

# Partnership as a New Way of Teaching and Learning: Reflection on my UDL Journey.

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## Abstract.

The article explores different types of academic partnerships through Gamification, Active learning, and the Universal Design for Learning (UDL) for effective collaboration between students, staff, and subject matter experts in curriculum design and content development. It presents practical teaching examples that may be relevant to various educational environments with a specific emphasis on the three UDL framework principles: multiple means of engagement, representation, and action and expression. The author reflects on the UDL journey in the Level 7 Bachelor of Science Additive Manufacturing programme design and delivery for the School of Engineering, SETU, and how that reflection may resonate with a broader cohort of teachers and educators. The paper highlights the importance of the student's voice and how it can be included in the learning process to make everyone feel involved, '*heard*,' and responsible for the work outcome. The article considers partnership as a new addition to teaching and learning that can support the development of soft skills like problem-solving, critical thinking, team building, and time management and encourage engagement and collaboration through co-design, co-learning, and co-development.

**Keywords:** UDL, Partnership, Gamification, Active Learning

# 1. Introduction.

Teaching and learning practices are continually evolving, and practices nowadays vary a lot from what some of us may remember from our own education. Teaching methods, approaches, the whole teaching mindset, and even values have changed so much that if some of our own teachers and lecturers could see us teaching now, they would be very impressed.

Students, without a doubt, are the centre of attention in the teaching and learning process. We aim to support them in every possible way we can. We analyse learning data, design learning personas, provide students with choices in assessment activities and access to assistive technologies, improve our own skills and teaching methods, and do so many other things. But is it always enough to create accessible learning materials or continually develop cutting-edge pedagogical strategies? What is our major goal, and how best to achieve it? Do our learners think the same as us when we think we are doing incredibly well? How often do we really consider including “*their thinking*” into “*our teaching space*”?

## 1.1 Background.

Building students’ engagement and encouraging active participation can be a challenging task. Getting to know our learners and their learners’ needs is essential for creating a welcoming academic and inclusive environment. One of the ways to promote social and academic engagement is by encouraging students’ sense of belonging to the educational environments (Thomas, 2012) when everyone feels “*accepted, valued, included, and encouraged by others (teachers and peers)*” (Goodenow, 1993, p. 25).

Cohorts of students that we meet in our academic classrooms are usually diverse in terms of age, gender, ability, or socioeconomic background (Edyburn, 2005). Fostering an inclusive teaching and learning environment based on the use of the Universal Design for Learning (UDL) framework (Meyer, Rose, & Gordon, 2014) has proven to be vital in removing barriers for students to access the curriculum (Garraad & Nolan, 2023).

The UDL Guidelines framework is based on three main principles: providing multiple means of engagement, representation, and action and expression (CAST, The UDL Guidelines, 2024). However, implementing this framework requires more than just improving the tasks or curriculum, it is “*a shift in thinking and a change of behaviour at an institutional level*” (AHEAD, Universal Design for Learning, para. 1, n.d.).

## 1.2 About the programme, team and learners.

I designed a Level 7 (60 credits) Bachelor of Science Additive Manufacturing (AM) programme for the School of Engineering, which piloted in September 2022 as an HCI and HEA-funded project. It was the first AM programme at this level in SETU and Ireland tailored to meet the needs of the 3D printing industries in the South-East region. This one-year, intense, part-time, blended programme targeted adult learners already working in the AM field and seeking certification and skill enhancement. I developed it in the learning management system (LMS), Moodle, for the main course content, and the AI-powered platform, SLACK, as additional communication channels among staff and students. The unique aspect of the programme was the concurrent delivery of every two modules out of six within one year.

The challenges that the programme team had to overcome throughout the course demonstrated the importance of flexible approaches and prioritising team goals over individual ambitions. This fostered collaboration and enhanced how we worked, designed, taught, and interacted with each other and our students. The improved collaboration became a key driver and motivator for teaching and learning throughout the programme.

Learning to collaborate was challenging for several reasons. Our team was diverse, comprised of a programme manager, myself as an instructional designer, over ten subject matter experts from Ireland, Spain, Italy, Brazil and the UK, and a lecturer who joined us midway through the programme. This diversity, while presenting challenges due to varying levels of pedagogical knowledge and expertise, ultimately contributed to a richer learning experience for everyone.

The student cohort of sixteen learners had a diverse mix of educational backgrounds, work experiences, nationalities, and ages too. It also consisted of individuals with different disabilities and the students who had accessed the programme via Recognition of Prior Learning (RPL).

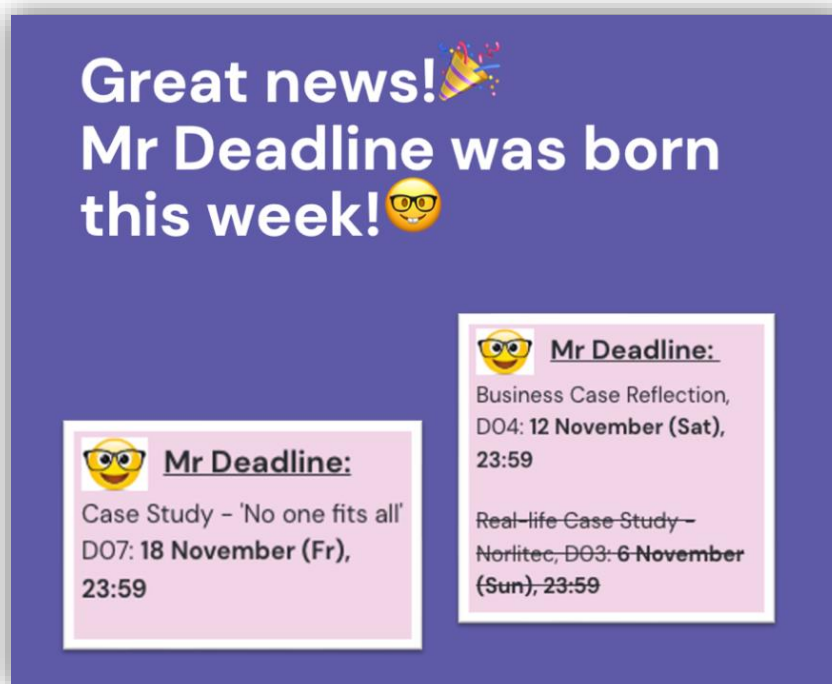
## 2. Gamification as the Start of my UDL Journey.

Gamification is “*the use of game design elements in nongame contexts*” (Deterding, Dixon, Khaled, & Nacke, 2011, p. 10) that can engage users to participate in educational activities. Gamified learning as game elements compared to game-based learning (GBL) (Wiggins, 2016) promotes competition, effective teamwork and communication in the digital learning environment and improves student engagement, performance and attitude in the teaching and learning process (Subhash & Cudney, 2018).

By embracing gamification as a collaborative partnership during my UDL journey, I co-designed gamified element to support student needs, fostering a more inclusive and engaging learning environment. It also helped improve the graphic design of the modules and led to the development of games and game-based approaches throughout the curriculum.

One of the things I learned during the first year was the importance of “*hearing*” our students and trying to put myself in their shoes. As a result, I developed a gamified person in LMS as the HTML block on the right side of the page and called it Mr Deadline. That was a direct response to our students’ need and the constant demand to get all the assessment activities somewhere in one prominent place so that no one could miss them. I can confirm that students liked this idea, the name and even the bright background colour and took an active part in helping me redesign Mr Deadline to meet their tastes and needs.

**Figure 1: The image shows the first screenshots of Mr Deadline in Moodle and the text that students saw in the announcement in SLACK before the class when they suggested their list of changes.**

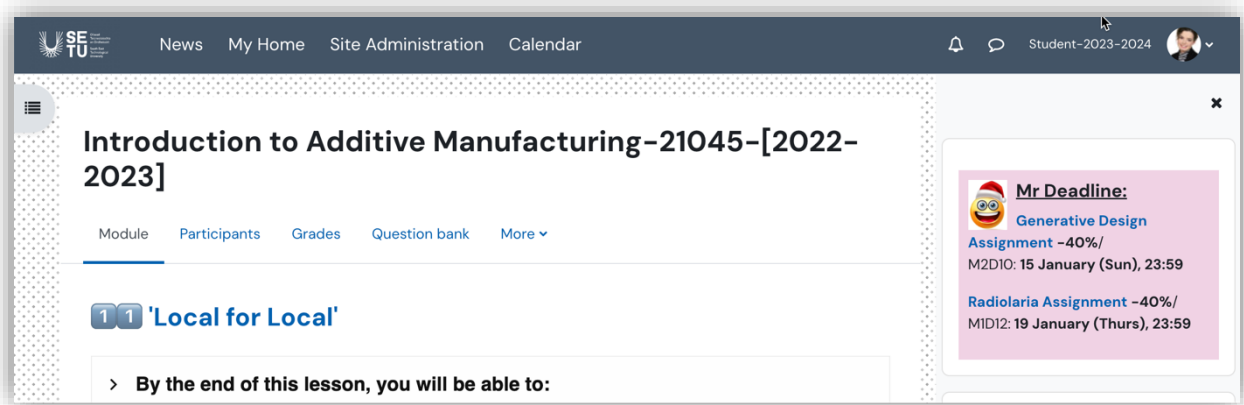


Students became interested in the idea of ‘*Mr Deadline*’ and asked me to redesign it. They created a list of things they all agreed should be changed to meet their needs:

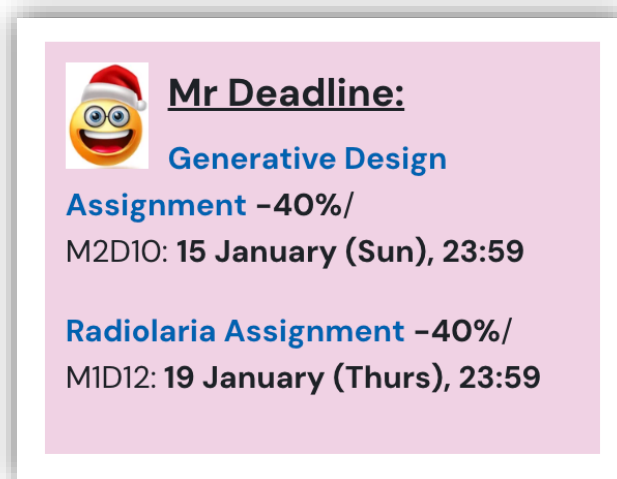
- Combine ‘*Mr Deadline*’ from both modules with shared assessment information.
- Add the percentage weight for assignments.

- Add module numbers for easy differentiation between the two modules.
- Prioritise Assignments in the list by their deadlines.
- Delete the old assignments from the list once their deadline expires.
- Make 'Mr Deadline' available on every Moodle page, not just the main page.
- Add direct links to assignments in 'Mr Deadline'.

**Figure 2: The image shows a screenshot of the Moodle page with a co-edited Mr Deadline block based on students' suggestions.**



**Figure 3: The image shows a separate screenshot of the Mr Deadline block after co-editing with students.**



As a result, 'Mr Deadline' became 'owned' by the course members, wearing different faces depending on the seasons, the difficulty of the assignments and sometimes the weekly

activities. Here is some feedback from the students:

*“Mr Deadline was very handy to use as a quick reference or access point to upcoming projects and their deadlines.”*

*“Mr Deadline was quick and easy to use via the links that were attached to each project.”*

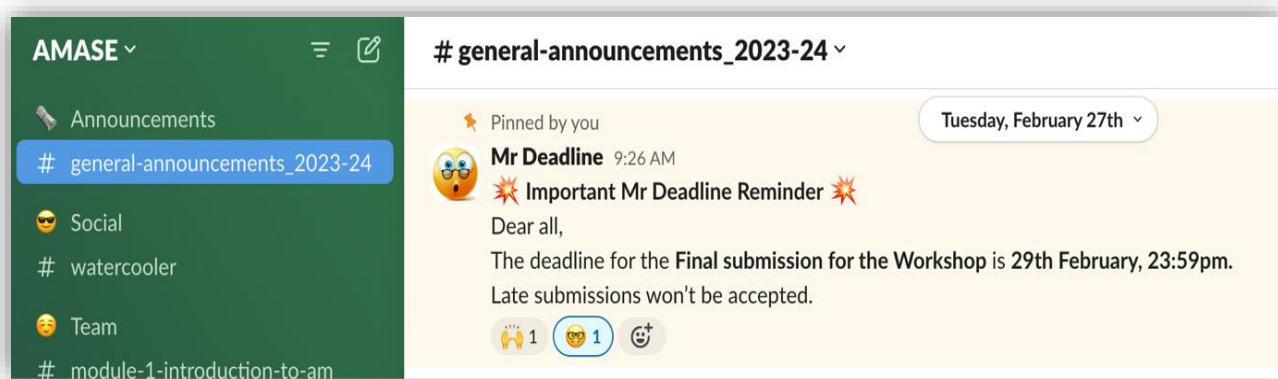
Not only that, but ‘Mr Deadline’ was helpful, even making new assignments available on time with all the links, deadlines and data. He announced weekly news, materials, and tasks via SLACK, and it allowed me to introduce the nudge-learning approach into the curriculum as “a gentle push or a little guidance in the right direction” (Sood, eLearning Industry, para. 2, 2020).

I developed an individual signature for ‘Mr Deadline’ announcements and different types of first lines for reminders, ranging from ironic and cheerful to more demanding. It helped students realise our needs and the level of importance, too. For example, *Friendly Mr Deadline Reminder*, *Important Mr Deadline Reminder* and *Cruel Mr Deadline Reminder*.

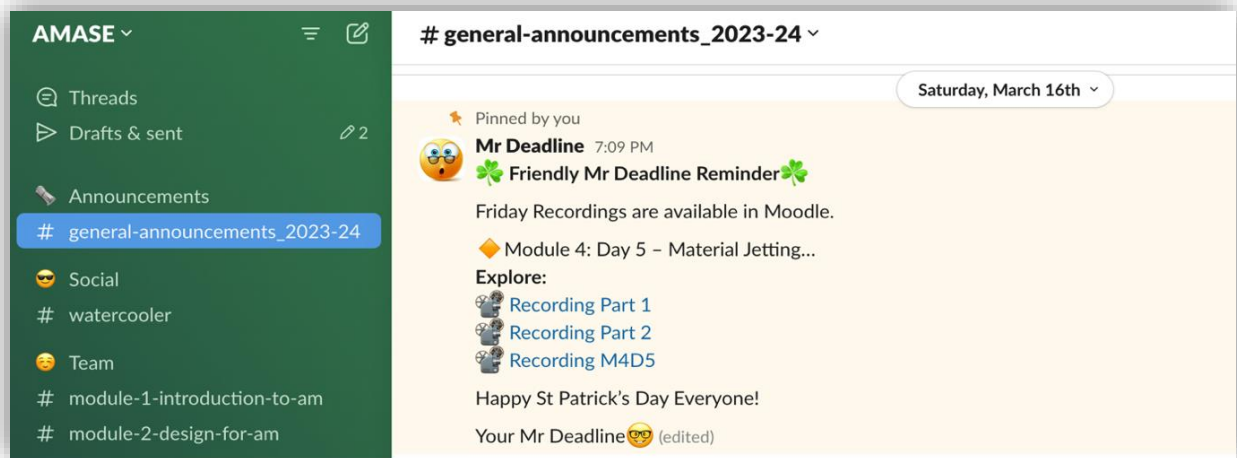
‘Mr Deadline’s’ collaborative project with students was the start of my UDL journey and a new way of working with students through partnership and co-design. It allowed me to motivate student’s interest in learning (engagement) and present assessment information in a different, unusual and useful way (representation).

‘Mr Deadline’ influenced the creation of a separate **Assessment section** in Moodle for all assessment documents in each module, including Assessment strategy as the overall module description, lecturers and subject matter experts’ whole class feedback notes and the assessment tasks. I developed the Assessment block as an alternative to ‘Mr Deadline’ and another means of assessment materials and information representation in the modules.

**Figure 4: The image shows an example of ‘Important’ Mr Deadline reminders for students in SLACK.**



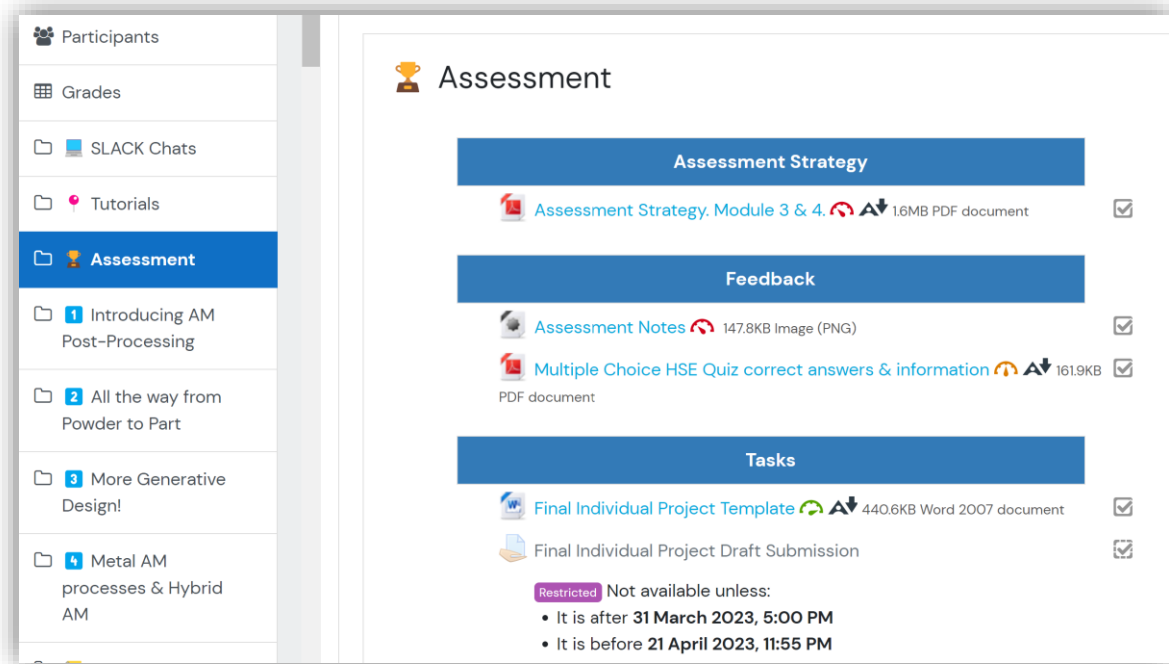
**Figure 5: The image shows an example of 'Friendly' Mr Deadline reminders for students in SLACK.**



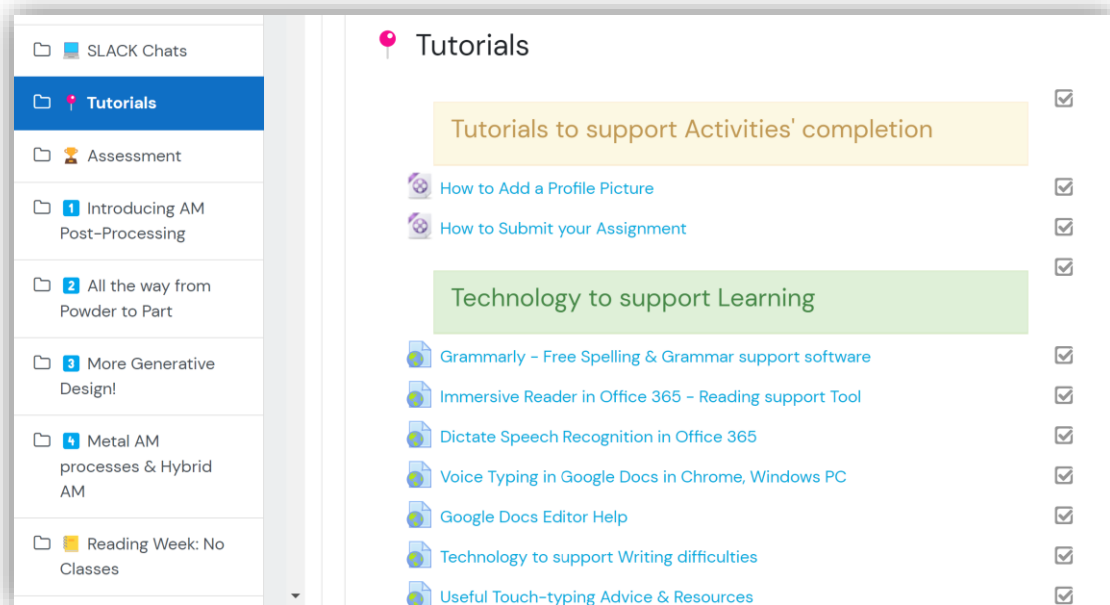
Another influence of 'Mr Deadline' and students' feedback was the development of a **Tutorials section** to help students with learning difficulties, disabilities and those who were not familiar with Moodle and the programme technology and needed guidance for completing the tasks. As a result, I included two main blocks in this section: tutorials to support activities' completion and technology to support learning. This was an approach to support students' engagement by recruiting interest and minimizing threats and distractions in the learning environment (CAST, Engagement, Guideline 7, Checkpoint 7.3, 2024). That's what one of the learners said about the programme support: *'At no point did I ever feel left behind, and that was my biggest relief.'*

A gamified person inspired me to include gamified elements in our forum activities and communication with students. For example, one of the games that students liked playing was **"Spot the Difference!"** This game started as a joke during one of the classes, and then we made it into a continuous activity throughout the programme.

**Figure 6: The image shows the Assessment section in Moodle. It consists of three parts: Assessment Strategy, Feedback and Tasks.**



**Figure 7. The image shows the Tutorial section in Moodle, which was designed specifically for students with disabilities and different learning needs and preferences. It consists of two parts: Tutorials to support Activity completion and Technology to support Learning.**



Inevitably, the first pilot program run revealed minor areas for improvement in the content.



Fortunately, a dedicated group of volunteer learners emerged, eager to help me refine announcements and course materials. They proactively notified me of any issues they spotted, often with a touch of humour, via Slack messages. It allowed me to improve the links, missing data, and errors almost “*on the go*”. As a result, I re-evaluated and co-edited many of the course content and activities already at the delivery stage and in the usual circumstances that would have normally happened after the end of the programme. Thanks to our diligent students, their responsible attitude to the learning process, and their sense of humour, I saved lots of time and effort. This partnership, the longest during the programme, allowed some of the students to express their feelings of belonging to the programme by taking responsibility and helping me regularly check the content.

Gamification and Partnership were closely connected throughout my UDL journey. This collaborative approach fostered a sense of belonging and community among staff, subject matter experts, and current and former students. It was beneficial not just for co-developing engaging learning experiences and inclusive approaches but also for co-designing programme materials and curriculum. It inspired a sense of belonging and community among us all.

### **3. Partnership as Another Form of UDL.**

The idea of partnership in my UDL journey is based on the conceptual model offered by Healey, Flint & Harrington, who defined partnership as a “*process*” rather than an outcome when all the participants are actively engaged and “*stand to gain from the process of learning and working together*” (Healey, Flint, & Harrington, Engagement through partnership: students as partners in learning and teaching in higher education, 2014, p. 7). A successful partnership is more than an activity. It is a mindset with a set of principles and values. Through our partnership, I fostered a sense of responsibility for our shared work in the program, respect for others, and a sense of community and trust – all core values of successful partnerships according to the Framework for partnership in learning and teaching in higher education (Flint & Harrington, 2014).

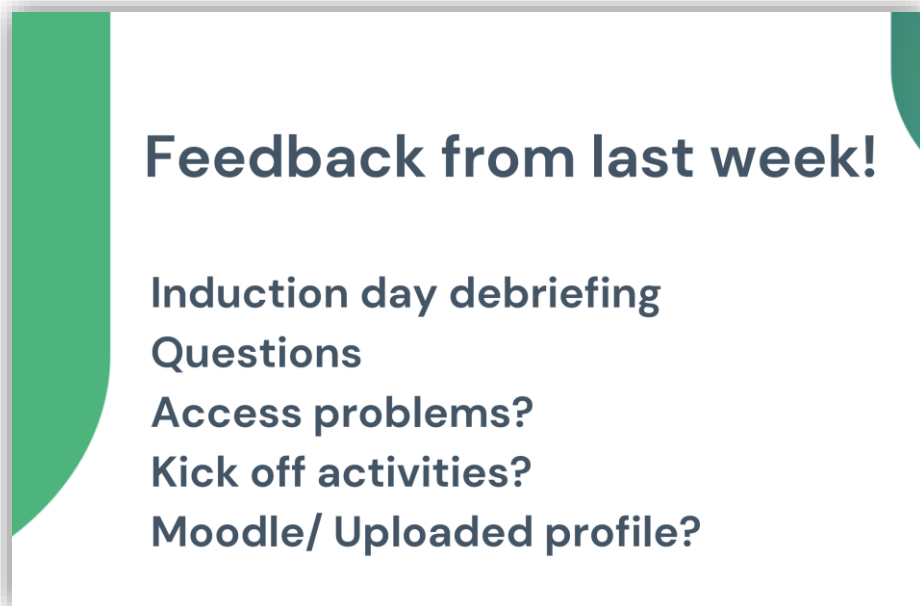
Partnership and students’ engagement during my UDL journey are also closely connected with the idea of an Active learning approach as it includes group work, collaborative learning and inspired the development of higher-order thinking by constructing new knowledge and building new skills (Handelsman, Miller, & Pfund, 2007), (Freeman, et al., 2014), (Carr, Palmer, & Hagel, 2015).

Gamification, Active learning, UDL and student and staff engagement through partnership for

teaching and learning led to further co-design, co-development and co-learning together. It served as a catalyst for many other UDL initiatives and partnerships among students and between students and staff.

To motivate our students to give regular feedback as part of their learning journey, I designed different PowerPoint templates for each programme module for lecturers and subject matter experts, with one of the slides in each template for students. I called this slide “*Feedback from last week*” to make it easy for lecturers to remember to ask students for feedback at the beginning of each class. It’s interesting to note that the lecturers and the subject matter experts tended to use this slide mainly to provide their own feedback. It took some time at the beginning to get everyone in agreement, and it was worth the effort. Regularly asking students for feedback through this slide developed a habit of giving feedback. I received more comments throughout the course, especially by the end, than I anticipated. Students and staff discussed and analysed different activities and Moodle design informally. This partnership helped me significantly improve the design of the content and some of the teaching strategies. It also encouraged engagement and exchanging opinions for both staff and students.

**Figure 8: The image shows the Feedback slide for students from Module 1, ‘Feedback from last week!’ It contains hints to encourage students to give feedback on the learning process.**



Having no experience with additive manufacturing or engineering, as an instructional designer, I found it surprisingly valuable to discuss some of the learning challenges with my students. This empathy, particularly during collaborative activities, proved to be extremely helpful in assessing

the programme's effectiveness from their perspective.

One of the interesting examples of UDL's partnership with students was **redesigning rubrics together** for case study assignment. It worked out well and was mutually beneficial for me and for the students. We learnt a lot from each other. I learnt how students interpret different terms for a given topic as well as any potential challenges. I also learnt to evaluate the rubrics and assignments from their perspective, which enabled me to redesign the assessment criteria, learning outcomes and some task components. The students, I think, gained an understanding of our staff's perspective when creating similar tasks and our true expectations for our learners. Additionally, they learnt how to handle assessment requirements, study the class materials and respond to the task's questions. This partnership offered another way for our students to learn to self-assess and reflect on their knowledge.

Attempting to get staff and students involved in the **assessment process** for the programme's final presentation-based assignment was another challenging UDL collaborative activity to organise. It took quite a while to convince staff that it was something both feasible and worthwhile, and it required lots of planning and preparation to decide on the structure, organisation, and assessment criteria that staff and students would agree to use. As a result, the students were assessing their peer's creativity, coherence and logic in the presentations.

**Figure 9: The image shows an example of the draft document with assessment criteria to be used by staff, and students for peer review.**

Bachelor of Science in Additive Manufacturing											
Module #4 Continuous assessment											
Case Study Presentation/ Peer Assessment											
Student Name:											
		Presentation				Content			Organisation and Integration		
		Clarity of Speech	Use of Presentation Strategies	Enthusiasm and Time Management	Familiarity with the Topic	Appropriateness of the content	Use of relevant examples and illustrations	Suitability of overall presentation	Logic and coherence	Balance on different parts of the ppt	Creativity

We all learnt a lot from this experience and how to trust each other. Including students' voices

and students' thinking in the assessment process gave everyone a sense of belonging. It also encouraged students' engagement in the assessment process and helped develop their assessment literacy by giving them an opportunity to reflect on their own performance by assessing their peers (Deeley & Bovill, 2017). Additionally, it made the assessment process less tedious and stressful and more engaging and valuable for all of us. This partnership inspired purposeful motivation to learn for both staff and students (engagement) and express their knowledge of the course material in a different way (action and expression).

## 4. Conclusion.

There are several other partnership projects that I organised, and there are many more that I am planning to start based on the UDL, Active learning and Gamification approach. Partnership in my UDL learning journey included two of the four broad areas of partnership: active, meaningful collaboration to improve teaching, learning and assessment and curriculum design (Healey, Flint, & Harrington, *Engagement through partnership: students as partners in learning and teaching in higher education*, 2014).

One of my findings is that promoting UDL partnerships through collaborative activities based on students' needs is a powerful way to support the development of soft skills – such as team building, communication, critical thinking, and problem-solving – in a seamless and integrated manner. Integrating soft skills compared to hard skills in the curriculum and assessment can be quite challenging but also crucial for workplace success (Meenakshi, 2009). I discovered a way to encourage collaboration between past and current students by creating videos with the first cohort of students addressed to the next cohort and embedding these videos in the programme design.

Reflecting on where we started just over a year ago, it's clear that collaborative UDL approaches, leading to diverse partnerships, have made this programme a far more enriching and exciting adventure than it could have been on its own. Partnership initiatives foster collaboration on all levels among staff, students, subject matter experts, industries, and learning communities (Flint & Harrington, 2014), which would ultimately enable a cooperative and inclusive approach to teaching and learning. I also discovered that cooperation during the course doesn't necessarily end after the course and can lead to further collaboration and partnership. For example, we invited one of our past students to conduct VR training for this year's students as our subject matter expert and prepared his workshop together.

So, how far we may go when including “*their thinking*” into “*our teaching space*” then only depends on our creativity and ability to see our learners not just as passive consumers of the content that we provide (Casey, et al., 2014) but as active co-creators, co-designers and co-developers of the learning process. From this point of view, UDL partnership and collaboration can be seen as one of the new approaches to teaching, learning, and designing the curriculum. This is a chance to include “*everyone’s thinking*” into “*our mutual teaching and learning space*” in a new, meaningful and transformative way.

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