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Learning from and Engaging with Assessment and Feedback (LEAF): Growing Practice

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Abstract

The LEAF (Learning from and Engaging with Assessment and Feedback) project addressed a key issue in third-level teaching and learning: assessment and feedback. The LEAF team comprised 18 academics from across the TU Dublin City Campus and representatives from all Colleges, along with the Director of Student Affairs and the Students’ Union Education Officer. This paper presents the findings of the LEAF project. Assessment strategies have been shown to have a large impact on shaping student learning process strategies which feed-forward into key employability skills. Learning from best practice, surveys from staff and students and analysis of the quality documents, the project developed a set of recommendations to enhance practices in assessment and feedback. Many challenges were identified over the course of this project in relation to the timeliness, amount and quality of feedback, assessment load, burden on staff and students, student expectations, monologue versus dialogue approach to feedback, inconsistency across programmes and poor integration of assessment and feedback into the academic quality framework. Key drivers identified throughout the project that are necessary to enhance assessment and feedback strategies include adequate resourcing, alignment of assessment with graduate attributes, inclusion of the student voice and more widespread use of technology.

Keywords: assessment, feedback, organisational culture, assessment culture, technological university
Introduction

Assessment and Feedback (A&F) are key issues in the third level teaching and learning sector with which academics, academic leaders and policy makers internationally are grappling. The power of assessment in shaping what and how students learn is well recognised in the literature on assessment (Brown & Knight, 1994; Ramsden, 1997; Price, Handley, O’Donovan, Rust & Millar, 2013; Jackel, Pearce, Radloff & Edwards, 2017). However, assessment is a complex process. Price, Handley and Millar (2011) describe how assessment is simultaneously expected to challenge students, promote learning, provide motivation and feedback to students, and also generate grades for certification purposes. This is despite the fact that these purposes may often conflict with one another.

Sadler (2010) asserts that effective learning is achieved through the choice of assessment approach which ultimately shapes learning. This argument on the importance of assessment feedback is well-documented in numerous academic journal articles and previous empirical work (Northcote et al., 2014; Nicol & Draper, 2009; Lizzio & Wilson 2008; Merry & Orsmond, 2013; Carless 2006; Carless, Salter, Yang & Lam, 2011; Sambell, 2011).

There are, similarly, well-documented problems associated with the effective generation and use of A&F from the perspective of the key feedback stakeholders – lecturers and students (Carless, 2015; Boud & Molloy, 2013a, 2013b). These problems include issues such as timeliness, frequency (summative or formative) and quality of the feedback. Students may find the academic terminology of feedback difficult to understand (Carless, 2015), fail to act on feedback received (Pitt & Norton, 2017) or fail to feed-forward for future learning and close the feedback loop (Boud & Molloy, 2013a). In the context of the massification of higher education, increased student numbers and an increasingly diverse student population (Boud & Molloy, 2013a; Evans, 2013; Carless, 2017), the time and effort required by staff in
the provision of feedback may create barriers to the feedback process. In addition to its pedagogical focus, there is also a relational and emotional context to feedback and, as noted by Pitt and Norton (2017), emotional responses can have an important impact on how students react to feedback.

The formation of the new Technological University Dublin (TU Dublin) from the former Dublin Institute of Technology (DIT) and Institutes of Technology Blanchardstown and Tallaght provides significant opportunities for reflection and organisational change to inform a new phase of development. There are many challenges in higher education environments, with increasing student numbers (OECD, 2016) changing the student profile (Department of Education, 2011), the focus on graduate attributes, the projected move to a new campus in Grangegorman for some schools and the shift towards increased use of digital resources, including the change to a new Virtual Learning Environment (VLE) for at least one of the university’s campuses. A&F are cornerstones of the activities of the University and at this point in the University’s development, it is timely to review and evaluate these strategies and, learning from international best practice and research from students and staff, determine what the future path should be.

It is in the context of these issues that the Learning from and Engaging with Assessment & Feedback (LEAF) project was established and funded in the TU Dublin City Campus from January 2018 to June 2019. The project team was made up of 18 academics from across the TU Dublin City Campus, representatives from all Colleges, the Director of Student Affairs and the Students Union Education Officer to represent the student voice. The aim of this project was to develop a set of A&F recommendations in an effort to enhance A&F strategies in TU Dublin. The implementation of these recommendations could realise change in relation

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1 http://www.dit.ie/teaching/graduateattributes
to the student and staff experience, resulting in A&F becoming a key part of the university’s quality and strategic framework going forward. This paper will look to extend the findings from the original City Campus project to TU Dublin as a whole.

Methodology

The project was divided into three main phases (Figure 1).

**Figure 1: Phases of the LEAF Project**

On commencement of the LEAF project it was important to determine what information was available, therefore a comprehensive information gathering phase was carried out, drawing on multiple sources. This required review of the quality documentation within TU Dublin to determine what level of attention A&F was given, along with reviewing survey data. A custom-designed survey addressed these areas in detail, and the team examined standardised national and internal survey results. This phase also included a literature review and
interviews with experts in the field of higher education to see at a global level what the common issues and best practices entailed.

All the information gathered in this initial phase was distributed into the subsequent Trial and Recommendation stages, as either direct recommendations or as issues to resolve through best practice approaches that were to be piloted in TU Dublin. The trials were carried out to determine if specific approaches could be successfully implemented across the wide range of programmes offered by the University, and to provide recommendations for others who wish to try similar strategies.

A final list of recommendations arising directly from Phase 1 or from the trials in Phase 2 was developed. These recommendations covered module and programme levels, issues for students in general, and institutional level issues.

The following section provides a summary of the research conducted as part of the LEAF project, focusing on the pre-existing documentation, surveys, interviews and trials. The findings presented are inclusive of qualitative data and quantitative data.

**Findings and Results**

*College and School Review Reports: Language Analysis*

The priorities of an institution can influence the language used in its documents and strategies, and has the potential to act as a catalyst for positive change in A&F practices. Conversely, the language used can reflect the priorities of an institution, with more ‘important’ ideas appearing more frequently than those that are considered ‘insignificant’. A word cloud analysis was performed on institutional review documents over the past 18 years.
and this gave an insight into the perceived importance of A&F to Schools and Colleges across the former DIT, relative to other key priorities. For this analysis, 32 School and College review documents dating from 2001 to 2018 were analysed using MATLAB’s ® Text Analytics Toolbox. Generic or irrelevant words such as ‘school’, ‘college’ and ‘review’ were removed along with stop words (‘and’, ‘a’, ‘the’, etc), years, and punctuation. From the remaining vocabulary, word clouds were built and the frequency of the words ‘assessment’, ‘feedback’, ‘engagement’ and ‘research’ were extracted along with the number of words. From this, the percentage usage was determined for each of these words for each year across all documents from that year. Figure 2 shows the results of this analysis. Sample word clouds are also shown at Figure 3.

![Figure 2: Results from word cloud analysis of institution review documents showing usage as a percentage of word count from 2001 to 2018](image)

The analysis showed that A&F appear infrequently in review documents, remaining low in importance compared to other key institutional priorities such as research, which appeared very frequently and showed consistent increase in usage through the years. This almost certainly reflects the perception of the importance of different aspects of practice at School and College level.
Figure 3: Sample word clouds
Although there are many positive outcomes from this analysis indicating student-centredness in the prevalence of works such as ‘learning’, ‘teaching’ and ‘support’, there are indications of a lack of awareness or discussion of A&F at School and College level. It is hoped that the findings from the LEAF study will address this, that the recommendations of the study will be used in future reviews in the new TU Dublin and we will see these priorities gain significance.

**Student Surveys**

The survey data examined included that arising from the national Irish Survey of Student Engagement (ISSE), and local quality assurance Form Q6C, which is a programme survey questionnaire circulated within the City Campus. The ISSE is offered to all first and final year undergraduate students, and postgraduate students. Its purpose is to obtain the views of students on their experience in the School they are attending at the end of each year. The feedback enables the School to review its programmes and improve its provision.

The most recent ISSE (2018) report showed an improvement in many of Engagement Indices (EI) such as Effective Teaching Practices, Quality of Interactions, Student Faculty Interaction and Supportive Environment at the former DIT from 2017 to 2018. However, an area of concern for the institution and other Higher Education Institutions (HEIs) is academic feedback under reflective and interactive learning.

Four of the nine EIs were deemed to be relevant to academic A&F. The national comparison shows that out of the four under review in relation to A&F, the former DIT performed at the same level for two EIs: ‘Student Faculty Interaction’ and ‘Effective Teaching Practices’ and was slightly behind in two: ‘Quality of Interactions’ and ‘Supportive Environment’. Overall,
The former DIT’s performance was similar to the national average and the mean value improved year on year 2017/2018 for all four Eis (Mottiar et al., 2019), most notably ‘Quality of Interactions’ and ‘Student Faculty Interactions’ (ISSE, 2018) (Table 1, Figure 4).

<table>
<thead>
<tr>
<th>Theme</th>
<th>Engagement Indicator</th>
<th>2018</th>
<th>2017</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Challenge</td>
<td>Higher Order learning</td>
<td>35.8</td>
<td>35.2</td>
<td>+0.6</td>
</tr>
<tr>
<td></td>
<td>Reflective and interactive Learning</td>
<td>28.9</td>
<td>29.7</td>
<td>-0.8</td>
</tr>
<tr>
<td></td>
<td>Quantitative Reasoning</td>
<td>20.8</td>
<td>19.8</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Learning Strategies</td>
<td>29.8</td>
<td>29.4</td>
<td>+0.4</td>
</tr>
<tr>
<td>Learning with peers</td>
<td>Collaborative learning</td>
<td>31.9</td>
<td>32.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>Experience with faculty</td>
<td>Student Faculty interaction</td>
<td>14</td>
<td>13.5</td>
<td>+0.5</td>
</tr>
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<td></td>
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<td>33.1</td>
<td>+1</td>
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<tr>
<td>Campus environment</td>
<td>Quality of interaction</td>
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<td>37.6</td>
<td>+0.3</td>
</tr>
<tr>
<td></td>
<td>Supportive environment</td>
<td>26.8</td>
<td>26.6</td>
<td>+0.2</td>
</tr>
</tbody>
</table>

Table 1: ISSE data 2017/2018

The Issues Arising section of the ISSE report showed an area of concern for the institution. Students were indicating that they would like “more and better feedback on their academic performance. This relates to feedback on continuous assessment, general academic standing and improving academic performance” (ISSE, 2017, p.14). Against this backdrop it may be interesting to reflect on the use of online resources via the VLE for example, i.e. lecture
notes, learning resources and assignment information for engaging with students. In general, online resources appear to be under-utilised, and this might explain lower levels of feedback on drafts and works in progress.

Figure 4: Selected results from the ISSE and Q6C student surveys
Reviewing survey forms showed that students appreciated the feedback they got with 65.9% agreeing or strongly agreeing that feedback on assignments was useful to them (up 5 percentage points from 2016). The ISSE report indicates that there is an opportunity for the institution to embrace the students' willingness to learn by providing more support to students as they show “positive intent” and the “motivation to master the curriculum” (ISSE, 2017, p.14). Final year and postgraduate students highlight the need for more “signposts along the route” to successful independent learning (ISSE, 2017, p.14). However, “student learning is heavily dependent on effective teaching” (ISSE, 2017, p.18).

**Staff Surveys**

As part of the information gathering phase of LEAF, two large scale surveys were undertaken. The first involved asking staff members of TU Dublin City Campus about their attitudes towards, and implementation of, A&F. A total of 340 responses were collected representative of all Schools and all forms of teaching employment. Aside from summative examination, in-class assessments, presentations, reports, and group projects were the most commonly used assessment modalities. Many staff reported using innovative assessment techniques including peer assessment, e-portfolios and reflective journals. When asked about their use of newer technologies for assessment purposes, 42% admitted they did not employ any such technologies, perhaps reflecting a perceived difficulty in implementing them or a reluctance to change practice. In open-ended responses, staff expressed concerns about student over-assessment, a lack of time and resources to implement change, increased student numbers, and a scepticism about the longevity of certain newer trends in assessment.

When staff were consulted about feedback, a wide variety of modalities were discussed with staff rarely providing a grade alone. Feedback was most commonly transmitted via email,
with the use of the VLE and standardised feedback sheets also common. In most cases staff
returned feedback to students within one month.

**Expert Interviews**

Interviews with experts in the field of assessment and feedback were conducted, with
informants drawn from international and national institutions. Interviewees were asked about
top-down strategic approaches to ensuring good practice in assessment and feedback as well
as bottom-up approaches at individual lecturer and programme level. Bottom-up approaches
were identified as: alignment and coherence in assessment and feedback practices at module
and programme level; ensuring that feedback and assessment follows principles of best
practice; and acknowledging workload and individual resistance to change, from both staff
and students, as a barrier. Top-down approaches were identified as: ensuring a role for staff
and students and support from management in the design, development and implementation
of institutional level assessment and feedback principles and strategies; taking a strategic
approach to cultural change; garnering support from middle management and central staff
training and development support units; communicating well and allowing for flexibility in
any strategic approach; and taking account of quality assurance mechanisms. A combination
of top-down and bottom-up support, involving senior management and local champions, was
highlighted by several participants as a successful approach for the development and
execution of institution wide strategies on assessment and feedback.

**Bottom-up Approaches**

Bottom-up approaches to improving assessment and feedback within an institution include
individual lecturers changing their practice, and changes being undertaken at programme
level. However, in line with the key informants interviewed, the latter was seen as a better
approach with coherence and alignment at programme level viewed as a central component of the development of good practice with regard to assessment and feedback. Approaches to assessment and feedback should be incorporated into the programme development and review stage as opposed to an added extra considered after the programme structure has been finalised. Interviewee 8 noted that “if you haven’t got a plan to actually implement it with people and whole teams and with tactics and strategies that effect assessment, it actually is just a pretty picture”. A good assessment and feedback strategy should involve better links between modules, and within and across programmes, to encourage staff to look beyond their own “little islands” (Interviewee 7). Across module assessment and feedback mapping could support this process. Interviewee 7 highlighted the importance of “knowing what’s going on” in respect of assessment and feedback. A mapping activity also creates greater awareness among staff about the assessment and feedback practices of peer colleagues and enhances the students’ learning experience. Additionally, Interviewee 8 highlighted the importance of a consistent approach amongst programme team members in respect of assessment and feedback:

    Because if only a few people on a few modules are moving towards more formative and less summative, but competing modules have the same amount of summative. It’s a no brainer, students’ attention goes to where they get the marks.

An assessment mapping exercise should also have a positive impact on the frequently documented issue of over-assessment, help explore the relevance of numerous assessments and facilitate the creation of breathing space in the curriculum. Both vertical and horizontal integration of assessment should result in a more proactive approach to the use of feedback and feed-forward through the use of portfolios.

Interviewee 8 highlighted the importance of module and programme coherence and alignment:
You know you can have a whole lot of genius teachers who are doing brilliant stuff on individual modules, but if it doesn’t stitch up into a rich tapestry or a connected programme, people won’t see the links and joins and connections. And they’ll just say, well, Mary is a brilliant teacher, they won’t say the programme is brilliant.

Another measure to aid consistency, noted by respondents, was the development of School-wide or programme-wide policies, procedures and resources on assessment-related issues, such as referencing, late submissions and word count.

Integration and coherence at module level were also identified as imperative in order to maximise the students’ learning experience. An example of this was described by interviewee 1 as a “multiple stage assessment sequence” to facilitate integration between assessment components. Good assessment practices should also be employed. According to Interviewee 1:

> good assessment should relate to real life uses of the discipline. A good assessment should really get students to think and to use deep approaches to learning.

Nevertheless, all interviewees highlighted the challenges of the “practical issues” (Interviewee 1) associated with creating greater alignment and coherence of assessment and feedback at programme level. These challenges include the time pressures of modularisation, semesterisation, module ownership/teaching in silos and mixed feedback messages from different staff. Workload was also highlighted as a major challenge, both because it could be difficult for academics to fit in meetings to discuss programme level assessment and also because if changes are interpreted as meaning more work, it is difficult to get buy in from staff.

I think the big barrier is always going to be workload. Do they see it as you’re asking them to do more; you’re asking them to give more feedback more often? You’re going to get, what’s the expression, real resistance to anything that does involve that. Because we’re all doing so much. (Interviewee 3).
Additionally, introducing changes in teaching, learning and assessment can be particularly difficult as there is often a strong sense of ownership of teaching approaches.

Students can also create barriers to changes in assessment and feedback at programme level. Participants highlighted that students are often exposed to very traditional assessment at second level, mostly consisting of exams with some assignments and therefore can be resistant to different types of assessment and feedback. A lack of buy-in from students can discourage efforts to change and improve assessment and feedback strategies.

The numbers of students who still don’t access the individual feedback at the end of the module is pretty dispiriting to say the least (Interviewee 3).

Strategic approaches to change must acknowledge and take account of barriers to bottom-up change and must acknowledge workload and individual resistance to change, from both staff and students.

**Top-down and Combined Approaches**

Bottom-up approaches to change are unlikely to achieve change at intuitional level unless there is top-down support from management within an educational institution. However, introducing an assessment and feedback strategy cannot simply be an exercise in documentation distribution. If a strategy is truly strategic in nature it will require organisational change, and this need for change at an organisational level must be recognised and planned for through the creation and execution of a strategy for feedback and assessment. However, this can often necessitate a change in the beliefs, assumptions and values of individuals within an educational institution and therefore constitutes the difficult, emotionally stressful, risky process of cultural change. As acknowledged by Interviewee 4:

What we need to be doing is going right back to the beginning and building a different culture for students and staff around assessment and feedback…. There’s often very little time to stand back and take the bigger picture view (Interviewee 4).
To take account of the bigger picture, a strategic approach can have varying levels of management and staff input but some degree of top-down support is important. A case study provided by Interviewee 6 showcased a project aiming to achieve institutional wide change on assessment and feedback. The project was strongly supported by a senior manager and this support was instrumental in ensuring the success of the project:

Our provost was leading it, and this was hugely important because you have to do it. If he says you have to do it, you have to do it…. It’s a very formal project so having that top-down approach is really important (Interviewee 6).

Similarly, support from upper management is key so that those responsible for leading strategic development efforts in an institution are aware of, and involved in, assessment strategy development. As a result, they can integrate assessment strategy into an overall institutional strategic plan. For example, the links between assessment, teaching, and learning were identified by the interviewees as core elements that underpin any philosophy, strategy or principles in respect of assessment: “You’re always trying to completely integrate, in a seamless way, assessment feedback teaching and learning” (Interviewee 2). Nevertheless, bottom-up support was also important. In the case study highlighted by Interviewee 6, a team of academics were seconded to work on the project and were able to provide bottom-up input: “Getting the champions from within the disciplines and giving them a proper role has been important to us” (Interviewee 6).

Support at management level in schools/colleges/departments is also key as highlighted by Interviewee 1: “[if] you haven’t got sufficient high level representation….there’s a danger that [school management] will say well you didn’t consult us, or you only had a relatively junior member of staff”. Additionally, the experts interviewed highlighted the importance of academic champions, learning support staff, and students in the movement from a monologic to a dialogic approach to assessment and feedback. Lecturing staff are experts in their field of
knowledge but it was acknowledged that they may not have the same expertise in the range of possible approaches to assessment and feedback: “They can’t be expected to be experts in teaching and learning because they may be chemistry people or physics people” (Interviewee 8). Thus, active support and training from a central staff training and development support unit or external facilitator was highlighted as an important component of a combined top-down, bottom-up approach to change.

A supportive institutional culture and the people who embody that culture are vital to the implementation of assessment and feedback strategies and processes. Interviewee 5 suggested that “ideally, whatever initiative you implement, there’s something in it for both the staff and the student”. This illustrates the significance of acknowledging the role of both staff and students in the design, development and implementation of all aspects of an institution’s assessment and feedback philosophy, strategy, principles and initiatives. Indeed, the role, responsibility and empowerment of the student should be key to an institution’s approach to assessment and feedback. As suggested by Interviewee 9, “that ties in with, hopefully, what we are trying to do about the whole idea of graduate attributes and that we are not just developing attributes, competencies for here and now, but for their working lives or learning lives”.

When implementing a strategy at institutional level, communicating a convincing rationale was highlighted as a key component:

It’s very important to communicate convincingly the rationale for what you’re doing and the rationale for any changes and not only communicate it but negotiate it and be open to views of different stakeholders (Interviewee 1).
Thus, two-way communication is important. It was highlighted by several participants that without a convincing rationale, stakeholder buy-in to strategy development and organisational change around assessment and feedback is difficult to achieve.

Similarly, it is important that academic staff are given the time and space to work individually and collaboratively on the development and implementation of new approaches to assessment and feedback. Additionally, allowing for flexibility in how an assessment strategy might be implemented is important as it allows good practice to continue and allows for autonomy within the classroom: “You don’t want something too prescriptive…. you’ve got to be careful not to prevent the people that are doing good practice from doing it” (Interviewee 2). The showcasing of existing good practice was also identified as useful.

Organisational structures in the form of quality assurance mechanisms can serve as both barriers and facilitators to developing and implementing assessment and feedback strategies. From a negative perspective, institutional quality assurance mechanisms are seen as quite inflexible and accordingly, acted as a barrier to introducing change. On the other hand, a number of participants highlighted how existing mechanisms can be leveraged to help introduce change:

   We can use quality assurance mechanisms to align with good practice and promotion of development and enhancement (Interviewee 4).

The programme review structure, for example, was highlighted as an effective mechanism for introducing sustainable change in third level institutions and this is a key recommendation of the LEAF project.

Changing an institution’s assessment and feedback culture requires a strategic approach, yet several interviewees also argued that the best way to effectively achieve change is to take
small steps which steadily and cumulatively lead to cultural change. Flexibility in the approach employed was advocated. It was highlighted that there are barriers at a strategic level to developing and operationalising assessment and feedback strategies in third level institutions including prohibitive workloads, a lack of permanent staff, organisational politics and organisational change. Nevertheless, there was common agreement that a combined bottom-up and top-down approach to assessment and feedback strategy development and rollout is appropriate. Initiating change at programme level rather than the level of individual lecturers was seen by many participants as a particularly effective bottom-up approach. Indeed, relying on either academic staff or senior management to engage in this process alone, without formal involvement of the other group of stakeholders was not favoured by any participants.

Module Tool Trials

The second phase of the LEAF project focused on trialling specific assessment and feedback methods within programme modules. These module trials were designed to tackle the issues identified during the analysis of survey results, literature review, and expert interviews. Figure 5 summarises the trials carried out. Space precludes full description of each individual feedback assessment and method – the LEAF Project Final Report provides further information (Mottiar et al., 2019). Figure 5 indicates the popularity of some methods over others, with only one lecturer trialling Class Polling, and 14 lecturers looking at Peer Learning or Peer Marking/Review.

The second large-scale survey carried out during the LEAF project captured responses to these trialled methods from 563 students at all stages of TU Dublin City Campus
programmes. Eleven feedback or assessment tools were trialled in 33 distinct modules and responses were collected regarding their effectiveness. Students were also asked about their attitudes towards A&F in general. The majority (55.1%) either agreed or strongly agreed that they get sufficient written or verbal feedback from teaching staff. However, 78.95% of respondents agreed or strongly agreed that they would learn more if they had more feedback suggesting room for improvement. When asked whether their feedback comes too late to be actioned, 73.9% of respondents were neutral, disagreed or strongly disagreed which suggests that feedback usually comes in a timely fashion. A majority (71.7%) agreed or strongly agreed that feedback helps them to understand where their mark came from and 88.9% of respondents agreed or strongly agreed that feedback helps them to know what aspects of their work to improve upon.

![Figure 5: Module trials carried out](https://arrow.tudublin.ie/ijap/vol8/iss1/6)
When students were asked questions about assessment in general, they agreed or strongly agreed with the statements “assessment really made me think about my learning and understanding” (76.7%) and “I learn a lot from doing continuous assessments” (80.8%). The majority of students agreed or strongly agreed that their assessments give clear instructions (65.8%). When asked whether, when doing an assessment, they understood what would count as a successful answer, 30.3% of students indicated that this was not clear. Most students (66.8%) found their assessments sufficiently challenging.

The main negative comments from students or lecturers related to the learning curve for the lecturer due to the implementation, in most cases, without any IT support available, this did not deter lecturers, with most looking to improve on the method in subsequent academic years, utilising the constructive feedback provided by students. Overall students had positive responses to the inclusion of all of these tools/methods in their A&F processes, and any method that encourages students to engage with and act on provided feedback should be developed.

**Discussion**

It is clear that the findings from this project can be split into two distinct categories: (i) strategic practices from a top-down perspective, and (ii) bottom-up initiatives and their implications for the student experience. The transition of DIT into the new TU Dublin is a key driver in enabling the implementation and rollout of recommendations arising from the LEAF Project. The recommendations made within the final report by Mottiar et al. (2019) and how they apply to the development of TU Dublin are discussed in this section.
The top-down recommendations will be at both institutional and programme level. At institutional level, recommendations should inform TU Dublin strategies in future, and at programme level, recommendations should influence and support the QA processes established for the University. At programme level this involves the alignment and coherence of practice, incorporation of an agenda item at annual meetings where A&F are discussed, detailed module mapping, and the implementation of assessment calendars.

At institutional level organisational and cultural changes are recommended. Such change must be supported through common resources, enabling support systems, and training/workshops for both staff and students. Programmatic review processes should specify A&F practices. Global evidence indicates the widespread incorporation in higher education institutions of engagement with digital technologies (Jackel, Pearce, Radloff, & Edwards 2017). The VLE should thus support A&F tools as well as enabling visibility of and access to all module descriptors and programme handbooks for staff and students.

Overall, the findings indicate that a cultural shift in the support and development of best practice in A&F needs to be encouraged through training, and the delivery and validation systems across an institution. Thus, the development of these should be a priority for the University going forward. It is recommended that when developing the new quality assurance and enhancement system for TU Dublin, due in the third quarter of 2020\(^2\), the team are cognisant of the above recommendations and seek to ensure that policies and procedures support best practice going forward.

\(^2\) [http://dit.newsweaver.ie/CAO/4h8lemw3pm82h07iuasy4o?a=6&p=55036676&tt=30198683](http://dit.newsweaver.ie/CAO/4h8lemw3pm82h07iuasy4o?a=6&p=55036676&tt=30198683)
With such an important topic as A&F to the successful learning of students, we need the strategies to be built and directed from the managerial level, be that within the institution, School or programme management team. However, most students will interact with the strategies implemented at class/module level. So although the recommendations at programme level feed into this, the students still require the learning from the individual assessments to be achieved. How their individual lecturers manage A&F within individual modules will have a large impact on the success of the student, therefore we cannot ignore the importance of the module level recommendations.

The module trials implemented as part of this project identified the importance of early feedback to all students but especially for first year students in their transition to third level, as feedback provides a framework for them to set their expectations. This is further enhanced through the integration of low-weighted early assessments that give students confidence in first year modules. It allows for mistakes to have little impact while they are becoming more familiar with the content and allows lecturers to see what introductory topics students have misunderstood. The development of rubrics that outline how marks are distributed and broken down, and aid students to achieve maximum marks, leads to greater clarity and transparency in grading.

Another recommendation is the use of digital resources inclusive of online quizzes and/or class-based polling that provide instant feedback. Online resources that enable automated feedback reduce delays in the publishing of high-quality feedback, which benefits all students. Additionally, these tools have the advantage of allowing for the development of student digital literacy skills which feed into graduate and employment attributes. To help
lecturers maximise the success of implementing these A&F tools at modular level, resources need to be developed as evidenced by best practice in educational research.

Conclusions

To enable sustainability and effectiveness in assessment feedback, new approaches and activities are being trialled and implemented globally across higher education institutions. These approaches are replacing the traditional modes of feedback with contemporary models that are quick, customised and diverse, resulting in timely, streamlined feedback (Boud & Molloy, 2013a; Winstone & Nash 2016; Evans, 2017). One recommendation that needs to be addressed in developing the TU Dublin quality system is that all quality processes and procedures should encourage engagement with A&F. This can be achieved through the incorporation of contemporary feedback models or strategies that outline a set of principles following best practice nationally and internationally.

Acknowledging the current trends in innovation and technology in the education sector will also improve the student learning experience. Digitisation of learning through electronic assessment, online quizzes and data analytics can enhance the A&F process for the current generation of students. Such activities endeavour to improve the process of assessment and feedback through the provision of simply more feedback, timely feedback, greater flexibility with and accessibility to feedback, streamlined feedback and the use of a variety of feedback mechanisms that are better suited to student needs. Technology also presents a solution for lecturing staff experiencing challenges in relation to the delivery of feedback due to larger class sizes, modularisation, semesterisation and diverse student needs.
Given the drive to emphasise graduate attributes at third level, a special focus was included in the LEAF Project on the role of assessment and feedback in developing highly valued professional skills that bridge the gap between higher education and employment. Alignment of A&F with graduate attributes has the capacity to develop students as self-directed and autonomous learners, with an ability to evaluate and monitor their own work and to graduate with a professional skillset that enhances their success of employment (Barrie 2007; Thompson et al. 2008).

In conclusion, the findings of this project have identified key recommendations at institutional, programme, module and student level, that will allow for the enhancement and transformation of the A&F process in TU Dublin. This set of recommendations forms the basis from which to initiate discussion across the entire University and provides opportunities for the implementation of different strategies which will improve the learning and teaching experience for all stakeholders.

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