

## Chapter #11

### DEVELOPING UNIVERSAL DESIGN FOR LEARNING WITHIN HIGHER AND FURTHER EDUCATION: THE BENEFITS OF EDUCATOR PEER TRIADS

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#### ABSTRACT

Universal Design for Learning (UDL) consists of a set of principles for curriculum development that aims to afford diverse learners equal opportunities to learn by providing more flexible and thus inclusive methods of teaching, learning and assessment. This paper is focused on the present authors' collective learnings as a 'triad', a peer learning group of university educators participating in the Digital Badge for Universal Design in Teaching and Learning, accredited by Ireland's National Forum for the Enhancement of Teaching and Learning. We place particular emphasis upon our triad's (peer learning group) experiences implementing a UDL re-design of teaching and assessment as part of the Digital Badge. Our reflective analysis explores in detail how each lecturer's teaching, learning and assessment practices evolved as a function of systematically incorporating various key practical elements of the UDL approach. Particular emphasis is placed upon describing how this UDL-based peer learning triad encouraged us as lecturers to adopt a more collaborative approach both with each other and with students.

*Keywords:* Universal Design for Learning (UDL), Equality Diversity and Inclusion (EDI), higher education, triads, peer learning, lifelong learning.

#### 1. INTRODUCTION

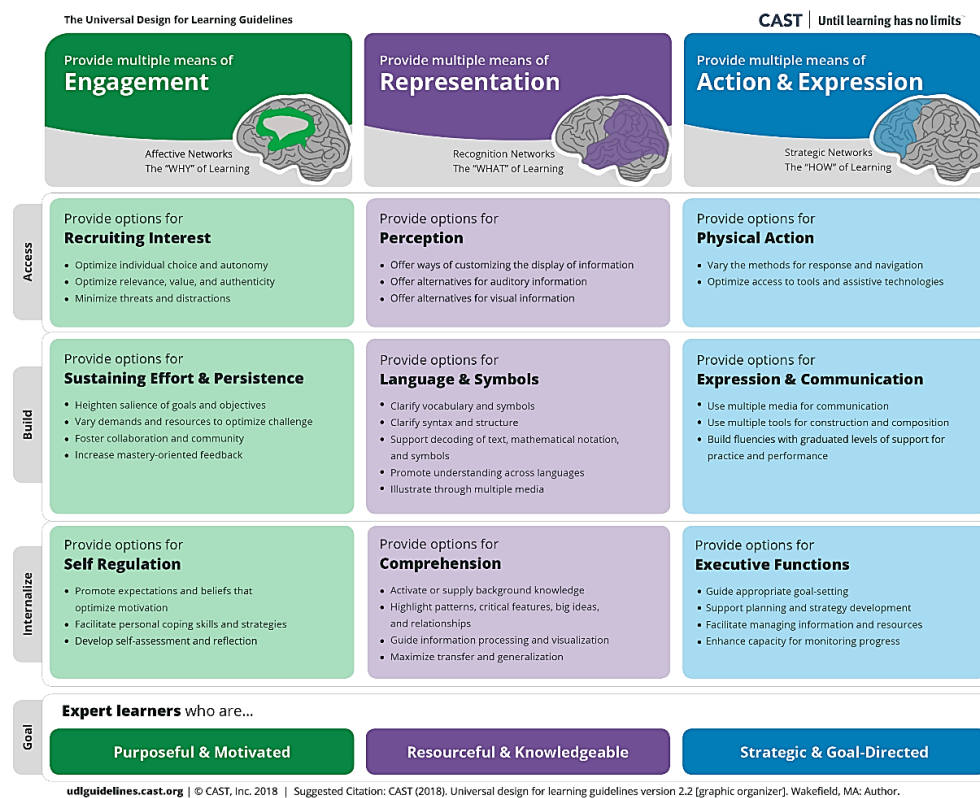
Providing an inclusive learning environment is inherently complex. Creating a culture of engagement and inclusion that works for all learners without accidentally marginalizing some in the process requires a systematic shift in thinking and practice, away from a 'one size fits all approach.' Universal Design for Learning (UDL) is a learner-centred framework that emphasises accessibility, collaboration, and community. This framework embraces diversity of motivations and learning preferences with practical guiding principles for curriculum development and delivery. UDL seeks to reduce learning barriers and seamlessly provide appropriate supports, thus enabling educators to develop courses where all students have an equal opportunity to learn, while also maintaining expectations of quality (Rogers-Shaw, Carr-Chellman, & Choi, 2018). There are three core UDL domains:

- **multiple means of engagement** in learning concerns the affective domain and suggests that there are a variety of methods to engage and motivate learners;
- **multiple means of representation** in learning concerns with how information is presented to learners, recognising that there is not one optimal means of representation;
- **multiple means of action and expression** in learning concerns the multiple potential means by which learners can demonstrate that they have learned.

(CAST, 2018)

In the increasingly diverse and evolving Further and Higher Education landscape, UDL provides an effective framework to improve the learning experience of all learners. To inform Irish educators about UDL, a training programme called the Digital Badge for Universal Design in Teaching and Learning was developed by the Association for Higher Education Access and Disability (AHEAD) in collaboration with University College Dublin’s department of Access & Lifelong Learning. This digital badge is accredited by Ireland’s National Forum for the Enhancement of Teaching and Learning (opencourses.ie, 2022). The stated goal of the Digital Badge is to provide existing third level educators with a solid introduction to the Universal Design for Learning Framework by supporting them to implement UDL principles within the participants’ current teaching activities (AHEAD, 2022). The programme requires approximately 25 hours’ work over 10 weeks, primarily structured around educator triads (peer learning groups) and the redesign of an activity in line with UDL principles.

Figure 1  
The Universal Design for Learning Guidelines (CAST, 2018).



One of the most unique and fundamental components of the National Forum’s approach to peer learning as part of their Open Course digital badges is the utilisation of the ‘triad’ peer learning group. The triad aims to facilitate regular interactions and discussions among small groups of third level educators, ostensibly for the purpose of peer support and evaluation. Upon embarking on the digital badge, each participant is assigned to a group of

peers, a triad. This triad remains a fixed element throughout the process, and at the end of the course the triad members are tasked with formally verifying each other's engagement with the process.

Key elements of a triad include:

- the necessity of voluntarily participating in a process that is not associated with external performance management.
- the important learning that the observer is experiencing when they review the UDL implementation of their peers.
- the importance of routinely conducting the peer review process as a triad team that can act as not just participants but also both supportive peers and expert observers.

(Bolt & Atkinson, 2010, p.89)

Although triads are traditionally formed with three members, the current study incorporated a triad with five members. Numerous studies (Adams & Counard, 2004; Rajaguru, Narendran, & Rajesh, 2020; Schippers, 2014) have shown that "social loafing," or the tendency for individuals in a group to lose enthusiasm and effort as the number of members increases, can occur. Nonetheless, in the present case the extra members allowed the 'triad' to explore the opinions of a larger variety of people while also allowing for "nurturing valuable reciprocal learning and potentially transformative collaborative reflection." (National Forum, 2020). Without exception the present authors found that the triad format was incredibly useful for providing both moral support and constructive feedback as key benefits of this shared experience.

## 2. BACKGROUND

Technological University Dublin (TU Dublin) is a newly amalgamated university that is formally committed to building a culture of equality, inclusion, and respect for all. UDL is central to its aim of building a diverse learning community that is underpinned by the United Nations' Sustainability Development Goals (SDGs). This commitment is wide ranging with an inclusive approach not just to education, but also to the provision of accessible student services, online resources, and physical infrastructure. TU Dublin's Transform EDU project, sponsored by the Higher Education Authority, is strongly invested in implementing Universal Design within the University. Part of the remit of this project is concerned with learning resources and staff competencies in UDL (Transform EDU, 2021). TU Dublin has also embedded UDL in its Quality Framework, through School and Programme review processes (TU Dublin 2021a; TU Dublin, 2021b). The (Irish) Centre for Excellence in Universal Design (CEUD), and the (Irish) National Disability Authority (NDA), have both commended how TU Dublin has placed UDL at the heart of its quality assurance processes (CEUD, 2020) which mandate schools to be accountable for EDI performance and require schools to resource UDL practice appropriately.

Against this backdrop, the present authors engaged with the UDL Digital Badge as a self-selecting cohort that were already accustomed to engaging with continuing professional development that often included UDL principles incidentally. In committing to completing the UDL Digital Badge, we all shared a similar rationale for taking part, "I hope to discover new approaches to accessibility and inclusion in teaching and learning." Prior to engaging with this specific UDL badge each of us expressed a view that we already engaged with UDL processes in our existing practice on an informal and often unsystematic basis. As such, we felt that the UDL Digital Badge was a timely opportunity to enhance our teaching and the

assessment of student learning with UDL. This is notwithstanding Solano's (2020, p.7) observation that when dealing with transformative change many respondents typically answer with "We do that!" even though that may not be entirely the case. It may thus be the case that the UDL Digital is particularly beneficial to individuals, such as in the present case, who were already accustomed to self-reflection due to extensive prior engagement with complementary and related forms of continuous professional development. We have each been involved in teaching in higher education from between five to twenty years. Four of us are involved in the delivery of a Creative Digital Media undergraduate degree at TU Dublin, while the fifth of us teaches Psychology across undergraduate degrees in Social Care Work, Community Development and Youth Work, and Early Childhood Education and Care.

In principle, a key strength of formally engaging with UDL educator peer learning is that it exposes its participants to a complete and systematic understanding of UDL practice by incorporating its members' complementary perspectives with reflexivity. Brookfield (2017) argues for critical reflection of teaching practices as a method for interrogating assumptions held, checking their validity and accuracy, and reframe these where necessary. Given this, all participants felt that the Digital Badge provided an important opportunity to enhance their practice. The following three case studies present the key reflections of five triad peer group members about the evolving processes and outcomes of the learning re-design activity at the heart of the UDL Digital Badge.

### **3. CASE STUDIES**

#### **3.1. Case Study 1: Providing Multiple Means of Engagement**

##### **3.1.1. Approach**

Creating high quality instructional materials and authentic assessments is important for learner success; though it is only meaningful if the learner is engaging with those materials. There are significant differences in how learners can be motivated to learn, and there is not one means of engagement that will be optimal for all learners in all contexts (CAST, 2018). Thus, the first goal of a UDL approach is to design multiple options for learners to engage: for example, with the content, with the mode of access/delivery, with the teacher, and with their peers.

This case study outlines the redesign of an assessment for "Professional Practice", a third-year module in the Creative Digital Media undergraduate programme. The learning outcomes for this module include requirements to describe and analyse working patterns, career opportunities and trends within the digital media industry, and identify and reflect on their own skills and career aspirations within the sector.

The original assignment brief required students to research and write a report on one of four sectors in the digital media industry. While this brief allowed students a certain limited degree of choice, it was felt that there was considerable potential for improvement regarding scope, personalisation, and metacognitive reflection, with the goal of enhancing students' interest in and personal critical analysis of potential career opportunities. The assignment was therefore reviewed through a UDL lens, with particular attention paid to providing multiple means of engagement (CAST, 2018). As shown in Figure 1, the UDL guidelines for engagement consist of three principles – providing options for recruiting interest, for sustaining effort and persistence, and for self-regulation. Within these guidelines, four checkpoints (CP) were identified as being of specific relevance:

- Optimise individual choice and autonomy (CP 7.1);
- Optimise relevance and authenticity (CP 7.2);
- Heighten salience of goals and objectives (CP 8.1); and
- Develop self-assessment and reflection (CP 9.3).

To optimise individual choice and autonomy (CP 7.1), the first step was to ask the students what interested them. A class survey revealed a wide diversity of professional interests, with 21 different career preferences represented. The assignment was then redesigned to encourage students to research any sector in the digital media industry that interested them (e.g., animation, sound design, branding, game design, AR/VR, or any other sector of their choice).

The redesigned brief also allowed students to submit their report in any appropriately portable format (e.g., written report, video, website, infographic, podcast, etc.). Offering such multiple means not only provided autonomy, it also enhanced the relevance and authenticity of the task (CP 7.2) as the topic could be aligned to individual professional interests. Similarly, students could determine their individual goals and objectives (CP 8.1) by researching a sector relevant to their own career potential. Finally, students were required to evaluate and reflect (CP 9.3) on how their own skills, experience and attributes matched the requirements for a career in their selected industry sector.

### 3.1.2. Results and Discussion

The outcomes of this UDL initiative were very positive. A post-submission feedback survey indicated that 100% of students welcomed the opportunity to respectively choose the topic and format of their report. Typical comments included:

*"This helps me express myself the way I want to, the way that makes it actually fun to do! It's a joy to cover both topics and formats that I enjoy,"*

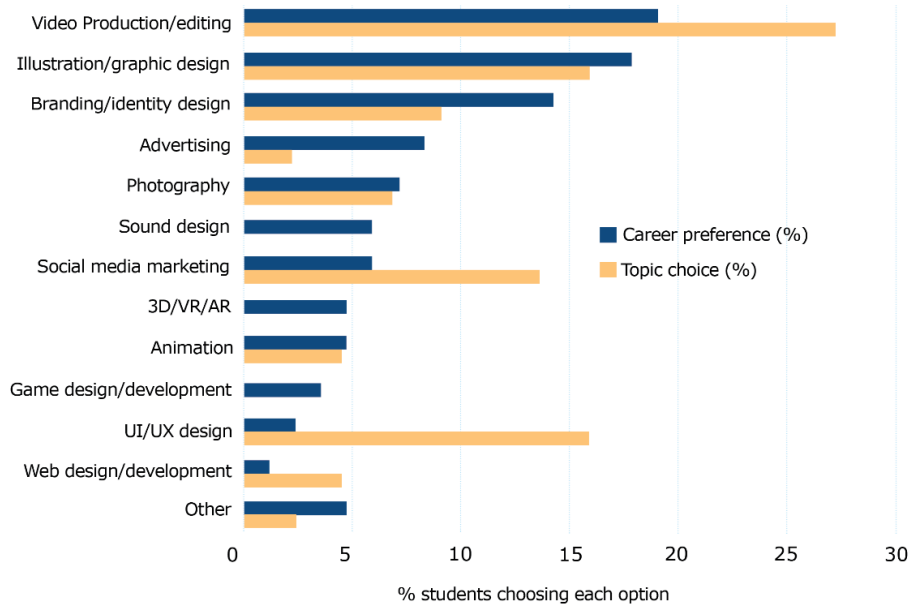
*"I personally think the freedom to choose the format and topic gives me more of a drive to deliver my best possible work for this assignment."*

As illustrated in Figure 2, there was a wide variety of industry sectors represented in the reports. The choice of topic only partially correlates with the initial stated preferences, with a marked increase in the selection of two topics, UX/UI Design and Social Media Marketing. Students had only recently been introduced to these topics in their modules, and thus the increases probably reflect increased familiarity with those topics.

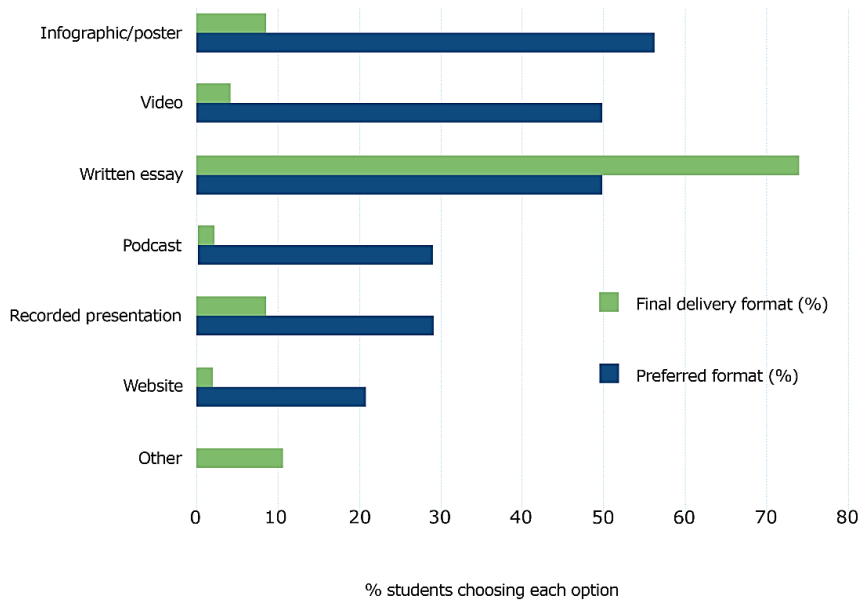
Figure 3 reveals another surprising result. Despite welcoming the fact that they had choice in assignment format, a majority of students still opted for the customary format of a written essay. Qualitative responses to the survey indicated that students felt time-poor at the end of the semester, and many opted for a familiar format, even though it was not their first preference.

These observations highlight the importance of providing support, guidance, exemplars, and time to practice when offering multiple means of engagement and expression, to allow learners to become confident and fully embrace wider opportunities.

*Figure 2.*  
*Career preferences (ranked in order of preference) as stated in three class surveys (n=84) vs final choice of research topic (n=44).*



*Figure 3.*  
*Choice of delivery format in the redesigned assignment, vs format preferences of students when they are not constrained by time or skills (n=44).*



### **3.1.3. Impact of Peer Triad**

One of the biggest challenges in redesigning an assignment in line with UDL guidelines is how to incorporate the multiple means of engagement and action/expression fairly and transparently, particularly in regard to defining equivalent specifications for different assessment types. Discussion with the peer triad helped to tease out these problems and identify useful tools and resources (e.g. O'Neill, 2011; Nottingham University, n.d.; Rice University Center for Teaching Excellence, n.d.). Similarly, peer discussion helped to unravel the potential reasons behind student choices in different contexts, and to brainstorm ideas for supporting and scaffolding unfamiliar assignments. Being part of a peer group has significant benefits when designing and applying teaching innovations; all members learn synergistically from the group's shared experiences and have greater confidence in applying such lessons to future implementations.

## **3.2. Case study 2: Providing Multiple Means of Representation**

### **3.2.1. Approach**

Sensory disabilities, cultural differences, and learning differences among students all contribute to the need to present information in several different formats. This second case study details a redesign process aimed at increasing means of representation within a first-year module, particularly in relation to guideline 1 of the UDL guidelines; 'Provide options for perception' (see Figure 1).

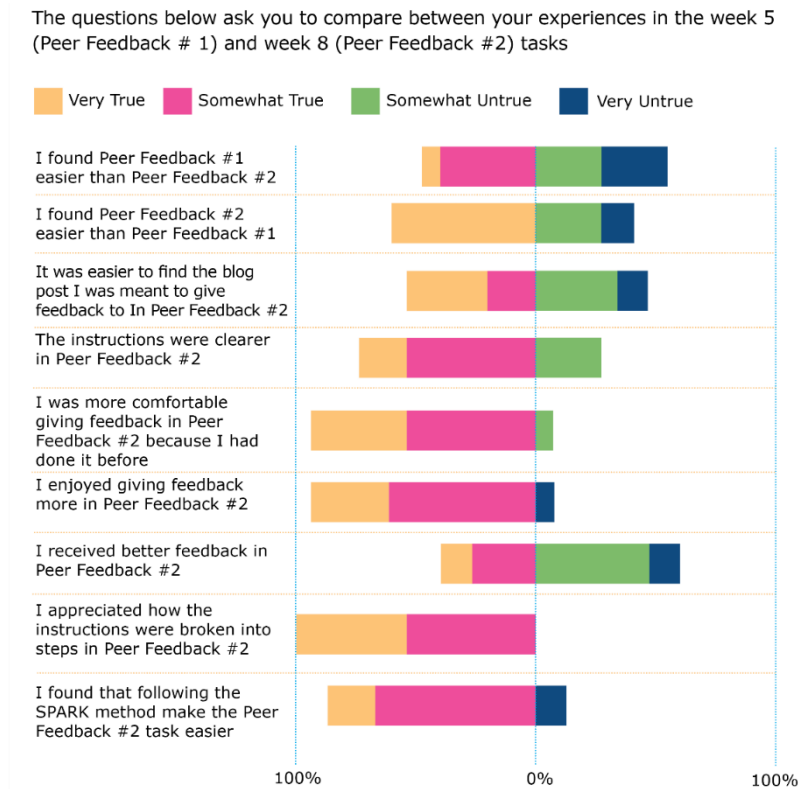
Prior to the redesign activity multiple options for perception were already designed into the relevant module. Class notes and materials were available in a customisable written form, audio versions of written notes were made available, and much of the course material was available in multiple formats. For this redesign activity the instructions that were given to students in relation to peer review were targeted for improvement. This activity provided a good basis for assessing the impact of UDL principles in the short-term as it was an activity that occurred more than once throughout the semester.

Learners participated in a peer feedback activity in week 5 and again in week 8 of the semester. While originally both feedback activities were identical in structure, this redesign reviewed the structure and formatting of the instructions for the second activity with a view to increasing clarity. In accordance with UDL Guideline 1 the following were implemented: break-down of instructions into step-by-step guidelines, increased use of headings and sub-headings, and increased use of font size and colour to communicate information and to separate and differentiate advice from instructions. Overall, the aim of this redesign was to provide a clear visual hierarchy of information which would help learners to navigate and engage more effectively with this activity's instructions.

### **3.2.2. Results and Discussion**

Following completion, a short survey was issued to learners. Most learners (73%) perceived the instructions for the second task as clearer than the first. Indeed, almost all respondents (93%) enjoyed the second feedback task more than the first. However, most of those learners thought this was simply a practice effect, whereby they felt more familiar with the task on the second occasion having practiced it once before. Nonetheless, all respondents indicated that they appreciated the breaking down of instructions into steps, and most (86.7%) indicated that it made the task easier to engage with (see Figure 4).

*Figure 4.*  
Learner responses – comparison of first and second feedback tasks (n=15).



In practical terms, a significant improvement was noted in the learner comprehension and completion of the activity on the second occasion. Following the first completion several learners submitted work that had missed one or more steps in the process as laid out in the task instructions. There was a notably higher level of completion (+10.2%) in the second feedback activity and there were less queries received relating to the second activity, and the tasks were more likely to have been carried out correctly and completely. While several variables, (stage in the semester, prior experience of the task) influenced the learner experience and feedback, this case study provides encouragement that providing additional options for perception increases activity completion and learner satisfaction.

### 3.2.3. Impact of Peer Triad

The main challenge faced in this redesign activity was in identifying something that could reasonably be adapted within the 10-week timeframe of the UDL Digital Badge. While there was certainly a temptation to redesign the whole module from the ground up this was not practical within the timescale available, nor was it appropriate within the scope of the UDL Digital Badge. Through discussions with the triad, the direction and scope of this redesign was appropriately scaled back and realigned. The peer group provided feedback on the redesign concept, the initial redesign at the pre-implementation stage, and gave input and feedback on the survey used to evaluate the results.



### **3.3 Case Study 3: Providing Multiple Means of Action and Expression**

#### **3.3.1. Approach**

Multiple means of action and expression is considered the “How” of Learning. Invisible disabilities and other learning difficulties can have a significant impact on a student's mode of action and knowledge expression (Ross, 2019). Because learners differ, there is no one-size-fits-all approach to expressing themselves that will work for everyone. It is incumbent therefore on the educator to provide multiple means of expressing how they represent their knowledge and skills.

For this third and final case study the UDL principle “Multiple means of action and expression” was applied in the redesign of a final assessment brief for an undergraduate module in visual design that accounted for 40% of the overall grade of the module. There are three areas where multiple means of action and expression can be provided: physical action, expression and communication, and executive functioning (CAST, 2018). The latter two guidelines were implemented into the redesign of the assessment brief.

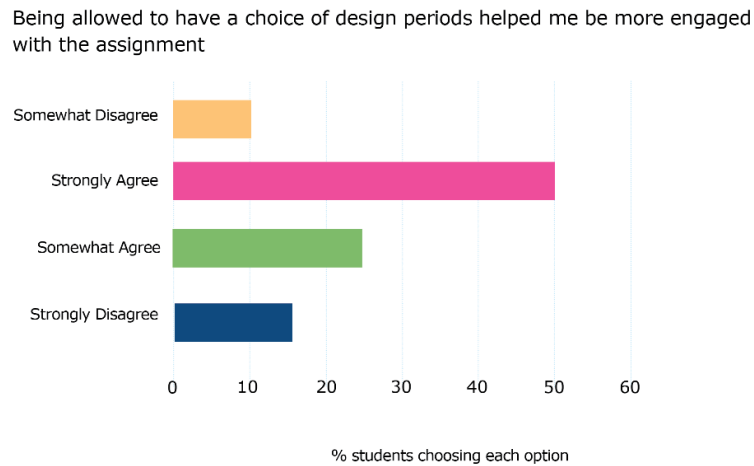
UDL-enhanced “Expression and Communication” was incorporated into the assessment brief in two ways. The first was by including activities that fostered the use of imagination to solve novel and relevant problems, or to make sense of complex ideas in creative ways that suited their mode of expression. The students were tasked with presenting their own interpretation of the broad problem that required solving. This ensured autonomy and freedom to express how their creativity and problem-solving skills related to their own interpretations of the problem solution. In other words, it promoted solving complex problems in a creative way that suited their mode of expression. The assessment brief was co-designed with the students to promote this autonomy within their own learning.

The second way that UDL-enhanced “Expression and Communication” was incorporated by providing students with options of presenting their knowledge in different formats; from the perspective of assessing knowledge transfer this was considered crucial for the effective evaluation of students who struggle with certain types of communication. Students could choose to present their assessment in a written report or by presenting their final output addressing the outcome and process via a recorded presentation.

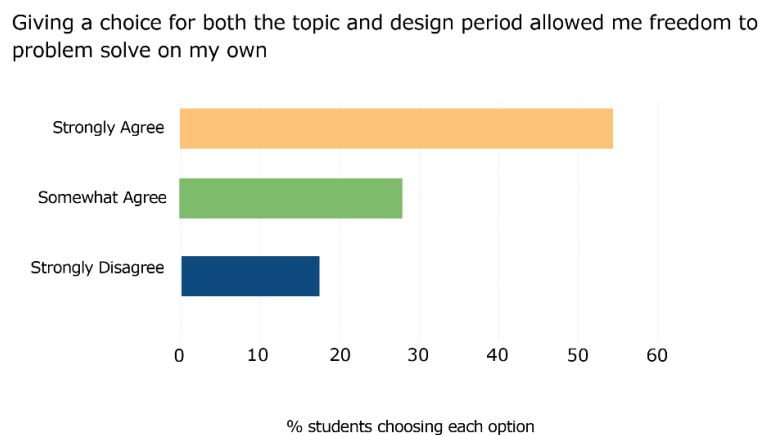
#### **3.3.2. Results and Discussion**

Post assessment, 52 students completed a feedback survey on the redesign of the assessment brief. 50% strongly agreed, while 24% somewhat agreed they were more engaged with the assignment because of being allowed to choose the scope of their respective projects (see Figure 5). 61% strongly agreed that providing a choice of topics for the assignment gave them more scope for creativity, 54% strongly agreed that choice gave them freedom in a more creative way. As a result of co-designing the assessment brief with the students 51% reported that they had more ownership of their own learning (see Figure 6). 40% of the students indicated that having implicit milestones in the brief worked for them. 46% of students agreed that feedback at certain milestones engaged them to keep on track with their assignment.

*Figure 5.*  
*Learner responses – providing choice in assignments and the impact on engagement (n=52).*



*Figure 6.*  
*Learner responses – providing choice and ownership of learning (n=52).*



To complement the "Executive Function" guideline of assisting students in becoming expert learners, the assessment brief emphasised planning and building a time management strategy; this was accomplished by offering weekly goals and checklists to keep students on track. To ensure that the students could monitor their progress, feedback milestones were built into the assessment brief, feedback sessions enabled the student to move from various stages of their project. A self-assessment rubric was implemented so that students could grade their own progress giving them a sense of ownership of their own progress. Providing the student with weekly milestones supported and motivated them to regularly engage with their assignments, greatly facilitating incremental feedback and thus learning.

Reflecting on this redesign process, it was encouraging to see the positive learning experience reported by the students. Providing learners with options and flexibility in their

assessment increased engagement (see Figure 5) and gave the students a sense of authentic investment in their own learning. It is evident that implementing even minor changes in line with UDL principles provides a noticeably more inclusive experience for the learner.

### 3.3.3. Impact of Peer Triad

Working in a Triad was beneficial for so many reasons:

1. **Providing support:** Having a weekly meeting provided us with both academic and emotional support, while also professionally validating each other's work against the UDL Digital Badge's key milestones. Being in a triad group also gave each member a sense of commitment to work together toward our common goal of completing each component of the UDL Digital Badge. This shared purpose, and our groups' existing familiarity with reflective practice fostered a sense of trust within the triad that served as its bedrock.
2. **Sharing of knowledge:** during weekly meetings, each member of the triad had the freedom to adventurously share ideas about UDL in a supportive environment. We all benefitted from the diverse skills and experience that each group member had, it also provided each of us with the opportunity to network with new colleagues from new disciplines.
3. **Openness:** Being able to tease out problems/challenges and ideas in a supportive and trusting environment encouraged all five triad members to non-defensively and indeed collaboratively re-design their respective modules. This collaborative process was a valuable learning experience for all five peers, and it underscored the importance of the socially inclusive agenda at the heart of the UDL approach. Collaborative reflection on new ideas not only gave the group the confidence to incorporate UDL principles into their teaching practices, it also served as the basis for modelling similar collaborative learning processes with and among their students.

### 3.4. Peer Learning Triads

*"I have learnt so much from working with my peers; we shared resources, supported one another, brainstormed ideas, teased out problems and became a strong unit for working on new ideas of how to implement UDL into our teaching and learning practice."*

One of the most unique components of National Forum Digital Badges is the introduction of the 'triad' format. Several benefits of peer triads for academics have been noted by Grainger, Bridgstock, Houston, and Drew (2015), including positive benefits for pedagogy and increased teaching confidence. The triad format aims to facilitate regular interactions and discussions among small groups of peers, providing both support and evaluation. This format is applied across all National Forum Digital Badges, as they consider it an accessible approach that encourages participation and allows for rich discussion and knowledge-sharing, while also being rigorous enough to maintain the badges' credibility (Donnelly & Maguire, 2020). Upon embarking on the badge, each participant is assigned to a group of peers. This triad remains a fixed element throughout the process, and at the end of the course the triad members provide an affirmation of the participation of each member.

In our case, the triad had five members. Each group member came to the process with some interest and understanding of UDL, and through weekly discussion, debate, and sharing of experiences we have each developed a more complete understanding, and structured and robust approach. We met weekly over the course of the badge and this format has provided many invaluable insights into how accessibility can be embedded into teaching practices and approaches. The synergy between our individual ongoing reflections, combined with deeper

engagement and discussion with learners, and those reflections co-constructed with triad partners has enabled each of us to identify areas that can be improved by further refinement. The combination of these modes of reflection certainly amounted to more than the sum of its parts and the triad has provided an invaluable space for members to triangulate combined knowledge and resources, engage in group problem solving, and develop innovative solutions to pedagogical challenges.

Teaching staff within the institute are all very busy, and there is often limited flexibility available for many staff in terms of their teaching schedule. If we are to give everyone the best chance of participating in and completing an important piece of CPD such as the UDL badge, then it is imperative that participation is not subject to the ability to attend regular meetings at a predetermined time and place. The peer triad model facilitates flexibility in this. Triads, constructed of small groups of colleagues, can consider the individual circumstances of their group members and plan to meet at a time of their choosing.

Even so, we recommend that each triad consider implementing a weekly schedule if one can be found that works. For us, weekly peer meetings with colleagues provided impetus and drive, and have encouraged open discussion, bringing fresh perspectives, and providing instrumental feedback on our UDL ideas and activity redesigns. Weekly discussion has allowed us to develop a common vocabulary and understanding of the UDL Framework, and the collegial format has provided a dedicated space and time to explore the UDL principles and consider how these can be best applied to both teaching and learning activities to create a more inclusive learning experience for our diverse cohorts of learners. This process of examining where UDL improvements can be embedded into each member's teaching practices allows us to continue to implement UDL elements in our teaching and learning practices in small but significant ways. We also suggest that there is significant benefit to continuing with regular meetings even beyond the parameters of the UDL Digital Badge. Our triad continues to meet regularly throughout the subsequent teaching year to discuss UDL concepts and approaches that can help to make the modules we deliver even more accessible in the future.

#### **4. CONCLUSION/DISCUSSION**

Throughout the digital badge a "plus one" approach was advocated, asking participants to focus on one small area of their course design and delivery and make changes to improve the learner experience. The case studies discussed above indicate that it is possible to implement small, incremental changes over a short period of time, and these can be built on to foster further improvements. The current findings, while tentative, are very positive overall, indicating that even small changes that are informed by a UDL perspective can improve learner experience, engagement, and output. The incremental nature of the UDL plus one approach means that each module design and delivery can continue to be improved on an ongoing basis, where small incremental efforts can over time result in substantial changes for learners.

The peer support provided as part of the UDL Digital Badge has given the present authors a renewed commitment to further developing a UDL culture within TU Dublin, both in research and practice. Our experiences as a peer learning group have usefully paralleled the challenges faced by our learners. In deliberately and systematically incorporating UDL principles into our teaching practice on an ongoing basis, we thus strive to enable our students in turn to reflect upon, support and learn from each other's diverse approaches to learning and understanding.

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Irene is enthusiastic about best practice in teaching and pedagogy. She has a Postgraduate Certificate in University Learning and Teaching from TU Dublin and continues to engage in professional development in this area. During her years teaching she has developed and delivered content in numerous areas within the field of Creative Digital Media. Irene is a facilitator for the National Forum digital badge in Universal Design for Learning and an active member of a working group on Universal Design for Learning within the faculty.

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