
Universal Design for Curriculum Design

The promotion of Universal Design in education, and Universal Design for Learning (UDL) in particular, has become ever more prevalent over the last number of years. With the previous AHEAD conferences and seminars and the recent National Disability Authority (NDA) conference we can see that staff and policy makers working within higher and further education in Ireland are increasingly investing time and thought into this framework. However, much more work is needed to ensure that the principles of Universal Design are implemented in classrooms and lecture theatres. Now that we are seeing and understanding of the benefits of Universal Design in education it is time to start focusing on the practical applications. In this paper I look at the principles of Universal Design for Instruction (UDI) rather than Universal Design for Learning (UDL) as I feel UDL lends itself to a more immediate understanding and application in the higher and further education setting. However, it should be pointed out that both UDL and UDI have the same basis and promote the same fundamental principles. The principles and applications outlined in this paper have been developed for delivery to academic staff in University College Dublin (UCD) as part of the UCD Teaching & Learning professional qualification in university teaching. This session is delivered as part of the module entitled 'Designing Modules for Engaging and Effective Learning'.

Firstly, it is important to point out that the implementation of Universal Design ideally should be carried out at module design or re-design stage. McGuire & Scott (2006) note that,

while faculty are legally required to provide reasonable accommodations for students with learning disabilities who request them and provide documentation to verify the need for such, too often the process becomes one of retrofitting changes and accommodations to a course (p. 22).

Retrofitting or adjusting anything while it is already in use is certainly much more challenging and often far less effective than building in at design stage. Implementing Universal Design strategies in a totally new module therefore is ideal. However, when reviewing existing modules and considering student performance and feedback on the module, Universal Design strategies can be considered to address any difficulties or to increase student engagement and inclusion.

Universal Design for Instruction

The nine principles of Universal Design for Instruction

The nine principles of Universal Design for Instruction (UDI) presented here were developed based on empirical evidence gathered by McGuire and Scott using focus groups of third level students with learning disabilities (LD) (McGuire & Scott, 2006). It should be noted that LD as defined in the US where McGuire and Scott carried out their work, is not a single condition or disorder but includes a range of disabilities that exhibit difficulties in the areas of reading, language and mathematics.

Principle 1: Equitable Use

All students should be able to participate fully in their classes and be given the opportunity to meet learning outcomes, preferably with the same opportunities for engagement offered to all students. Implementation of this principle includes the provision of accessible class materials. Application of Universal Design should mean that all students are able to access the same set of notes or materials without the need for any student to be provided with an alternate format or additional explanative materials. Class materials can include slides, documents, audio/visual material and textbooks – using a variety of teaching materials allows as many students as possible to engage with the content based on varying learning styles and preferences. A contentious issue here is the provision of slides or notes to students using the online learning environment as staff are often concerned about a drop in attendance if this material is provided. However, research shows that provision of materials, even recordings, does not impact negatively on attendance (Larkin 2010).

Principle 2: Flexibility in Use

This principle emphasises the need for the use of variety and flexibility in approach. Inclusive teaching obviously includes a diversity of instructional methodologies. Rather than a reliance on the traditional lecture model teaching staff should provide a variety of methods of instruction such as discussion, group work, interactive exercises, use of online resources and/or use of audio/ visual material. Teaching approaches must take into consideration varying learning styles as reliance on any one teaching style will inevitably result in the disadvantage or even exclusion of some learners. Research has shown that instruction which allows students to learn in a way that suits their individual learning style improves student performance outcomes (Higbee, Ginter, & Taylor, 1991; Lemire, 1998).

Choice of assessment can form a vital part of an inclusive and flexible teaching approach. Thompson et al. (2002) note that 'universally designed assessments are designed and developed from the beginning to allow participation of the widest possible range of students, and to result in valid inferences about performance for all students who participate in the assessment' (p. 6). Geraldine O'Neill (2011) completed a project on choice of assessment in UCD and as a result has developed a very useful tool for ensuring that various assessment methods used are equitable.

Principle 3: Simple and Intuitive

This principle outlines the need for transparency and ease of use with regard to module content and assessment. Students should be able to ascertain all necessary details regarding topics to be covered, full reading lists, and assessment methods before choosing or beginning a module. Students should be provided with a clear marking rubric to ensure that they know how each of their assessments will be graded. Students should also be given detailed instructions for assessments, including, where possible, sample answers (not based on the specific topics covered) to ensure that they know exactly what is expected of them. There should also be consistency across modules with regard to the amount and level of difficulty associated with assessments.

Eliminating unnecessary complexity in the material being presented to students is also vital. Research has shown that poorly designed textbooks, for example, that do not incorporate Universal Design principles can be difficult for students to access (Jitendra, Deatline-Buchman, & Sczesniak, 2005; van Garderen, 2006). Teaching staff should closely review the reading materials given to students in order to circumvent any potential problems students may have in accessing/understanding the material being presented, with a consideration of the principles of Plain English.

Principle 4: Perceptible Information

This principle further highlights the need for all material to be provided in an accessible format for all students. Creating alternative format materials is often a costly and problematic practice which can result in loss of equality for students and a significant investment of time during busy term time from faculty and support staff. Providing online or digital versions of texts removes a number of barriers for students, including cost and often physical accessibility. The provision of digital material allows students to access it in a variety of ways including on screen, using a screen reader, or in a printed, physical format and helps to alleviate the financial burden of purchasing expensive texts.

Reading lists should be reviewed regularly with a view to providing as much of the material as possible in an accessible digital format. This may involve liaising with library staff and publishers. Compliance with Web Content Accessibility Guidelines 2.0 and guidelines for producing accessible material should also be ensured. Institutions should also ensure accessibility is a condition of procurement at all levels. It is the responsibility of those buying/sourcing software packages or interfaces to ensure they are accessible to all users. It should not be assumed that all modern packages are accessible; for example, applications which use Flash or present material in such a way that the text cannot be read by screen reading software can be highly problematic.

Principle 5: Tolerance for Error

This principle points to the problematic assumption that all higher and further education students come to a module with a certain set of 'core skills'. Students often come to modules without some of the experience or skills assumed by their lecturer/tutor. This can be challenging as students can feel uncomfortable asking for help or clarification. It is vital that faculty keep in mind the diverse range of students in their class groups. Students with non-visible disabilities or those with varying educational backgrounds are not always easily identifiable. Embedding core skills into all modules is a simple and effective way to ensure that all students have equal opportunity to succeed. It is highly beneficial if some time is spent in each module ensuring that students have the skills required to complete the module. These skills may include academic writing, oral presentations, reading techniques or research abilities. Setting aside at least one hour in each module to review these skills, as well as providing resources through the online learning environment can help to ensure that no student is left at a disadvantage.

This principle also emphasises the importance of allowing students to track their progress throughout a module. Helping students to be aware of their own development can help them to focus on areas that need improvement. Often six or more weeks of a 12 week module will have passed before a student receives any indication of how they are progressing. This leaves little time for students to reassess and rectify their work from the first half of the semester. Faculty may wish to consider providing selfassessments through the online learning environment. Short selfadministered quizzes can assist students to monitor their progress and can help students to become more self-aware in terms of their own knowledge and learning practices. In some modules it may also be appropriate and possible to provide a facility for submitting drafts of continuous assessments. Allowing students to submit drafts of their work helps them to understand that producing a complete piece of work is a process of drafting and re-drafting. This would, of course, require extra time of tutors and lecturers. However, the result of this practice would be much improved student work which must ultimately be the goal of education.

Principle 6: Low Physical Effort

This principle highlights the need to remove any unnecessary physical exertion. This includes excessive amounts of writing in class. In order to allow students to engage with the material being presented, they should be allowed to record lectures for study purposes. This recording, together with the class materials available online, could allow students to be more comfortable in class as it removes the stress of 'missing' information. Providing audio recordings/podcasts of lectures can also be extremely beneficial. Although this issue can be sensitive, with a strict policy in place, students would benefit greatly from not having to write notes in class. Policies should include conditions of use and restrictions on distribution. Faculty might also consider allowing students to complete in-class tests using a computer, thus minimising the amount of time a student must spend writing or rewriting and allowing for more time processing questions and composing answers.

Many students with disabilities already require the support of using a computer in exams, recording lectures, and receiving notes from lecturers and tutors. By embedding these policies into each module these students would feel more included in the group. This would remove the perceived stigma of being different from peers or of needing 'special treatment'.

Principle 7: Size and Space for Approach and Use

This principle points to the need for faculty to think about how best to use the physical space available to them. Faculty should consider the space when planning the design and delivery of modules. The physical teaching space has a significant impact on the educational experience of all students. The integration of technology in the classroom environment, for example, can be of a significant benefit to students. However, if this technology is not used appropriately in the teaching space it can become cumbersome and distracting to students who are trying to engage with the material being presented. As noted above, teaching should be dynamic and inclusive and consideration of the physical learning space is vital in achieving this goal. Many students learn best when interacting or discussing material and making direct contact with their lecture or tutor. The traditional model of students sitting in rows can become quite tiresome to students who often feel disengaged in this model.

Physical refurbishment or retrofitting of existing traditional spaces can be prohibitively expensive so new ways of using the traditional classrooms and lecture theatres should also be encouraged. While the physical environment may be somewhat restrictive some creative re-purposing is vital if we are to move away from the traditional singular teaching method. This can include the flipped classroom approach, group work, problem-based learning and student-led discussions.

Principle 8: A Community of Learners

This principle stresses the need for the development of a fruitful relationship among student groups and between faculty and students. It is the job of the faculty to provide opportunities for students to interact and collaborate with each other and with the teaching staff. Collaboration among students can have a very positive impact both on student engagement and student retention (Elliot & Decker, 1999; Goodsell Love, 1999; Lenning & Ebbers, 1999, Tinto, 1998).

Peer mentoring is a great example of how this principle can be effectively implemented. This has been very successful in UCD and a number of other higher education institutions. Faculty can encourage further collaboration and peer engagement by facilitating study or discussion groups for each module. Study groups should be established in class and encouraged to meet outside of class time where possible. Group study topics and

questions can be set to help structure the study time and boundaries can be set and formalised. Online discussion boards can be set up using the online learning environment and these can be a valuable tool for students who may not be able to attend campus outside of class hours. A closed private Facebook group can also be set up. This can be a useful way for lecturers to communicate with students. Bringing their educational experience into their social space encourages students to see college life as an important and interesting part of their life as a whole. However, the institutions social media policy should be followed carefully.

Principle 9: Instructional Climate

This principle emphasises the need to ensure that each student has a positive educational experience. All students should be welcomed and an explicit affirmation of inclusivity should be provided at the outset of each module.

Often students with a disability, mature students, and those from socio-economically disadvantaged backgrounds have been told to lower their expectations with regard to their academic performance. This lowering of expectations may lead to a lack of extraordinary effort by the student who believes that their effort will not be proportionately rewarded.

A statement of inclusivity should be provided in each module. This should encourage tolerance of diversity in the classroom and should reassure those who would like to disclose information about their learning needs that this information will remain confidential and be treated with respect. Often disclosure can be very difficult for students with non-visible disabilities so this encouragement is needed. It is the responsibility of teaching staff to communicate that all students will have 'equal access and equal opportunity' (Higbee, Chung, & Hsu p. 63). Pedelty (2003) emphasises the need for teaching staff to include and discuss this statement in their first class so that students are not left to merely read the statement on their own.

Conclusion

Universal Design does not ask for a 'dumbing down' of education but rather provides a framework to ensure that all students have the opportunity to fulfill their educational potential. In the current climate of reduced resources, we know that Universal Design can save time for faculty during the semester and money for institutions as it can improve student engagement and ultimately retention.

Now to further the promotion and implementation of UD in education it is important we begin gathering examples of good practice across the sector. Clear outlines of how particular practices can be implemented in teaching, successes, critiques and measuring of outcomes for all students will be vital. Now is the time to move away from 'selling' UD in education and begin the work of ensuring the 'real world' application of this framework. It is easy to start small, perhaps with an inclusivity statement for your class or department and begin the work of implementing other strategies such as choice of assessment or facilitating study groups. There are a lot of strategies here to choose from and now is the time for action!

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