Case Study 2: Directed e-Learning in Computing Modules

Introduction and Context:

Directed eLearning (Del) is a carefully designed blended learning approach, that mixes asynchronous learning materials and synchronous classes and supports learner retention efforts. This is made possible by intelligent use of the capabilities offered by digital technology.

NCI has been delivering courses to part time learners for well over 10 years and during that time, it has become increasingly clear that adult learners tend to be time poor and need to juggle their studies around their home/work life. Directed e-learning was designed as an attempt to introduce some time flexibility traditionally time-constrained learning activities. NCI made significant advances in the deployment of Directed e-Learning within Computing modules in the reporting period 2020-21.

Summary of the Initiative:

Directed eLearning has similarities with technology-enabled pedagogic models such as the Flipped Classroom, whereby learners initially engage with threshold topics via the exploration of video, assigned readings, laboratory and tutorial-based content on the College's Learning Management System (LMS – Moodle), before bringing their learning to the live classes. Each week learners must complete lab challenges before their classes. Learners then lead the classroom sessions, with the lecturer acting reflexively to design the class based on the student voice, rather than over reliance on didactic methods such as slide based delivery.

In DeL, academic staff carefully design learning content to maximise learner retention efforts. There are many opportunities for formative assessment, and learners can revisit these as many times as they like to test and improve their learning. Additionally, the content has been designed so that reports are generated on a weekly basis regarding learner progress. Lecturers and College student support staff use these to quickly identify when learners are falling behind and to offer support.

Below is a sample email for learners who are flagged as behind:
According to your Moodle records, there are items outstanding due to be completed for the Web Design and Client-Side Scripting class tomorrow night. Please ensure you address these items before class. Before class, please ensure you have the following completed: 'Week 4 Lesson', 'Week 4 Lab'

Please let me know if I can be of assistance in any way; I am happy to answer any questions you may have. Please note that each week of live classes relies directly on the Moodle content labelled for that week, and therefore it is easy to get left behind in class if you do not keep up on Moodle. If you need help catching up, please reach out and speak to Computing Support as soon as possible. Their email is computingsupport@ncirl.ie, they will be happy to help.

Key Findings and Impact:

NCI staff and students are reporting positive student outcomes from this model. The isolation and drop off that can sometimes be seen during online modules has lessened, evidenced by stronger retention rates and far more social interaction being seen on the Teams channels for these learner groups than our traditional deliveries. Part-time learners report enjoying the self-paced aspect of the course and the ability to go back over content until they are happy with the level of their learning.

Selected Learner Testimony:

"Through signing up for the online higher diploma in computing I wasn't quite sure how I would take to the learning experience as my previous education has always been delivered in person. Some of the issues I found with traditional in person lectures were the lack of flexibility for me as a learner to consume content.

Luckily for me however this has been totally the opposite when it comes to NCI because of the online directed learning. I have found that I quickly took to the directed learning approach as it allowed me to control the pace of which I consume the content, I could re-watch the content if I didn't understand something initially and if I still had questions, I had the ability to turn to my lecturers for clarification. The biggest outcome from this course so far has easily been the improvement to my programming skills due to the software development module"

Conclusion

The strengths of Directed eLearning lie in the multiple modes of engagement it affords learners, the self-paced nature of the content and the targeted support that learners receive throughout their modules. The DeL model rolled-out in 2020-21 was designed in alignment with QQI's Statutory Quality Assurance Guidelines for Providers of Blended Learning Programmes (2018) and will evolve in line with sectoral best practice.

The model is flexible and can be adapted to programmes from NFQ L6-L9. However, it should be recognised that the DeL model is time and labour-intensive to develop and requires buy in from both learners and staff. It is essential to solicit and implement regular staff feedback: this has been used to implement new curriculum design documents, including implementing Universal Design for Learning to improve accessibility and engagement. We have also implemented a peer teaching and training model for all new staff. Lecturers have been specifically trained in the design and delivery of this material.