

Setting learners up for success: a universal design for learning approach to industry placement assessment

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Abstract

The diversity of learners has never been more pronounced with the accessibility to learning through remote means. Universal Design for Learning (UDL) endeavours to address some of the challenges posed by their diverse needs. This research aims to explore the perceptions of learners and their academic supervisor on the use of UDL principles as part of the assessment strategy of an Industry Placement module undertaken in a higher education institution. The learner participants were offered assessment feedback in a number of different formats by the supervisor participant; namely typed and video. The results of the research indicate a very positive response from both stakeholders. Multiple means of representation and action/expression were found to help break down barriers for diverse learners and to set them up for success. Scaffolding and content creation methods that are comparable in terms of workload need to be provided to increase adoption by both stakeholders.

Keywords: *Universal design for learning; multiple means of representation; multiple means of action & expression; assessment strategy; industry placement.*

1. Introduction

Offering learners equal opportunities when it comes to their educational journey seems like something that should be the norm rather than an exception. However, in reality, this is not always the case. Novak (2022, pg. 2) reports that learners often experience “academic, behavioural, social-emotional, cultural, and linguistic barriers” to learning. These diverse needs of learners require a customised approach to learning goals, course content, delivery methods, and assessment. The Universal Design for Learning (UDL) framework developed by Meyer and Rose in the 1990s aims to cater to the diverse needs of learners (Meyer, Rose, and Gordon, 2014). Novak (2022, pg. 19) defines the Center for Applied Special Technology (CAST) UDL framework as “an expression of a belief that all students are capable of learning and that instruction, when crafted and implemented with this belief in mind, can help all students succeed in inclusive and equitable learning environments”. The UDL framework applies a three-pronged approach of multiple means of engagement, multiple means of representation, and multiple means of action/representation (CAST, 2023). Multiple means of engagement enable learners with different motivations to become interested and to successfully complete their programme of learning. Sensory disabilities, learning disabilities, language, and culture all influence how learners understand and comprehend content presented to them. Multiple means of representation set out guidelines to support educators in offering choices to learners. Lastly, the provision of multiple means of action and expression empowers learners to choose the means of communicating their learning in a way that matches their strengths. The importance of choice is reinforced by Merrill and Gonser (2021) when they state, “By centering choice, educators signal openness to negotiating the middle ground and offer students scaffolded opportunities to practice decision making, explore their academic identity, and connect their learning to interests and passions”.

The challenges of remote learning have also become more prominent in recent years and are of interest to this study. While remote delivery has made learning more accessible it has also brought many challenges. There is no in-person contact, and therefore fewer opportunities for informal communications, for clarification and feedback purposes, to take place between learners and lecturers. Both parties need to proactively arrange formal online meetings and/or send emails. This lack of engagement choice is a challenge for diverse learners and a barrier to success. On the other hand in on-campus settings, informal communications happen organically - learners approach lecturers at the end of lectures, chance meetings in the corridors, and/or dropping into a lecturer’s office. These and other informal communication methods provide the on-campus learners with multiple means of communication with their lecturer. Peer-to-peer exchanges are also more prevalent in on-campus learning. The lack of effective interaction in an online environment is confirmed by Tarhini et al (2013). For remote delivery, information representation often defaults to a typed format – such as email/learning platform notifications, assessment briefs, and feedback. While a typed format

is also used as part of face-to-face delivery it is supplemented by other diverse means of communication not feasible and/or applied in remote delivery. This combination of reduced means of communication and reduced means of information representation poses a challenge for remote learners with the diversity of remote learners and their needs far more pronounced when compared with face-to-face learning. UDL literature highlights the value of supporting learners “It’s about eliminating barriers so every student can succeed” (Novak, 2022, pg. 33).

The overall aim of this research was to explore the perceptions of learners and academic supervisors on the implementation of UDL principles as part of the assessment strategy of an *Industry Placement* module undertaken in a higher education institution. This included exploring learners’ views on the possibility of being offered alternative means of expression when submitting assessments in the future and the experience of an academic supervisor using multiple means of representation when providing assessment feedback. The research was developed to address the needs of diverse learners who are engaged in remote learning, specifically on professional placement, who have been found to be under-represented in higher education in Ireland (Waters & Rath, 2022). The stakeholder’s viewpoint will help to understand how the current assessment strategy is meeting the needs of the learners and academic supervisors and what impact UDL principles can have. It is hoped learners’ engagement and success can be improved.

2. Methodology

A case study approach was employed for this research. This involved exploring the participants’ experiences of assessment when UDL principles were applied to a module they were engaged with. Yin (2018, p.15) defines “a case study is an empirical method that investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context”. A stage 3 *Industry Placement* module was selected as the case study for this research. Learners undertake the *Industry Placement* module – worth 40 out of 60 credits - from September to May. They are required to attend the industry placement company four days a week and online lectures one day a week. An academic supervisor is assigned to the learner to guide and assess their learning and engagement whilst on industry placement. The learners typically have no face-to-face contact with their academic supervisor except for one meeting during the academic year that takes place in their placement company. Communication is via email and MS Teams meetings. Assessment of the module includes learners submitting weekly placement reflective journals, to a personal learning software called PebblePad, detailing their learning experiences. The academic supervisor provides feedback on a weekly basis which the learners must respond to in subsequent journal submissions. The current assessment strategy stipulates the learners submit a typed reflective journal with up to 8 supporting images on PebblePad by 9pm at the latest each Sunday and the academic supervisor provides feedback via a text box and the option to add an attachment

in PebblePad by 6pm at the latest each Friday. Learners are not offered alternative means of expression when submitting their reflective journals and multiple means of representation are not being utilised by the academic supervisors when providing feedback to the learners.

In semester 1 of the 2022-2023 academic year an approach was made to one of the researchers by a learner on the *Industry Placement* module who reported they were struggling to comprehend and respond to typed feedback from the researcher who was their academic supervisor. Specifically, interpreting passages of text was identified by the learner as being an issue. This was causing the learner a significant amount of anxiety and stress. The learner also disclosed they had several learning difficulties the academic supervisor was unaware of. The means of representation were not effective for this learner's needs. In response, UDL principles were piloted to alter how feedback was provided to this learner by the academic supervisor and later rolled out to a number of other learners. This included focusing on providing clear and structured feedback, adding numbering to separate out points of information and where a response was required, recording feedback using MS Teams video, providing the video link, attaching a copy of the video and the transcript of the video to the feedback form in PebblePad, and encouraging the learners to engage with learning support where appropriate. The application of UDL principles to this module set out to address the shortcomings identified and reduce barriers for diverse learners to succeed in the module.

Purposeful sampling was used for this research, with the academic supervisor participant the researcher, and the three learner participants being supervised by the academic supervisor participant. This was conducted as a pre-pilot study with a view to conducting a full pilot in the 2023-2024 academic year with a full cohort of learners (n=36 and academic supervisors n=7). Hence the small sample size in this case.

Data was gathered from the learners in the form of an interview conducted by the researcher who was also the academic supervisor. The learner participants were asked about their views on the current assessment strategy and the initial UDL principles tested including 1) their experiences of the UDL principle employed in the assessment of the *Industry Placement* module, 2) their perceptions of the barriers and support for student success for diverse students undertaking remote learning using UDL principles. A semi-structured interview was used with a combination of open and closed questions. The duration of the online interviews was 10 minutes. An online interview using MS Teams facilitated learner participants placed in companies in different geographical locations to complete the interview. The academic supervisor participant engaged in personal reflection on the experience from their perspective documented through a video and engaged in dialogical reflection with the learner participants.

Ethical issues of the research pertained to the risks of 1) actual and perceived student coercion due to the power balance of the researcher as the academic supervisor of the learner

participants, and 2) disclosing confidential information provided by the participants (including personal and/or sensitive data). These risks were mitigated by taking appropriate measures in the research method including obtaining ethical approval from the institutions' ethics approval committee, informing the learner participants that participation in the study would confer no academic advantage or disadvantage for them, providing information sheets and an opportunity to ask questions, voluntary signed consent, the right to withdraw up until the interview transcripts were collated and data anonymized, and the anonymising of all personal/organisation names provided in the interviews.

3. Findings & Discussion

The findings of this research will be discussed from the perspective of the learners first, followed by the perspective of the academic supervisor.

3.1. Learner Findings

Of the three learner participants, all three submitted their reflective journals in a typed format as stipulated by the assessment strategy. When asked if they ever asked to submit using a different means of expression Respondent 1 (R1), Respondent 2 (R2) and Respondent 3 (R3) said no. R1 commented, "They've asked me to do this in writing, so I'll just do it in writing. Keep my head down and get it done". All three respondents expressed an interest in submitting using different means of expression. R2 is cited as saying "I haven't thought about it for other[s] kinds of assessment" and "maybe I would consider something more creative, like a presentation or [or] even a video". A similar response from R1 states "maybe a video a week would be useful, ... and kind of it would be a bit...less stressful". R1 ranked their preference of reflective journal submission formats as follows: "Audio or video, probably first and then face to face, then writing... probably last". There was some caution expressed by R2 "I've been most confident in the writing just because that's what we do all day, every day and even at work now, writing emails every day". R3 was "definitely [be] open, open to doing a different method" but reported being worried about the quality of the submission using different formats citing "my grades might take a hit for a little bit" but "I would eventually get better at it and it would probably even exceed my typing potential". On the other hand, R1 spoke about hoping it improved the standard of their submissions when they said "Maybe I'd feel more connected to it, so maybe I'll put... more of an effort ... Yeah, it would make it more colorful and more kind of interesting". The issue of support to create reflective journals using formats other than typed was then discussed. While R1 felt confident they did not need support creating videos as "it's not something I'm entirely unfamiliar with" and "it's quite an easy kind of an easy medium to...to take on board", the other two respondents felt support was needed. R2 cited needing technical support while R1 said "I would like to experience all methods to see what I am best with". Specifically getting to

experiment with the methods and become competent without the pressure of being assessed was suggested.

The participants were asked for their perceptions of the change from typed to video feedback from the academic supervisor. All were very positive with R3 making comments such as it “just help[ed] me keep up with it”, “it was definitely a massive improvement”, “that was a massive weight on my shoulder” and “the spoken word was easier to consume”. It’s noteworthy that this respondent has learning difficulties and found typed feedback difficult to comprehend. R2 said they did not need to receive video feedback but “it feels more personal” and “It’s just friendly through the video”. Likewise, R1 reported that they found both typed and video feedback were equally effective but feedback via video was “nice because I can tell tones” and “I can tell if there’s something umm you want to tell me that I might miss in the writing... which is interesting”. R1 also cited in reference to video feedback “I really liked it because I found it easier to remember...I’d be working in the workshop...remember something you said”. Both R1 and R2 confirmed they do not have any learning difficulties. So, while R1 and R2 said they did not need video feedback if they had a choice they would choose receiving video feedback.

3.2. Academic Supervisor Reflections

In terms of the means of representation utilised by *Industry Placement* module learners, the academic supervisor participant had no preference as to the means of expression they would receive for review and assessment. As per the assessment rubric for the reflective journals, the academic supervisor participant encouraged and found it beneficial when R1, R2, and R3 used supporting images, along with the typed feedback to assist the understanding of the subject matter being discussed in the journal. Their reflection on providing multiple means of representation for the reflective journal was a positive one with the option of the learning being able to choose to be promoted. The academic supervisor comments “help the student to find what they’re best at and how they can maximize their grades”.

The academic supervisor had never provided video feedback to learners of any module previously. Instead, typed feedback was used as was common practice among the participant and their academic peers in higher education. While there was no question that the academic supervisor would not apply their knowledge of UDL principles to change the feedback format in the hope the difficulties R3 was experiencing could be resolved. However, there was a preconception on their part that it may take longer than typed feedback and there may be a drop in the quality of the feedback. The experience of the academic supervisor participant of creating video feedback was that it did involve a learning curve and initially, it took longer than typed feedback. However, the academic supervisor reports they got faster at creating videos with practice. Secondly, with practice, the academic supervisor reflected their diction improved and delivery become more natural. Transcripts required post-video editing. Over

the course of the semester, as the academic supervisor became more proficient with creating and editing video feedback they reflected “it is marginally longer than with the written one...the transcript is probably the hardest bit... I go through it and I delete the time stamps”. Learner participants reported they watched the feedback video and read the accompanying transcript. For academic supervisors to engage with video feedback the academic supervisor participant asserts “a supervisor [needs to] be comfortable in whatever media they use for feedback... that you know it supports the student, but it's not onerous and it's not a stress for them either”. The academic supervisor has questioned whether both means of expression are equal in terms of quality “I could do a lot more editing and very carefully choose my words and language in a written one. That I couldn't do in the video unless it was going to be recorded 100 million times”. When questioned all three learner participants reported they did not notice a drop in content and quality when the means of representation changed from typed to a video format.

Like the learner participants, the academic supervisor participant did report they preferred video feedback “I enjoy it as well” and “I felt more connected with the students by me speaking to them”. Interestingly, when R1 and R2 were asked towards the end of the semester which means of representation they preferred R2 said “It was a nice change and I'd be happy to get the feedback in that format in the future - whatever is easiest for you”. Interestingly, the academic supervisor participant was now in the position where choice has been handed back to them by a number of the learner participants as to what means of representation they wished to use to provide feedback. On reflection, the academic supervisor participant decided “I could have given written feedback to a number of those students, [but] I opted not to because I actually enjoy doing the video feedback”.

4. Conclusions & Recommendations

Although only a small pre-pilot study the perceptions of the learners and academic supervisor stakeholders indicate the UDL interventions in the *Industry Placement* module assessment strategy were beneficial and supportive of the participating learners. These interventions included focusing on providing clear and structured feedback, adding numbering to separate out points of information and where a response was required, recording feedback using MS Teams video, providing the video link, attaching a copy of the video and the transcript of the video to the feedback form in PebblePad, and encouraging the learners to engage with learning support. In particular, it ensured that learners with learning difficulties could fully engage with the reflective journal assessment element of the module and it set them up for success. UDL choice empowered the learners to be resourceful, and knowledgeable and to take ownership of their learning for the *Industry Placement* module. Any changes to industry placement journal submissions and feedback should not take learners/academic supervisors longer than current means of expression and representation. Remote learning was found to

pose a challenge for students with diverse learning needs. It is more difficult to access multiple means of representation and expression, to link in with peer support, and to engage with institutional learning supports. The importance of face-to-face visits cannot be underestimated to ascertain UDL needs.

Five recommendations emerge from the research namely; 1) Ensure the *Industry Placement* assessment strategy provides learners with a choice when submitting their reflective journal submissions and update the personal learning software PebblePad to accept them, 2) Encourage both learners and academic supervisors to explore multiple means of expression and representation, 3) Provide scaffolding for learners and academic supervisors to ensure they are competent in alternative means of expression and representation, 4) Develop methods for creating content using multiple means of expression comparable in terms of workload, 5) Conduct a wider study with a full group of learners and academic supervisors in a future iteration of the *Industry Placement* module to ascertain the impact of UDL principles on the assessment strategy on learning success.

References

- Center for Applied Special Technology [CAST], (2023). About universal design for learning. Retrieved February 7, 2023, from <https://www.cast.org/impact/universal-design-for-learning-udl>
- Merrill, S., & Gonser, S. (2021). The importance of student choice across all grade levels. Edutopia. Retrieved from <https://www.edutopia.org/article/importance-student-choice-across-all-grade-levels>
- Meyer, A., Rose, D.H., & Gordon, D. (2014). *Universal design for learning: Theory and Practice*. Wakefield, MA: CAST Professional Publishing.
- Novak, K. (2022). *UDL now! A teacher's guide to applying universal design for learning* (3rd ed.). Massachusetts, USA: CAST Professional Publishing.
- Tarhini, A., Hone, K., & Xiaohui L. (2013). Extending the TAM model to empirically investigate the students' behavioural intention to use e-learning in developing countries. *2013 Science and Information Conference (SAI)*, 732–737.
- Waters, B., & Rath, V. (2022). *Students with disabilities on placement – Guidance on the provision of reasonable accommodations on practice-based placements in professionally accredited programmes*. Dublin, Ireland: AHEAD Educational Press.
- Yin, R.K. (2018). *Case study research and applications – Design and methods*. California: Sage Publications.