPD module with the aim that some elements of the programme would be compulsory for all staff members, in particular module coordinators. We also hope to share these resources with other HEIs.

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Web Guide to Accessible Campus

Svatoslav Ondra (Masaryk University, Support Centre for Students with Special Needs)

Synopsis

Masaryk University developed a web-based application (a kind of virtual guide) which delivers sum of practical information and specifications of university buildings which enable individuals with mobility difficulties to use the environment of the buildings effectively and without barriers.

Introduction

Masaryk University, Support Centre for Students with Special Needs is responsible for making curricula and educational environment accessible for different styles of students, teachers and employees. Masaryk University puts principles of Universal Design for Learning into practice with providing soft and hard services across to students, academics and university staff. An integral part of this applied model of services is not only eliminating physical and virtual barriers in educational setup, but also creating (technological) tools which enable to orientate effectively in the environment and to use the environment without barriers.

Educational, technical, administrative and other sites of Masaryk University are located within the city in dozens of buildings which are of different age and architectural styles, i.e. they are accessible for individuals with mobility difficulties in various extents. Masaryk University continuously makes arrangements which eliminate physical barriers as much as possible – with regards to architecture, historical aspects and to function and traffic in the buildings. Range of those arrangements, as well as needs of individuals are very diverse. That is why it is not realistic to declare a particular building as simply fully accessible or inaccessible for individuals with mobility difficulties. On the other hand it is feasible to provide sum of technical specifications that a user can utilize in order to have a view on relevant and practical accessibility of the building.

As a platform to deliver these specifications, we have developed a web-based application which is a practical guide to architectural accessibility of university sites.

Primary idea of the application

Because text-only specifications of building accessibility are not explanatory enough, they are delivered together with visual information of the real situation in the building. Practically, the application is a kind of virtual guide (combination of panoramic and still images) with special accent to features and pieces of information which are of interest by the target group; mainly:

• barrier-free entrance into the building;
• barrier-free options of moving within the building vertically (location of elevators, ramps, lift platforms etc.);
• barrier-free cloakrooms (their location, disposition, dimensions etc.);
highlighting of typical tracks to the most used destinations (teaching rooms, libraries, dining hall etc.).

- text information on operating conditions of the arrangements.

On the other hand, the application is not mapping location of departments within the building. It provides purpose of the rooms only (teaching rooms, offices etc.) and as the locations of particular departments, rooms, laboratories etc. are provided by other information systems of the university.

**Structure of the application**

- starting index of university buildings – kind of guidepost, list of faculties and map; notifications on current situations in premises (reconstructions, closed areas etc.);
- panoramic and still images of key points of the building which are relevant for independent orientation of individuals with mobility difficulties (see Fig. 1);
- still images of significant details including technical specifications (see Fig. 2);
- text descriptions of the key points (containing mainly technical specifications such as dimensions, instructions to use technical devices, operating conditions of entrances etc. – see Fig. 3);
- interactive plan of each floor with the key points highlighted and angle of current view;
- controls to navigate among the floors of the building;
- controls to interact with the current scene;
- trace line indicating typical tracks in the building between the key points and to the most used destinations.

**How to use the application**

- using navigation controls in the bottom of the virtual guide screen: to rotate the scene, zoom and restore its default view;
- using mouse to drag the view: to rotate the scene;
- using interactive plan view and the sphere below: to jump to key points and to set angle of current view;
- using trace lines: to go from a key point view to another smoothly.
Fig. 1: Application interface – main navigation controls to interact with the view of a key point

Fig. 2: Still image including technical specifications
Fig. 3: Text descriptions of the key points

The application is constructed to be used on desktop computers (to get familiar with premises in advance), as well as mobile devices (on the spot while moving in the buildings).

Recent and further activities on the project

The main framework of the application was developed in spring and summer 2014. We will run pilot part of the project from December 2014 to February 2015 – specification and details of three university buildings were processed and published in the guide.

In the short-term perspective, new features are going to be implemented, mainly user’s notification system to report changes, malfunctions or updates of conditions discovered on the spot in the premises. In longer term, it is planned to extend the system considering needs of blind users of buildings. It means to modify the interface deeply (possibly developing another version of it) and start to process relevant data.

Conclusions

We hope that the application and presented attitudes will contribute the debate about approaches how to provide information on architectural accessibility of public sites. Due to very diverse needs of individuals with mobility difficulties, we consider providing technical and practical details of the premises more advantageous and valuable than defining general accessibility levels of buildings and assess them accordingly. Each user himself or herself is aware the best what limits him/her in motion, which kind of activity he/she is going to perform, how
long he/she will spend in a location etc. Based on that, he/she is selecting the most applicable pieces of information. - Back to the contents>>
We go to the tool – How Do We Put it to Use? A disability coordinators introducing teachers to Universal Design for Instruction

Pia Haeggblom (University of Kristianstad)

Working as a disability coordinator you often work for one student at a time. This is necessary. But there are ways of speeding up the process of making university studies even more accessible to more students. In March 2013 I had the opportunity and pleasure to attend AHEAD’s conference “Is Universal Design in Education Any of My Business?” As it turned out, yes it is. When Dr. Joan McGuire gave her keynote I got excited by the idea of at long last having a tool to work with. Even the name Universal Design (UD) was in itself a tool. Where inclusion might feel like a few students being invited to join the rest of the students, UD, even in name already includes everyone. Nobody needs to wait and see if they are invited in.

Finally, after many years disability coordinators have a tool to use in their work. UD is a tool that academic staff can use to systematically increase accessibility and take down walls that say inaccessible studies, and also hinder new walls from being built. Blomberg et al. (2013) came to a conclusion in their report that accessibility for students in Sweden often is in the hands of how individual teachers interpret their job. Blomberg et al. argue that disability coordinators because of this need to do more preventive work.

A problem for disability coordinators is that there is not enough time to work preventively. Disability coordinator Christel Berg from the University of Lund once said that our job is not to go searching for the exact right diagnoses for students, but to look for ideas. Berg’s advice is valid not only when it comes to finding creative ways to help individual students but also setting time aside to work preventively.

The principles of UD is a step by step tool to increase accessibility in higher education, it is a toolbox and a start engine in one. Once you’ve learnt about UD you can’t unlearn. As a disability coordinator or as a member of the academic staff you need not worry that you do not know enough to begin using the principles of UD. We don’t have to have all the answers, nobody does. As a disability coordinator I try to spread the ideas of UD, and if possible help find time and resources to use the tool in front of us.

There are a number of students with disabilities that do not contact us. Then there are students with disabilities but no medical assessment. How do we reach them? UD is part of the answer. We have so many students that would benefit from UD. In fact all students gain from a more flexible way of teaching. Instead of not knowing where and how to start teaching more accessibly, teachers are given directions and can move quicker with the step by step tool of UD.

The way I’ve been trying to introduce teachers to UD is through the following three guidelines.
The first guideline is that when I try to implement ideas about UD I to try to ask questions where the answer no hopefully is not an option. Instead I have asked people to be sounding boards, I have asked for cooperation and I have asked advice on how to move ahead. Depending on the feedback, I have suggestions ready for the next step, for example workshops. I try to build a foundation by informing about a new law that might come or have come, and what’s being discussed nationally and internationally on the political arena regarding accessibility. When appropriate UD is put into the discussion.

Guideline number two is to not buy all my shares in one company. Input and cooperation is instead sought from several people; The Pro-vice chancellor, a Head of school, the chair of one of the education boards, program advisors, the union for academic staff, the student union etc. I work with different projects. The first project I began was to present UD in a course for educational development. We study articles on UD, for example Roberts (2011). In workshops the participants analyze their courses according to the principles of UDL and UDI, and the title of the workshops are always a question, “Will UD save time and resources while at the same time increase accessibility?” From 2015 there are workshops for those that don’t study educational development. Another example of a project is that the local publication for educational development will have an issue about accessibility and UD. (The issue is coming out in August/September 2015.)

Guideline number three is to try to find problems that matter, and of course argue that UD is part of the solution. I use four well known challenges. Lack of time for teachers, the economy of a course or an education, the need sometimes to increase through-put, or student completion and finally, the fourth and last of the main arguments, the need for pedagogical discussions. A side effect from discussing ways of saving time, money and increasing student completion is of course the increase of pedagogical discussions. I use arguments about pedagogical competence and pedagogical career ladders from Ryegård et al (2011), a report from the project Strategic Development of Pedagogical Competence.

I have asked the teachers that took part in last year’s course if they use the concept UD. Some do. I asked what they need to continue or to start using the principles of Universal Design; a forum to exchange ideas. That’s one of the challenges ahead.

With UD disability coordinators, among others, have got a tool for systematic, pedagogical progress when it comes to accessibility, and it’s a tool for seeing the student body as one, a diverse one. Universal Design can move educational development along even quicker at our universities and the motivator is quite simply human rights.

References:

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Work4You Project: A vocational assessment service for people with an Acquired Brain Injury

Maurice Harte (Acquired Brain Injury Ireland)

Mairead Bradley (Acquired Brain Injury Ireland)

Work4you is a vocational assessment service for individuals and employers affected by an Acquired Brain Injury (ABI). It is a community based vocational neuro-assessment service, the first of its kind in Ireland. It has been set up by Acquired Brain Injury Ireland, thanks to the financial investment of the Department of Social Protection and the European Social Fund under the Disability Activation Project (DACT).

Given the ramifications of brain injury, individuals can face significant challenges and barriers when reintegrating into the community and into vocational occupations such as work, training or education. Work4You provides practical assistance and real hope for people with an ABI who are either struggling to hold on to their existing job or aiming to return to education, training, or employment. Work4You aim to:

- Complete 540 vocational assessments
- Complete 300 workplace assessments
- Return 162 people to education, training or work
- Sustain 48 people in education, work, or training 12 months post project engagement
- Provide ABI information, education and training for employers/co-workers
- Complete research and evaluation of service
Work4you participants and their families are at the heart of the new service. They work to identify their own capacities, as well as areas of vocational challenge, in order to build on their vocational strengths. In addition they are supported to build sustainable vocational bridges through developing community links and relationships.

Referrals are open to everybody from the person with the ABI, a family member to a healthcare professional. The application process includes an eligibility check, through the Department of Social Protection, coordinated by ABI Ireland’s referral contact in ABI Ireland national office. Once the regional Work4you teams have confirmation of eligibility they start working with the prospective participant. In the event of someone not being eligible, or deciding not to take up a place with Work4you, the team links them with the appropriate community supports or services.

As part of the Work4You vocational assessment process, Work4You completes a holistic interview along with a variety of assessments and tests including specific sub-tests affiliated with the Valpar Component Work Sample Series (VCWS). The VCWS is a vocational standardised assessment carried out by an Occupational Therapist. It was reported in The College of Occupational Therapists Vocational Rehabilitation Strategy 2008 that Occupational Therapists understand the importance and significance that occupation and employment have on a person’s health and well-being as well as being uniquely qualified to advise on vocational integration due to their understanding of the complex and dynamic relationship between the person, the environment and the occupation and their ability to address barriers to performance.
The information gathered from the overall assessment helps to develop a comprehensive clinical report consisting of vocational implications and recommendations together with a PPP. The assessment process identifies areas of strengths and limitations as well as areas’ of challenge. Work4You builds on the individual’s strengths, skills and interest in identifying potential areas of work, training and education while providing recommendations and strategies to overcome areas of challenge which is incorporated into each individual client’s PPP. Additionally, Work4You completes individual workplace assessments and provides essential ABI information and education for employers, tutors and trainers who are supporting people affected by an ABI.

ABI which incorporates Traumatic Brain Injury is the leading cause of death and disability in young adults (18-24 years). In 2009, it was estimated that there were at least 127,894 people living with the sequelae of ABI in Ireland (O’Connell 2009).
UDL: A License to Learn
Dublin Castle, March 19th & 20th 2015
For more info and conference video, visit www.ahead.ie/conference2015