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LEAF (Learning from and Engaging with Assessment and Feedback) Final project report

Ziene Mottiar

Technological University Dublin, ziene.mottiar@tudublin.ie

Louise Bellew

Technological University Dublin

Sara Boyd

Technological University Dublin, sara.boyd@tudublin.ie

See next page for additional authors

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Authors

Ziene Mottiar, Louise Bellew, Sara Boyd, Greg Byrne, Jane Courtney, Cliona Doris, Helen O'Brien Gately, Geraldine Gorham, Leanne Harris, Natalie Hopkin, Anne Hurley, Louise Lynch, Ciaran O'Driscoll, Denise O'Leary, Noel O'Neill, Emma Robinson, Mary Scally, Barry Sheehan, and Mairead Stack

LEAF PROJECT

LEAF (Learning from and Engaging with Assessment and Feedback)

Team Teaching Fellowship

Final Report

September 2019

**Infinite
Possibilities**



Contents

Executive summary	3
2. Introduction, context, objectives and process of the project.....	8
2.1 Introduction	8
2.2 Context of the project.....	8
2.3 Project summary.....	8
2.4 Project objectives	9
2.5 Process of the project	9
3. Identifying the key issues in relation to Assessment and Feedback.....	11
3.2 Student Assessment and Feedback survey	14
3.2.1 Introduction.....	15
3.2.2 Respondents	15
3.2.4 Student responses to questions regarding assessment in general	17
3.2.5 Conclusion.....	18
3.3 Analysis of Assessment and Feedback in Quality documents within TU Dublin - City Campus (conducted before merger so focus is on DIT documents)	19
3.3.1 Reflection on Assessment and Feedback in the Quality process	19
3.3.2 Drivers of changes in assessment and feedback practices	20
3.3.3. Assessment and feedback and the connected curriculum.....	21
3.3.4. Challenges for Assessment and Feedback created by the current educational environment	22
3.3.5. Assessment and feedback practice relating to the development of graduate attributes and soft skills.....	23
3.3.6. Approaches to assessment and feedback.....	24
3.3.7. Conclusion	26
3.4 Literature Review	27
3.4.1 The Purpose of Feedback on Assessment	27
3.4.2 Problems and issues with Assessment and Feedback.....	29
3.4.3 Features of Good Practice in Assessment and Feedback.....	34
3.4.4 Assessment & Feedback in the Development of Graduate Attributes.....	43
3.5 Interviews with national and international experts	44
3.5.1. Introduction.....	44



3.5.2. Methodology	44
3.5.3 Results	45
3.6 Examining the staff perspective	59
3.6.1. Introduction	59
3.6.2 Respondents	60
3.6.3. Teaching Methods Employed.....	61
3.6.4 Assessment	62
3.6.5 Feedback	65
3.6.6 Reflection	68
3.7 Summary of key issues identified	69
3.8 Summarizing key issues.....	69
4. Assessment and Feedback Tools piloted	70
4.1 Introduction/overview	70
4.2 Successive Assessment Weighting	73
4.3 Early Feedback Tools (including Online Quizzes).....	74
4.4 Using a marking rubric	76
4.5 Provide feedback before, or in place of, grade	77
4.6 Using video and audio feedback.....	79
4.7 Video submission	81
4.8 Peer Learning.....	82
4.9 Class-based polling.....	85
Section 5: Assessment and Feedback at the Programme Level.....	86
5.1 Developing a programme assessment calendar.....	86
5.2 TESTA - Transforming the Experience of Students Through Assessment	87
Section 6: Supporting Students with Assessment and Feedback.....	89
Section 7: Assessment and Feedback at the Institutional level.....	89
Section 8: Recommendations.....	89
8.1 Institutional level.....	89
8.2 Programme level	91
8.3 Module Level	91
8.4 Student Level	92
Section 9: List of References	93



Executive summary

The LEAF (Learning from and Engaging with Assessment and Feedback) project was funded under the Teaching Fellowship in TU Dublin, city campus for 18 months beginning in January 2018. The project team comprised 18 academics from across the TU Dublin - City Campus and there are representatives from all colleges. Also included were two further members who represented the student voice: the Director of Student Affairs and the Students' Union Education Officer.

This project sought to address a key issue in third level Teaching and Learning, that of assessment and assessment feedback. Assessment strategies have been shown to have a large impact on shaping how students learn and how they develop key employability skills. Learning from best practice nationally and internationally, and research from staff, students and quality documents, this project has developed a set of recommendations which will enhance practices in, and experiences of, assessments and feedback in TU Dublin.

1. Key issues identified in the project from analysis of TU Dublin - City Campus quality documents, ISSE, staff surveys, literature review, expert interviews and student survey.

- The timeliness, amount and quality of assessment feedback is an issue.
- Aligning expectations so that the student can identify what constitutes a successful assessment.
- Monologue versus dialogue approach to assessment feedback.
- Ensuring the closure of the feedback loop.
- Assessment and feedback may not be consistent across a programme.
- Assessment and feedback are not core in the academic quality framework.
- Resourcing assessment and feedback.
- Assessment needs to be clearly aligned with graduate attributes.
- Organisational change, incorporating top down and bottom up approaches is necessary to effect change.
- Student voice is vital.
- Technology is not being used widely for assessments.

2. Recommendations

The recommendations from the LEAF project have emerged from the extensive collection of data from key informants, literature, students and staff as has been documented in section 3, and the piloting of assessment and feedback tools as outlined in section 4 and 5. They are divided in terms of the level at which the recommendation is situated: institutional, programme, module and student. It is recognized by the LEAF team that instigating change can be challenging, but this set of recommendations provides a basis from which to initiate discussions across the whole university and provides opportunities for a variety of different strategies which will improve the learning and teaching experience.



2.1 Institutional level

- For a strategy to be successfully executed it will require organisational change and this need for change at an organisational level must be recognised and planned for within the university. A strategy cannot be implemented successfully without support and buy in from both lecturers and students and an enabling support system at university level.
- Creating and executing a strategy for feedback and assessment can often necessitate a change in the beliefs, assumptions and values of individuals within an educational institution and therefore constitutes cultural change. This change should also involve the development of a common language and terminology to facilitate a clear, consistent meaning of assessment and feedback across the entire university.
- Achieving cultural change can be difficult, however without such change, assessment and feedback strategies will not be realised and the student learning experience will not be enhanced. This type of cultural change requires a strategic approach, yet several of the expert interviewees also argued that the best way to effectively achieve this type of change is to take small steps which steadily and cumulatively lead to cultural change. Flexibility in the approach employed is imperative.
- As noted in the literature and the expert interviews, it is important that college and university strategies addressing assessment and feedback practices must be both top down and bottom up. Consideration should be given to developing a champion system whereby lecturers champion new innovative practices and tools and showcase best practice. It is important that academic staff are given the time and breathing space to work individually and collaboratively on the development and implementation of new approaches to assessment and feedback.
- Student voice and experiences should be included at all stages of the design, development and implementation of the institute's philosophy, strategy, principles and initiatives, with regard to assessment and feedback.
- Given that assessment and feedback is fundamental to the student experience, questions regarding assessment and feedback should be included on the relevant Quality Assurance forms. This would ensure that this is an aspect that is analysed by programme teams as part of the quality framework.
- As part of a programmatic review, programme teams should be required to analyse and present their assessment and feedback strategies. Within this context, programme teams should be encouraged to consider graduate attributes in their discussions and analysis, the students assessment experience and the overall programme assessment strategy.
- External examiner reports should specifically address issues of assessment and feedback.
- A resource should be developed in the institutional VLE to support greater understanding of assessment and feedback.
- The staff handbook should include a section dealing with assessment and feedback (items to be included: time to discuss student performance/areas of improvement, early feedback [prompt & detailed] on draft/work in progress - schedule earlier assessments/online resources). The handbook should encourage educators to involve learners in the generation and use of feedback.
- A range of workshops should be offered to upskill academics on new best practice tools of assessment and feedback and to help deal with issues such as larger groups, providing prompt feedback, dealing with group assessments and guidance on setting assessments to ensure learning is taking place (for example peer feedback rubric, PBL practical exercises,



Portfolio assessment, peer assessment, GitHub, Expert led and designed, Numbas, Vivas, Quizzes, project-based learning, online MCQ-open book etc.).

- IT support is an essential part of trying new assessment and feedback tools and this needs to be offered centrally to encourage and support innovative trialing of new methods.
- When decisions are made about online delivery tools within the VLE and institutional packages to which we subscribe, special consideration should be given to those useful for innovative assessment and feedback.
- Student handbooks should outline a shared responsibility model of feedback, which acknowledges the role and responsibility of both academic staff and students in the feedback process. The handbooks should delineate the assessment breakdown for each module and explain the pass marks and thresholds for each assessment component. Furthermore, they should have a section providing information to students about the importance of assessments, how to approach assessments and how to deal with feedback. This could be standardized by the school.
- WiFi and USB desk chargers are required for effective use of digital teaching and learning resources in the classroom.

2.2 Programme level

- Alignment and coherence of assessment and feedback practices at programme and module level is important.
- Programme teams should have assessment and feedback as an item on their agenda for one programme meeting annually, as this will encourage a programme focused approach to assessment. If assessment and feedback become a question on the annual monitoring programme report, it will provide a focus for this discussion, which will then be fed in to the Quality system.
- In analysing assessments at the programmatic level, it is recommended that module mapping activities such as TESTA may be considered as useful tools.
- Programme teams should consider using an assessment calendar tool, such as that being developed through the College of Science and Health Teaching Champions initiative, to help students and lecturers to manage the assessment workload and set prompt assessment feedback dates.

2.3 Module Level

- Early feedback is beneficial for first year students in their transition to third level. Low weighted early assessments give students confidence and should be considered in particular in first year modules.
- Providing feedback before or in place of a grade encourages reflection before student performance is graded. Lecturers should consider this approach early in their module.
- Lecturers should consider online quizzes and/or class-based polling as an easy way of students getting instant feedback and building on their digital literacy skills.
- Rubrics are a good way of outlining to students how marks are distributed and broken down and guiding them to maximise their marks. This leads to greater clarity and transparency in grading. They are also essential for any peer assessment.



- Technology should be employed where possible to enable automated feedback tools which reduce the time involved in generating feedback while maintaining high quality feedback. The role that the VLE can play in this needs to be further explored.
- Developing peer and self assessment practices among students should be considered by lecturers as it aids the development of key graduate attributes.
- Guidance and best practices need to be put in place to help lecturers use new assessment and feedback tools for the first time. A bank of assessment resources may be useful in this regard and could be accommodated for instance by an update of RAFT (Resources for Assessment, Feedback and Teaching).

2.4 Student Level

- Digital resources need to be created to enhance student's understanding regarding assessment and feedback. The Students Union should play a key role in this with academic staff to ensure they are pitched appropriately for the audience.
- Greater use should be made of the dialogue model of feedback in order to engage the student in all aspects of the assessment process and encourage greater interaction with their lecturers, peers and technology in order to enhance the assessment and feedback process.
- Training should be provided for students to develop an appreciation of their responsibility with regard to the receipt, generation and use of feedback as a graduate attribute for both their learning and working lives.
- Students need to be encouraged and shown how to reflect on their assessment feedback and effectively use this to improve their subsequent assessments in order to close the feedback loop. This should occur as part of the extended first year induction.
- While LEAF has developed a concept of student support regarding assessment, this needs to be 'owned' by an appropriate department in the university and the Students' Union to ensure its continued use and development.



Project Team Leader

Dr. Ziene Mottiar
ziene.mottiar@TUDublin.ie

Project Team

Louise Bellew
Dr. Sara Boyd
Dr. Greg Byrne
Dr. Jane Courtney
Dr. Cliona Doris
Dr. Helen O'Brien Gately
Dr. Geraldine Gorham
Rebecca Gorman
Dr. Leanne Harris
Dr. Natalie Hopkins
Anne Hurley
Louise Lynch
Ciaran O'Driscoll
Dr. Denise O'Leary
Noel O'Neill
Dr. Emma Robinson
Mary Scally
Barry Sheehan
Dr. Mairead Stack



2. Introduction, context, objectives and process of the project

2.1 Introduction

The LEAF (Learning from and Engaging with Assessment and Feedback) project was funded as a Teaching Fellowship in TU Dublin City Campus for 18 months beginning in January 2018. The project team was made up of 18 academics from across the City Campus and there were representatives from all colleges. Also included were two further members who represent the student voice; the Director of Student Affairs and the Students Union Education Officer.

During the time that the project was being undertaken, DIT became TU Dublin - City Campus. While the data included in this report relates to this campus specifically, the findings are relevant for the whole of TU Dublin and have implications for the university as it develops.

2.2 Context of the project

This project sought to address a key issue in third level Teaching and Learning, that of assessment and assessment feedback. This is an issue which is being grappled with internationally as academics, academic leaders and policy makers adapt to a changing environment. With increasing student numbers (OECD, 2016), changing student profile (Department of Education, 2011), the focus on graduate attributes (<http://www.dit.ie/teaching/graduateattributes/>), the projected move to a new learning environment in Grangegorman and the shift towards increased use of digital resources, it is timely to review assessment and feedback strategies within TU Dublin. Learning from best practice nationally and internationally, this project has developed a set of recommendations which will enhance practices in assessments and feedback and ultimately result in better student and lecturer experiences with the assessment processes in TU Dublin.

2.3 Project summary

Assessment strategies have been shown to have a large impact on shaping how students learn and how they develop key employability skills. This project aims, through a phased approach, to develop and pilot assessment and feedback strategies focusing on the development of employability skills represented by TU Dublin graduate attributes. A breadth of disciplinary knowledge and experience within the project team has informed the project methodology and facilitated the design of a strategy that takes different disciplines, levels and graduate attributes into account.

The strategy and recommendations are evidence-based and future proofed by taking into account the constantly changing nature of the Irish third level sector as a whole and TU Dublin in particular.

2.4 Project objectives

The objectives of this project were to:

1. Identify the key issues for stakeholders within the institute relating to assessment and assessment feedback
2. Review relevant literature in the area of assessment and assessment feedback
3. Conduct interviews with national and international academics and academic leaders to learn about best practice in other institutions regarding assessment and assessment feedback
4. Develop a strategy to enhance assessment and assessment feedback practices in the institute, taking into account the development of key graduate attributes
5. Identify and develop tools and resources to support the implementation of this strategy
6. Trial the assessment and feedback tools on a variety of programmes at various levels across all four colleges
7. Develop a report detailing SMART recommendations for the institute regarding assessment and assessment feedback
8. Ensure that the outputs of this project have maximum impact

2.5 Process of the project

The project was divided into three phases. In phase one the team reviewed the literature and TU Dublin - City Campus data as well as conducting national and international expert interviews to identify issues and best practice.

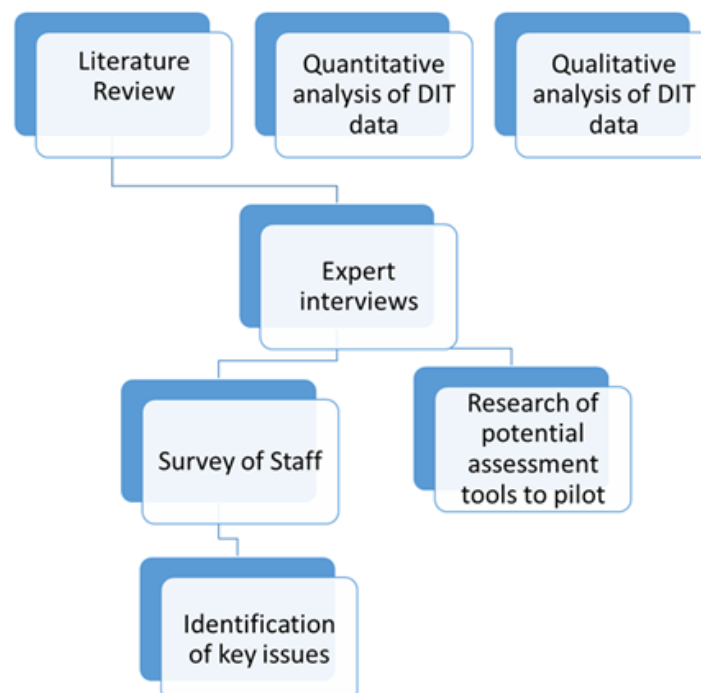


Figure 1: Phase 1 Identification of key issues



Phase two involved the piloting of 9 Assessment and Feedback tools to address the issues raised in phase 1, see Section 4 for further details on these trials.

Assessment and Feedback tools piloted

- Peer Learning/Review
- Early Feedback
- Class Based polling
- Video submission for assessment
- Audio and Video feedback
- Successive Assessment weighting
- Using a rubric for feedback
- Feedback before or in place of a grade
- Assessment calendar

Phase three then involved the development of the recommendations at module, programme, student and institution level as outlined below in section 5 of this report.



3. Identifying the key issues in relation to Assessment and Feedback

The sections below outline the various primary and secondary research which were undertaken as part of phase one of the project, to identify the key issues in relation to Assessment and Feedback. The key issues identified from each stage are highlighted at the end of each section.

3.1 Analysis of ISSE student reports 2016, 2017, 2018 & QA programme evaluation forms 2016 2017

The reports reviewed included the ISSE (Irish Survey of Student Engagement) and the TU Dublin - City Campus programme evaluation forms. The ISSE is completed by first and final year undergraduate students, and postgraduate students. The survey is distributed electronically and opens for responses from students in each institution during a specific three-week window in February - March. National reports are published each year (early November). The in-house programme survey questionnaire is a survey of students by the Head of Department (or Assistant Head of School). The purpose of this survey is to obtain the views of students on their experience in the School they are attending at the end of each year (September). The feedback enables the School to review the programme and improve the service it provides.

The most recent TU Dublin City Campus ISSE (2018) report showed an improvement in many of the Engagement Indices (EI) (Effective Teaching Practices, Quality of Interactions, Student Faculty Interaction and Supportive Environment) from 2017 to 2018 (see table 1). As table 2 shows, the Institute is performing close to national averages (ISSE, 2018). An area of concern for the Institute and other HEIs is academic feedback.

Table 1: TU Dublin City Campus (CC) Year on year differences 2017/2018

Theme	Engagement Indicator	2018	2017	Change 2017 to 2018
Academic Challenge	Higher Order learning	35.8	35.2	+0.6
	Reflective and interactive Learning	28.9	29.7	-0.8
	Quantitative Reasoning	20.8	19.8	+1
	Learning Strategies	29.8	29.4	+0.4
Learning with peers	Collaborative learning	31.9	32.3	-0.4
Experience with faculty	Student Faculty interaction	14	13.5	+0.5
	Effective teaching practices	34.1	33.1	+1
Campus environment	Quality of interaction	37.9	37.6	+0.3
	Supportive environment	26.8	26.6	+0.2

Four of the nine EIs are deemed to be relevant to academic assessment and feedback. The national comparison shows that out of the four under review in relation to assessment and feedback, the Institute performs at the same level for two EI, ‘Student Faculty Interaction’ and ‘Effective Teaching Practices’, and is slightly behind in two; ‘Quality of Interactions’ and ‘Supportive Environment’. Overall, the institute’s performance is similar to the national average and where differences exist, they are small. City Campus’s mean has improved year on year 17/18 for all four EI, most notably ‘Quality of Interactions’ and ‘Student Faculty Interactions’ (ISSE, 2018).

Table 2: Contextualising City Campus institutional student engagement with national averages

Theme	Engagement Indicator	Institutional Mean	Institutional vs National	National mean	Effect Size	Effect in Context
Academic Challenge	Higher Order learning	35.8	=	36.7	-0.07	
	Reflective and interactive Learning	28.9		30.8	-0.19	Small
	Quantitative Reasoning	20.8	=	19.7	0.08	
	Learning Strategies	29.8	=	30.9	-0.10	
Learning with peers	Collaborative learning	31.9	=	30.9	0.09	
Experience with faculty	Student Faculty interaction	14	=	14.0	0.00	
	Effective teaching practices	34.1	=	34.7	-0.05	
Campus environment	Quality of interaction	37.9		39.2	-0.10	Small
	Supportive environment	26.8		28.8	-0.16	Small

The following section shows the individual questions (relevant to LEAF) that are used to construct each of the four index items. The first ISSE engagement theme reviewed is ‘Experiences with Faculty’, encompassing two EIs ‘Student-Faculty Interaction’ and ‘Effective Teaching Practices’. The first EI, ‘Student-Faculty Interaction’ shows results for all students surveyed at 44% ‘sometimes’, 37% ‘never’ and 15% ‘often’ and ‘very often’ (4%) discussed their performance with academic staff. The QA Programme evaluation reports indicate however that students are relatively satisfied with the resources available to meet staff for private discussion with 2017



figures showing just over 60% score on the higher ranking, slightly up on 2016 figure of 56.9%. It may be worth noting that 11.5% answered N.A in 2017 (9.6%, 2016) for this question showing this resource may not be available. EI, Quality of Interactions (theme: Campus Environment) with academic staff improved between 2017 and 2018 showing a total of 66% in the top 3 ratings (1 for poor and 7 for excellent) in 2018 (56%, 2016).

The second EI attributed to the Experiences with Faculty theme is “Effective Teaching Practices”. The first question in this EI asked about the feedback being provided on a draft or work in progress, ‘some’ ranked highest at 35%, followed by ‘quite a bit’ at 30%, ‘very little’ at 19%, and ‘very much’ at 16%. ‘Very little’ and ‘some’ account for 54% (58%, 2016) and 46% (42%, 2016) are getting ‘quite a bit’ and ‘very much’ feedback on draft or work in progress. When asked in the institutional programme evaluation forms (2017) if students are notified early if they are falling behind, the greatest number disagree with this, at 40%, and ranked second was agree at 32% with strongly disagree at 23% (5% strongly agree) showing close to two thirds of students disagreeing and strongly disagreeing.

While 42.4% of those surveyed answered that 3-4 modules were available online, followed by 36.5% indicating that 5-6 modules were available online (18%, 1-2 modules, 3%, 0 modules), responses regarding materials for online testing and engagement were not as high. MCQs, tests, quizzes, Wikis, reflective journals and discussion boards, showed the highest results recorded at zero modules (up to 40%), followed by one to two modules (up to 30%) and third ranked 3-4 modules (up to 20%) using these resources. The video and audio material were the reverse, used by 1 or 2 modules (40%) followed by zero (31%) and 3-4 modules (19%). In general, online resources appear to be under-utilised, this may be one explaining factor in low levels of early feedback or feedback on draft work.

The second question in this EI asked about prompt and detailed feedback being provided on tests and completed assignments, ‘some’ ranked highest at 34%, followed by ‘quite a bit’ at 29%, ‘very little’ at 20%, and ‘very much’ at 17%, showing 54% receiving some and very little prompt and detailed feedback. Although the ratings for prompt feedback have improved slightly in 2018 in the institutional programme evaluation forms ‘agree’ is the highest ranked response at 38.5%, there is still almost 56% who disagree or strongly disagree that prompt feedback was available. Institutional programme evaluation (2017) reports also show that effectiveness of communication and feedback on performance and continuous assessment has improved year on year. However, 55% of the responses were in the higher rankings in 2017 compared to 47% in 2016. However, this conversely indicates that 45% indicated a low ranking in 2017 for feedback on performance and continuous assessment.

Reviewing institutional QA programme evaluation 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). Similarly, 63.8% agreed or strongly agreed that the feedback helped to clarify things they did not understand (up 3.5 percentage points from 2016). However, examining the ISSE survey students were questioned as to whether they worked on assessment that informed them how well they were learning, surprisingly 44% stated that they only sometimes worked on these, and 22% said that they never did this.



It is a feature of this index (Effective Teaching Practice) that the three teaching questions are highly rated whilst the two feedback questions (analysed above) get much lower scores. The feedback issue is mentioned in the Open Text responses in terms of Continuous Assessment and the capacity of the student to improve their academic performance in the absence of any feedback.

There are two open text questions in the survey, the comments on how to improve learning were constructively phrased by respondents.

- Receiving feedback on their learning was the biggest comment. This related to ongoing learning as well as continuous assessment.
- In the Issues Arising section there is an area of concern for the Institute. Students are 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.
- Students want to know where they are in relation to the academic standard required and how to improve to attain/surpass that standard. The facts are backed up with the open text responses.
- Students are indicating that they need more support as regards to how well they are learning.
- They want to work with academic staff to understand how they can improve. This shows a positive intent by students to learn and is reflective of a motivation to master the curriculum.
- Final year and postgrad students often mention becoming independent learners but state that in order to do that successfully, they need more signposts along the route.

Issues arising regarding Assessment and Feedback from ISSE and institutional QA programme evaluation forms analysis

- 37% of students never discuss their performance with academic staff.
- 54% of respondents say that they receive 'very little' and 'some' prompt and detailed feedback. Students want to know where they are in relation to the academic standard required and how to improve to attain/surpass that standard.
- Students are indicating that they need more support as regards to how well they are learning. They want to work with academic staff to understand how they can improve their work.
- 54% of students are getting 'very little' and 'some' feedback on draft or work in progress.
- Assessments are not helping students understand how well they are learning i.e. do they know they are getting on well or do they know they are lost? Surprisingly 44% stated that they only 'sometimes' worked on these, and 22% 'never'.

3.2 Student Assessment and Feedback survey



3.2.1 Introduction

As part of this project, a survey was made available to all TU Dublin undergraduate students who participated in a trial of one of the LEAF assessment/feedback tools. The survey was conducted via SurveyMonkey.com and included some general questions about students' opinions of assessment and feedback, as well as questions tailored to capture their feedback on the tool they had trailed in their module.

3.2.2 Respondents

The survey captured responses from 563 students from all stages of TU Dublin City Campus programmes. Feedback/assessment tools were trailed in 33 distinct modules (Figure 2) and responses were collected for 14 different assessment/feedback tools (Figure 3). Detailed analysis of student responses to questions about the tool they trailed was conducted and will be referred to where the advantages/disadvantages of the individual tools are presented in sections 4.1-4.10.

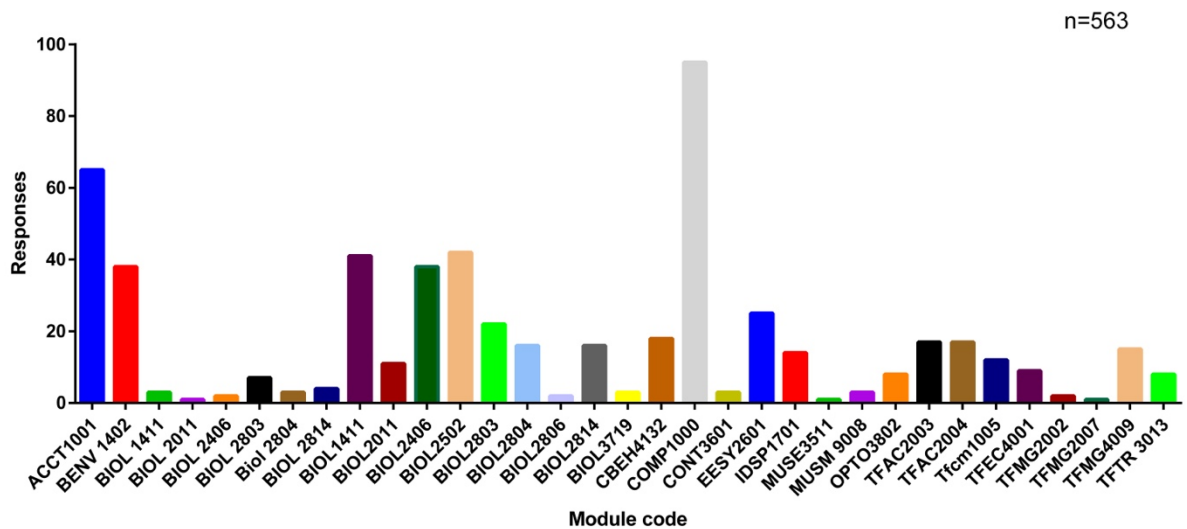


Figure 2: Students trailed tools for assessment/feedback across multiple modules across TU Dublin City Campus.

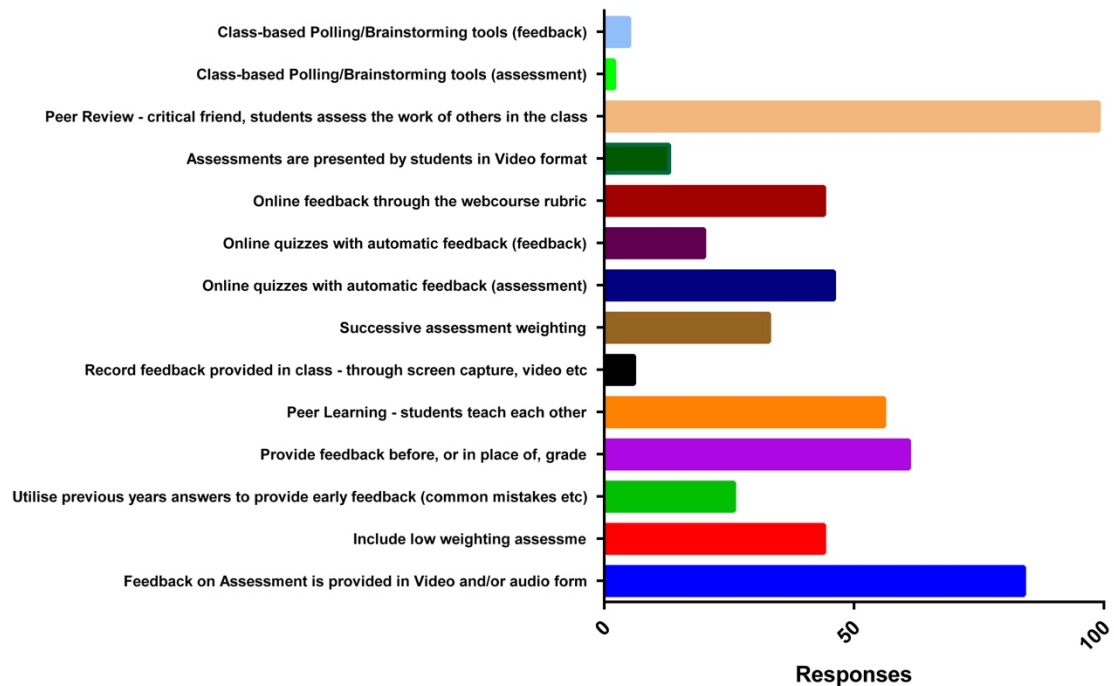


Figure 3: A wide variety of tools for assessment/feedback were trialed and student feedback was captured for each one.

3.2.3 Student responses to questions regarding feedback in general

All respondents (563) were asked several questions about their experience in TU Dublin - City Campus with regards to feedback (Figure 4). 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. An overwhelming majority (71.77%) 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 to improve upon.

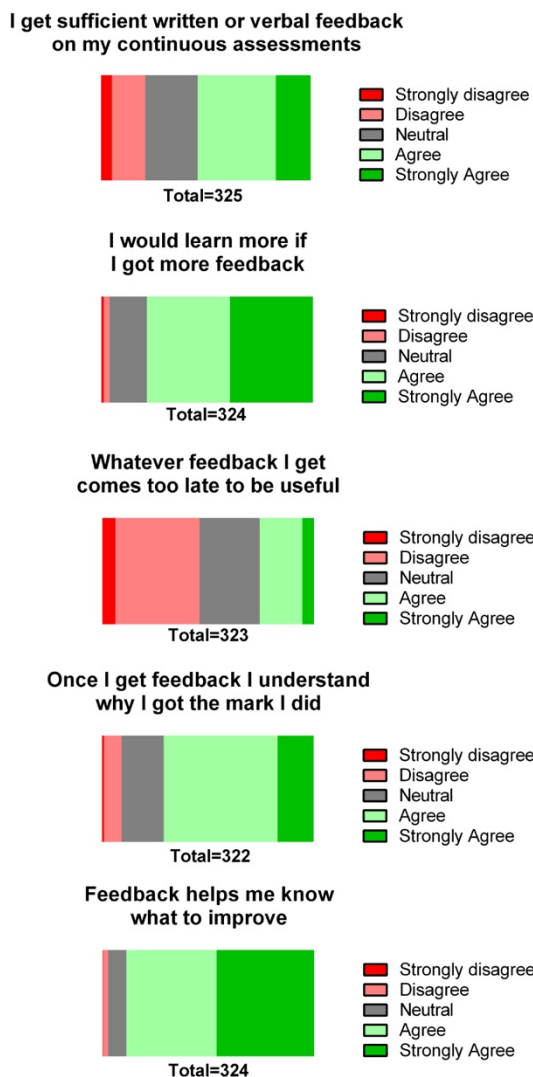
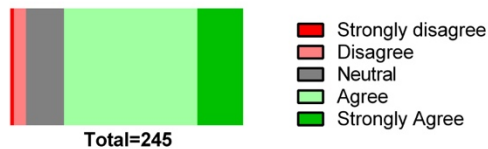


Figure 4: Student responses to questions about the feedback they receive.

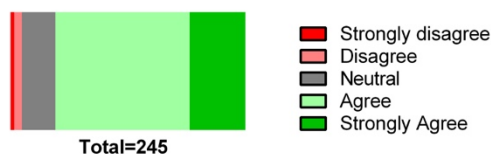
3.2.4 Student responses to questions regarding assessment in general

When students were asked general questions about assessment (Figure 5), 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” (80.81%). The majority of students agreed or strongly agreed that their assessments give clear instructions (65.83%). When asked whether, when doing an assessment, they understood what would count as a successful answer, 30.32% of students indicated that that this was not clear. Most students (66.8%) found their assessment sufficiently challenging.

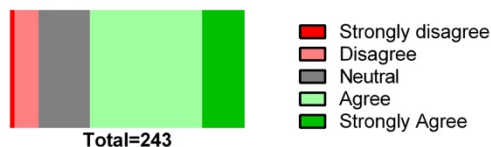
The continuous assessment really made me think about my learning and understanding



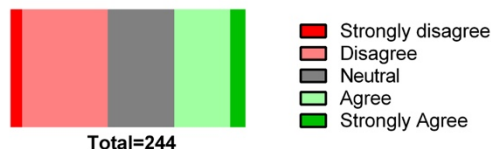
I learn a lot from doing continuous assessments



Continuous assessments give me very clear instructions as to what to do



When I do continuous assessments it's not at all clear what would count as a successful answer



My continuous assessments are not very challenging

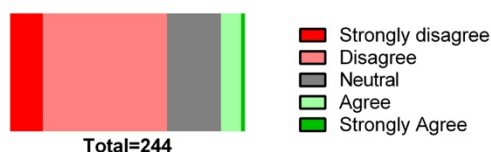


Figure 5: Student responses to questions about the assessments.

3.2.5 Conclusion

The LEAF student survey reached a large number of TU Dublin - City Campus students across all colleges and multiple programmes. We have accumulated a wealth of data to support our analysis of each individual assessment or feedback tool that was trialed in the 2018/19 academic year. Student responses regarding feedback in general were very positive but some areas for improvement were identified. Similarly, students had very positive impressions of assessment practice in TU Dublin though it seems evident that they felt they would benefit from clearer descriptions of what would constitute a successful response to assessment tasks.



Issues identified from LEAF student survey

- Students' responses regarding assessment and feedback are generally very positive.
- Students recognise the importance of learning from feedback.
- Students would like clearer descriptions of what constitutes a successful assessment.

3.3 Analysis of Assessment and Feedback in Quality documents within TU Dublin - City Campus (conducted before merger so focus is on DIT documents)

This section discusses the findings of qualitative analysis of relevant institute documents that were available from all four colleges in City Campus. This stage of the research was undertaken before the merger and so all documentation relates to City Campus rather than TU Dublin. The documents consulted include a sample of QA feedback forms, College Action plans for the most recent year they were available and the report that resulted from the Annual Monitoring theme on Feedback in 2012/13 and 2014/15 which required each programme team to consider issues around assessment feedback. The analysis identifies a number of themes which are discussed below and informed the LEAF project.

3.3.1 Reflection on Assessment and Feedback in the Quality process

The first key finding of this research is that assessment and feedback do not feature prominently in the City Campus Institutional Quality Assurance forms generally. This is also evident in the quality action plans which emerge from the QA feedback forms where categories of actions are developed, and it is clear that there is more focus on the teaching and learning environment and engagement and much less on teaching and learning practice and strategy. For example, in the College of Business Action Plan for 2016/17, only 11 of the 63 programmes listed, mention assessment either under 'issues to be addressed' and/or 'actions required'. Similarly, in the College of Arts and Tourism Action Plan (2016/17), 17 of the 62 programmes listed, mention assessment and/or feedback or the City Campus processes/ structures relating to assessment. The equivalent figure for College of Engineering and Built Environment is 20 out of the 49 programmes and for the College of Science and Health it was 13 out of 36 programmes.

It is notable that in the College of Engineering and the College of Sciences and Health specific questions relating to assessment and feedback have been included in the QA forms and this has led to additional information being supplied. However more importantly this means that at programme committee level, discussion and awareness about assessment and feedback strategies is necessitated by these questions. Assessment and Feedback is put on the programme committee meeting agenda as it is part of the QA process.

A recommendation from this research is that in the review of the QA forms, consideration should be given to including questions relating to assessment and feedback. As these are key elements in the ISSE survey and as a result, are factors on which the university is being evaluated, it is



important for assessment and feedback to become part of TU Dublin's annual evaluation system at programme level.

3.3.2 Drivers of changes in assessment and feedback practices

Further to the discussion above it is important to explore the architecture of TU Dublin - City Campus within which assessment and feedback is situated and the factors which affect change in these practices.

As noted above, in terms of annual quality assurance procedures, assessment and feedback do not feature strongly (unless local decisions are made to adapt the current QA form). However the decision by Academic Council to ask all programme committees to explore the theme of feedback to students in 2012/13 and 2014/15 put this issue on the agenda and this has resulted in the identification of a range of interesting approaches that lecturers and programme teams are taking (some of these are outlined below). This highlights the level of activity in terms of assessment and feedback at module and programme level, but unless requests for this information are integrated into quality assurance frameworks there is no forum to which this activity is reported or within which it is discussed on an ongoing basis.

In terms of changes to assessment and feedback practices there appears to be both internal and external drivers. Externally the ISSE survey means that student experience is an important and visible way in which TU Dublin is being evaluated and this has resulted in raising the profile of assessment and feedback across the institute. External examiners also play a significant role with a number of QA forms across the colleges highlighting the comments by externs on issues such as: having an assessment calendar, the number of assessments students have to complete and the range of alternative teaching and assessment strategies. Such comments result in action by the programme teams in subsequent years. In some cases, the role of external examiner is extended beyond the exam board period being invited to observe students work during the academic session.

Some programmes in the School of Engineering and the Built Environment note the need to adapt assessment strategies in keeping with new technologies or thinking in their sector and in this way the sector is also playing the role of an external influencer. External accreditation bodies have also commented on issues concerning assessment (e.g. The Association of MBAs (AMBA) panel made a number of suggestions regarding assessment grades, matrix and benchmarking). The College of Arts and Tourism Action Plan also notes the role of an Institutional ERASMUS audit which resulted in a revision of re-assessment arrangements in the Department of Languages.

Internally Heads of Learning or equivalent can also play an important role in terms of keeping these issues on the agenda, and are often instigators of change. An example is the decision that the Head of Learning in the College of Sciences and Health is to present to all new students coming in to the college about the importance of assessment and feedback in their learning experience, and similarly the decision in the College of Engineering and the Built Environment to include questions relating to these issues on the QA forms administered in this college. The role of the Head of Learning as both a facilitator and a person who has knowledge of activities across modules and programmes is noted by one programme in the School of Business which suggests



‘work[ing] with College Head of Learning Development to develop policy and share best practice regarding Peer Assessment and Feedback’.

Of course, the biggest driver of change in assessment and feedback occurs at the module and programme level where individual lecturers, programme chairs and programme teams initiate such changes and some examples of this are outlined below in section 4.

A preliminary investigation was carried out to establish the prevalence of the terminology (assessment, feedback) within school validation/review reports. From this study an average number of instances of each term was evaluated for the past decade, and the decade prior (as far as this information was available). The following table shows that although not conclusive, the indication is that these terms are increasing in their use which is an encouraging indicator of the engagement with these topics. Nonetheless it shows that fundamental issues such as Assessment and Feedback are not a prominent part of school reviews, yet they are key in terms of student experiences and the way in which students evaluate the university.

Table 3: Prevalence of assessment and feedback terms in school review reports

Year	Average instances of feedback	Average instances of assessment
<2010	3.70	5.30
>2010	4.93	8.80

So, while the architecture of TU Dublin as an institution may not currently be established in such a way as to record assessment and feedback practices on an annual basis, it is clear that the structure facilitates clear external and internal drivers who drive change in these areas.

3.3.3. Assessment and feedback and the connected curriculum

Analysis of the data indicates that assessment and feedback is primarily an activity which is developed and undertaken at the module level, mostly by individual lecturers. Yet a key issue in the current education literature is that of the connected curriculum (Fung, 2017).

Individual lecturers making their own decisions in isolation may mean that other lecturers on the same programme may not be aware of what other assessments their students are engaging in. International projects such as TESTA and connected curriculum promote the idea of programme teams working together to explore these issues and there is some evidence of this happening within TU Dublin - City Campus. One programme team in the College of Engineering and Built Environment noted ‘changes to the assessment strategies within modules are discussed at Committee meetings as appropriate to ensure that assessment is appropriately mapped to Learning Outcomes and that the most appropriate and viable methodologies are being employed’ (CEBE, 2017).



Another challenge can be to encourage students to see assessments in different modules as being connected. There is an acknowledgement in the College of Arts and Tourism college action plan 2016/17 that 'more time should be spent analysing previous assessment material'. Some attempts are being made to address this. One programme has used a standardised template feedback form to encourage students to use feedback from one assessment to improve performance in the next piece of work. In the College of Sciences and Health some programmes have used mapmyprogramme

(<http://www.dit.ie/intranet/science/teachinglearningandassessment/programmeteamcoordination/assessmentandfeedback/bsscscienceandtechnologystudiesyear1semester12015-16/#calendar>) to assess continuous assessment loads per semester. Currently most programmes across the institute appear to share an assessment calendar with students. Nevertheless, there are still some issues with clashing assessment dates, this issue is noted by a number of schools.

So, while there is evidence of some programme level approaches to assessment and feedback across all colleges there is scope for more of this in order to create a connected curriculum and student experience. A recommendation from this research is that programme teams spend some time at one of their programme meetings to discuss issues relating to assessment, feedback and teaching.

3.3.4. Challenges for Assessment and Feedback created by the current educational environment

The educational environment has changed significantly in the last decade in TU Dublin and this has had an impact on Assessment and Feedback. In particular the various quality documents analysed in the current study note the impact of semesterisation and larger class sizes.

TU Dublin has guidelines regarding the time frame for feedback for students but in many colleges, it is noted that this is increasingly difficult. In the College of Engineering and the Built Environment one programme team note that 'feedback can be difficult to deliver in a timely fashion at [the] end of semester' (CEBE, 2017). A programme in the College of Science and Health states on their QA 'the Institute needs to review its approach to student feedback and develop something which is fit for purpose. The current systems are not working.' (CSH, 2017)

Another issue of concern is the level of consistency in terms of assessment and feedback approaches across modules and lecturers. This is raised in the colleges of Business, Science and Engineering with one programme team commenting that 'some inconsistencies are noted in the nature and extent of feedback provided to students' (CEBE, 2017). In the College of Sciences and Health there have been calls for an assessment rubric to be developed which might encourage more consistency (this has been done in some schools in the institute) and the College of Business Quality Action plan notes the use of marking schemes to also deal with this issue. On the other hand, a programme in the College of Business notes that 'given the wide-ranging scope of assessments types, occasions and compositions, standardised feedback was seen as neither feasible nor desirable' and this sentiment is echoed in a number of programmes in the College of Sciences and Health. On another programme in Business it is noted that discussion is ongoing in relation to the word count for assignments, where some modules have a large word count. The programme chair is developing a matrix to allow further discussions on this issue.



In the College of Business in particular, attention has been paid to the issue of over assessment with the Action plan noting the suggestion to continue to explore the possibility of reducing the number of assessments and an ongoing project which is evaluating student feedback mechanisms. Similarly, in the College of Engineering and Built Environment, two programmes note the issue of ensuring that there is a balance of workload over semesters and years of the programme.

Larger sized groups in modules create challenges for lecturers in terms of assessment and feedback. A programme in the College of Engineering and the Built Environment noted that 'large class sizes impact on the time taken to give feedback' (CEBE, 2017). A programme committee in the College of Sciences and Health observed that large class sizes make assessment feedback 'more arduous for staff' (CSH, 2017). In this college in reaction to this issue it is noted that a number of talks/semi workshops were provided from the Teaching and Learning Centre on how to efficiently and effectively provide feedback to large groups. However, in some programmes in business it was noted that 'The nature of the smaller-than -average lecture groups allows for a greater range of feedback opportunities and junctures and all agreed that this gave DIT an advantage' (COB 2014/15).

Two programmes in different colleges note the difficulties when there are a large number of HPAL staff on a programme who often do not have experience with procedures such as those for exams, assessments and feedback to students. In the College of Arts and Tourism Quality Action Plan, it is noted that staff vacancies also have a negative impact in terms of the learning experience for students.

It is evident that the changing third level learning environment, as well as the changing environment within TU Dublin, creates various challenges for both assessment and feedback practices in the institute.

3.3.5. Assessment and feedback practice relating to the development of graduate attributes and soft skills

Although assessment can often tend to focus on disciplinary knowledge, the development and assessment of soft skills should be of prime importance in third level education as those are the types of employability skills on which employers focus when recruiting staff. In acknowledgement of this, the institutional academic council approved a recommendation in 2007 that 'all programmes will provide students with a range of opportunities to develop, practice and be assessed on an agreed range of key employability skills or graduate attributes'. A set of graduate attributes was developed by a cross-institute group set up in 2013 for the purpose. Programme committees have been asked to ensure that these graduate attributes be made explicit within programme documents and strategies be put in place so that these employability skills are taught, practiced and assessed.

There was some mention of the development of graduate attribute and soft skill development and assessment within the institutional documents examined. In a limited number of cases, this was an explicit acknowledgement of the need to take graduate attributes into consideration. This



perspective is illustrated by two planned actions highlighted by different schools in the College of Arts and Tourism action plan, both of which focus on graduate attributes: 'A thorough evaluation of the Programme is being undertaken over the course of the period 2017/2018. The emerging programme will seek to keep at its core, methods to achieve key graduate attributes and this will be reflected in module offering, assessment and unique mix between theory and practice' (COAT Action Plan 2016/17).

In other cases, although the graduate attributes are not referred to explicitly, examples of best practice highlighted in QA forms identified modules which contribute to the development of soft skills. For example, the development of critical thinking and analytical skills through assessment techniques including PBL, reflective journals, case studies, group work and analytical techniques was highlighted by a programme team in the College of Business: 'Critical thinking skills are a well-documented outcome of a PBL methodology in addition to reasoning skills. These are developed throughout the problem solution process and specific examples of same are evident within the reflection-on-action that occurs as a result of the reflective journal assessment element....Within the module, case study assessment, which is group based, develops critical thinking and analytical skills' (COB 2014/15). Numeracy and problem solving skills were also highlighted. 'Students obtain experience solving analytical problems and gain confidence working with data and an appreciation for the usefulness of quantitative analysis to solve business problems' (COB 2014/15).

As well as explicit mention of employability skills, there were comments in some documents that acknowledge the development of graduate attributes in a less explicit way. For example, the introduction of more group work and assessment was an aspiration of some programmes: This indicates recognition of the importance of facilitating the development of students' teamwork and collaboration skills.

As indicated in this section, development of graduate employability skills is a feature of teaching and assessment approaches within TU Dublin - City Campus but as there is no question or section dealing explicitly with graduate attributes in QA forms or college action plans, the current analysis does not provide a true indication of academic activities relating to employability skills.

3.3.6. Approaches to assessment and feedback

Data for this section was sourced from the summary report in respect of the 2014/15 annual monitoring theme (feedback to students on performance). The list below provides an overview of some of the approaches to assessment and feedback identified by programme committees in line with the 2014/15 annual monitoring theme. In many cases, comments are made that feedback is given by staff to students. This suggests the use of a more traditional monologue model of feedback, rather than a dialogue approach. Initiatives outlined are similar to those documented in the literature (Carless 2015; Carless et al. 2011; Carless 2006; Boud & Molloy 2013a&b; Price et al. 2010; Jessop et al. 2014; Winstone et al. 2017; Hounsell et al. 2008; Nicol 2010; Higgins et al. 2001) in respect of addressing some of the problems with assessment feedback, including the timeliness of feedback, the competence of the assessor in providing feedback, the student's understanding of feedback, the involvement of peers in the delivery of feedback and the use of information technology in the feedback process.



Many of the initiatives highlighted in the annual monitoring theme appear to be utilised specifically with first year students. This a positive finding, as it suggests that students on these programmes are receiving support and guidance on how to complete assessments and how to interpret feedback, at the outset of their time in City Campus. Similarly, these approaches imply that students on these programmes receive more timely feedback and feedback from both staff and peers.

Assessment and Feedback approaches identified in Programme Annual Monitoring Theme responses

- Staff led, student awareness building sessions on what is assessment and feedback dealing with issues such as How the assessment process works. What is formative feedback, summative feedback and peer to peer review? Takes place at induction, individual module level and is communicated in the student handbook. (Year 1)
- Google assessment calendar which depicts the assessment schedule and provision of feedback and ensure spread of assessment load. (Year 1)
- First year initiatives that include assessment and feedback. 'Make College Work' (MCW) and 'Get Smart!' (GS), full induction / orientation programme (includes assessment and feedback information). (Year 1)
- Problem based learning.
- Peer assisted learning, peer review in group assessments. (Year 1)
- Individual feedback for first years (Particularly for poor performers). Weekly performance monitoring through weekly graded work. (Y1)
- Tutorials pre and post assessment for first years. Project classes to facilitate continuous interaction and feedback from staff to students. (Year 1)
- Feedback on in-class assessments / tests laboratories and homework which encourage attendance and engagement. (Year 1)
- Reduction in exams, increased weighting of lab assessment. (Year 1)
- Reduction in the number of lab notebooks to facilitate timely feedback. (Year1)
- Course tutor and peer mentoring sessions on dealing with college including assessment. (Year 1)
- Formative assessment feedback rather than numeric result / summative feedback. (Year 1)
- Open book assessment. (Year 1)
- Attendance monitoring. As part of this process feedback includes reference to performance relative to attendance. (Year 1)
- 15 day feedback turnaround.
- Use of the institutional VLE for assessment submission and feedback dissemination.
- Assessor training which focuses on good practice with regard to marking assessments.
- Standardised templates and rubrics encouraged for feedback.
- Standardised feedback form, pilot tested feed-forward form.
- Group, class and online feedback have been trialed.
- Use of video feedback.
- Development of a project proposal regarding the use of information system which will support student feedback.



There is clear recognition of the importance of the issue of assessment and feedback within all of the documentation. For example one school in the College of Arts and Tourism note the intention to 'increase the amount of time spent in class on explaining assessment briefs, criteria and how student work is marked' (COAT, 2017) and in the College of Sciences and Health one programme committee noted 'the programme is continually looking at improving the timing and quality of feedback to the students'. (CSH, 2017)

Another issue raised is recognition of when feedback is being delivered. A programme in the College of Science and Health said that 'sometimes students don't recognise "feedback" as "feedback" (CSH, 2017). A programme in the College of Engineering and Built Environment had the same difficulty and they have now agreed that 'clinic supervisors will flag students that they are receiving feedback during clinical and practical sessions'. (CEBE, 2017)

3.3.7. Conclusion

This section has explored relevant institutional and college documentation to gain an understanding of how assessment and feedback is presented as an issue within the TU Dublin quality framework. Key issues and challenges have been identified, as well as many examples of good practice and innovative efforts to ensure quality assessment and feedback mechanisms.

The first key finding is that while there is considerable activity at the individual lecturer and module level this is not being reported annually via the QA process, and the recommendation is that the QA documents should be changed to incorporate assessment and feedback. Secondly while there is some evidence of these issues being discussed at programme level this is limited. Therefore, as the focus is on individual modules this inhibits the development of a connected curriculum. A recommendation to address this is for programme teams to have Assessment and Feedback as an item on the agenda of at least one of their programme team meetings annually. Finally, it is evident that the changing environment creates impacts on assessment and feedback throughout the institution, and while providing many challenges this may also create the opportunity for much innovation as lecturers (and the LEAF project) attempt to develop new ways of engaging in assessment and feedback to improve student experience, learning and engagement and enhance teaching practice.

Issues identified from analysis of quality documents

- Assessment and Feedback is not part of the QA process across all colleges.
- Discussions regarding assessment and feedback are not occurring regularly among programme teams.
- There is evidence of innovative assessment and feedback practices across the campus
- Development of graduate employability skills is a feature of teaching and assessment approaches within TU Dublin - City Campus but as there is no question or section dealing explicitly with graduate attributes in QA forms or college action plans.
- Students are not always aware when they are receiving feedback.
- Large class size is creating challenges for assessment and feedback.
- Timeliness and consistency of feedback can be challenging for academic staff.



3.4 Literature Review

Guidance of student learning is achieved through assessment and feedback strategies, which are also central to the development of employability skills and key graduate attributes. In this review, given the breadth of literature on this topic, a synopsis is presented that brings us back to basics in terms of the purpose of feedback on assessment. Also highlighted are the issues and problems faced by educators and students around assessment and feedback, in addition to best practice and the trends in innovation and technology for assessment and feedback. Given the drive to emphasise graduate attributes, both nationally and within TU Dublin, a special focus is included on the role of assessment and feedback on these highly valued professional skills that bridge the gap between third level education and employment.

3.4.1 The Purpose of Feedback on Assessment

3.4.1.1 Feedback and its significance for learning

The potential of feedback to have a powerful influence over student learning is widely recognised (Boud & Molloy 2013a; Carless, Salter, Yang, & Lam, 2011; Evans, 2013; Hattie & Timperley, 2007) and it is reasonable to expect that such potential for learning would be exploited as fully as possible, particularly given the magnitude of the investment in feedback. Boud & Molloy (2013b, p.4) argue that the time and effort invested in feedback cannot be justified unless it 'makes a difference to what students can produce'. However, despite the volume of resources invested in it, student dissatisfaction with feedback appears to be one of the most consistent features of student surveys and has been identified as a problematic issue for higher education institutions in jurisdictions right across the globe (Boud, 2015; Carless et al., 2011; Sambell, 2016). While students dissatisfaction has been linked with issues such as difficulties in understanding comments, the illegibility of comments, the impact that the tone or finality of comments has had on students (Carless et al., 2011) in the context it is appropriate to first focus quite broadly on how the model or conceptualisation of feedback employed may impact upon learning.

3.4.1.2 Traditional conceptualisations of feedback and their limitations

As outlined by Molloy & Boud (2013), the notion of a feedback model is not native to the field of education but rather is one which has been borrowed from the discipline of systems engineering. In its original engineering context, feedback is understood to describe how information generated by a system is re-inputted into that system in order to regulate its performance. Assurance is provided that feedback has successfully occurred by observing that the system has responded with the appropriate change (Boud, 2015). In an educational context, the importance of the fitness for purpose of the information provided within a feedback model is evident in the three essential components of feedback, identified in Sadler's (1989) seminal paper. He proposes that information pertaining to the goal, information pertaining to the actual performance and strategies to close the gap between the goal and actual performance are the three key components of feedback. In doing so he emphasizes that, if the information does not facilitate learning by guiding the students on how to close the gap, then information provided does not constitute feedback and is merely 'dangling data' (Sadler, 1989, p.121). This view is also presented



in Evans (2013) when she refers to how information may be considered as feedback only if it changes the gap and affects learning.

Unfortunately, despite its capacity to foster learning, a key feature of the engineering model is often absent when the model is applied in an educational setting. Frequently in educational contexts, no attempt is made to observe if there has been a change in behaviour or performance resulting from information and guidance provided (Boud, 2015). Accordingly, it is impossible to ascertain if the feedback loop has been completed and if learning has indeed taken place. In such scenarios, the approach adopted is akin to what Carless et al. (2011, p397) describe as a 'one-way transmissive view of feedback' where students receive comments on their performance without any further follow-up on the extent to which they can or do engage with this information. Molloy & Boud (2013) highlight that the adoption of this perspective of feedback and the failure to complete the feedback loop leads to lost opportunities for learning on the part of the student and also on the part of the educator. The student loses an opportunity to learn through demonstrating a change in their behaviour or performance. The educator loses an opportunity to evaluate the quality of the feedback initially provided; if the student has not demonstrated a change in behaviour or performance in response to the feedback provided this should prompt the educator to question the approach they employed in providing the feedback, with a view to subsequently enhancing it. In effect, feedback is viewed as a product or a monologue (Price, Handley, O Donovan, Rust, & Millar, 2013) and students are regarded as passive recipients (Evans, 2013, p.71). The view of students as passive recipients is a problematic assumption which emanates from adopting a model developed in a mechanical context for use in education. Unlike machines, humans think for themselves, process information for themselves and make decisions for themselves as to how they may act in response to information provided. As a result, students' responses to feedback may not be easily predicted (Molloy & Boud, 2013), highlighting another significant weakness in the application of the model for educational settings.

3.4.1.3 Dialogic feedback

In contrast with the monologic perspective on feedback previously explored, the concept of dialogic feedback presents feedback as a process (rather than a product) involving interactions between students and other parties (including, but not exclusively educators) whereby 'interpretations are shared, meanings negotiated and expectations are clarified' (Carless et al., 2011, p. 397). It is important to recognise that the dialogic process does not merely involve one-to-one conversations, but rather involves the student engaging in a variety of ways such as asking for clarifications to assist their interpretation of feedback, discussing understandings with peers and verbalising ideas so as to assess how robust they are (Price, Handley, & Millar, 2011). This perspective accommodates an appreciation of the socially, situated nature of learning (Lave & Wenger, 1991) which Price et al. (2013) suggests is more appropriate in the context of the higher order learning and complexities presented by higher education. They discuss that a dialogic process is necessary in order to enable students to develop their assessment literacy and competently apply their understanding to new assessment situations. Similarly, Boud (2015) describes how students are reliant on two-way interactions with others in order to calibrate their judgements and develop their capacity to deal with new situations in the future. This concern with developing students' capabilities in ways which extend beyond the immediate task is a key feature of sustainable feedback. Carless et al. (2011, p. 397) define sustainable feedback as



[D]ialogic processes and activities which can support and inform the student on the current task, whilst also developing the ability to self-regulate performance on future tasks.

In effect the focus of sustainable feedback extends beyond the immediate exercise to involve the development of the student's evaluative capabilities, the objective being to ultimately render them able to competently assess quality, independently of the educator. The nature of dialogic feedback requires learners to exert agency in procuring and employing feedback from various sources (Boud, 2015). Accordingly, this conceptualisation does not perceive students as passive recipients but recognises their capacity to exert significant agency and choice (Molloy & Boud, 2013). However, the adoption of this model of feedback is not without its difficulties.

Having identified the origins and importance of assessment and feedback, the next section of this literature review explores the problems associated with the assessment feedback process.

3.4.2 Problems and issues with Assessment and Feedback

This section of the literature review aims to identify the research that has previously been conducted, and commentary made, in respect of the problems and issues with assessment feedback. As has already been stated, assessment and assessment feedback are central to the development of effective learning (Sadler, 2010) and are important for academic, personal and professional development (Boud & Molloy, 2013b; Evans, 2013; Lizzio & Wilson, 2008; Nicol, 2010; Northcote et al., 2014). As suggested by Boud & Falchikov (2006, p. 400), assessment and feedback not only influences a student's learning life in third level, but also shapes their learning futures and assists graduates to manage their own learning in the world of work.

The rationale for identifying and resolving problems and issues with assessment feedback is apparent, given the important role of assessment and feedback in students' learning lives. In fact, Price, Handley, Millar, & O'Donovan (2010), argue that assessment feedback is the most important part of the assessment process. Yet, Carless (2015, online) cautions that 'feedback is one of the most problematic aspects of the undergraduate student experience'. Similarly, Brearley & Cullen (2012, p. 22) succinctly describe the core of the problems and issues associated with feedback, 'the provision of timely and constructive feedback is increasingly challenging for busy academics. Ensuring effective student engagement with feedback is equally difficult'. As noted by Price et al. (2010), confusion exists about the objective of feedback and what can be achieved by feedback; this, in itself, can create a fundamental problem with the entire feedback process.

The reasons why feedback practices are deemed to have limited effectiveness, or why the process is classified as problematic will be explored in this section of the literature review. It is worth noting at the outset that Sadler, (2010, p. 536) advises that there are 'no magic formulas' to address these problems and issues.

3.4.2.1 General problems and issues with assessment feedback

In setting the bigger picture problems and issues with assessment feedback, there are well-documented problems (Boud & Molloy, 2013a; Boud & Molloy, 2013b; Carless, 2006; Carless et al., 2011; Higgins, Hartley, & Skelton, 2002; Hounsell, McCune, Hounsell, & Litjens, 2008; Jessop, El Hakim, & Gibbs, 2014; Nicol, 2010b; Price et al., 2010; Winstone, Nash, Rowntree, & Parker, 2017) associated with the effective generation and use of assessment feedback, from the perspective of the key feedback stakeholders – lecturers and students. 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; Winstone et al., 2017), 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; Duncan, 2007).

There are equally, well acknowledged problems associated with the traditional, conventional, monologue model of feedback that is very much lecturer driven, where learners are passive recipients of feedback, rather than active participants, engaged with, and creators of feedback (Boud & Molloy, 2013b; Carless, 2017; Carless et al., 2011; Nicol, 2010b; Winstone et al., 2017). In that sense, this created the problem of ‘impoverished dialogue’ (Nicol, 2010, p. 501) which diluted the student’s role, identity and agency in the generation and use of feedback. The dialogue model of feedback attempts to engage the student in all aspects of the assessment process and involves greater interaction with their lecturer, peers and technology in order to enhance the assessment and feedback process (Boud & Molloy, 2013a; Nicol, 2010b). This change in focus in the generation and use of feedback and the creation of the notion of ‘sustainable assessment’ (Boud & Molloy, 2013a), or a new framework in respect of the communication of feedback (Higgins et al., 2002), has highlighted issues in respect of student and lecturer agency and identity (Boud & Molloy, 2013a; Evans, 2013). This dialogue model creates a more active, engaged role for students in the generation and use of feedback (Carless, 2015). In a similar vein, in order to overcome many of the problems and issues with feedback, Winstone et al. (2017) advocate a shared responsibility model of feedback, which acknowledges the role and responsibility of both academic staff and students in the feedback process. In order to improve this process, it is advised that students would need to receive training in how to become ‘proactive receivers of feedback’ and educators should encourage learner involvement in the generation and use of feedback (Winstone et al., 2017, p. 2026).

It has also been identified, to counteract existing problems with feedback, that sustainable assessment for learning and the feedback process needs to be embedded within the curriculum and learning milieu and feedback should be considered at the stage of programme or module design, as opposed to a process that occurs at the end of a module (Boud & Molloy, 2013a; Carless, 2017). In the context of the connected curriculum, Fung, (2017) similarly identifies areas for improvement in respect of assessment and feedback, in particular, that formative and summative assessment and feedback activities throughout an entire programme should support students in bringing together different aspects of their learning. Likewise, Jessop et al. (2014) in the context of the importance of assessment and feedback and the associated problems, advocate a programme level approach to the design and development of assessment and feedback practices. Jessop et al. (2014, p. 86) propose a ‘shared collegial culture of marking’ to support consistency in the type and delivery of feedback.



As recognised by Boud & Falchikov (2006, p. 406), 'the act of being assessed is one that has considerable emotional resonance'. Likewise, Forsythe & Johnson (2017, p. 850) suggest that 'feedback is an emotional business'. This relational and emotional context of assessment feedback is considered by several authors (Forsythe & Johnson, 2017; Pitt & Norton, 2017; Price et al., 2010; Weaver, 2006; Winstone et al., 2017) who note that emotions can get in the way of students' reaction to feedback, and that emotional maturity, self-belief and preconceived notions of what is deemed to be a good or bad mark, impacts on how grades and feedback are accepted, interpreted and acted upon. A lack of awareness of this on the part of educators can create the problem of 'unwanted emotional backwash' when feedback is poorly communicated (Pitt & Norton, 2017, p. 513). In such situations feedback may be ignored, misinterpreted or result in defensiveness or loss of self-confidence.

Jessop et al. (2014) noted that, in spite of the acknowledged importance of formative feedback, there is little evidence of widespread usage of this type of feedback. Brearley & Cullen (2012, p. 33) identified some of the problems that may arise with attempts to provide formative feedback on draft assessment work. Students who submitted 'more complete drafts' received 'fine tuning' feedback that resulted in higher grades overall. So, the better students performed even better, while the student with poor time management skills or lack of understanding of the advantages of formative feedback did not submit assessment drafts for review, yet these were the students who could have benefited most from formative feedback. It was also noted in this research that formative feedback needs to be provided in a timely manner to permit the student to act upon the feedback before the final submission.

In a similar vein, (Duncan, 2007) expressed surprise that only 16 of a potential 52 students engaged in his action research project in a UK university. This research project provided one-to-one feedback tutorials and created feed-forward plans for the students who participated. The low level of participation highlights a similar problem to aforementioned low levels of submission of draft assessment work.

The lack of feed-forward (Duncan, 2007) or longitudinal development (Price et al., 2010) is another documented problem with the feedback process (Hepplestone & Chikwa, 2014). Brearley & Cullen, (2012, p. 35) suggested that feed-forward should be targeted to provide 'signposts' as to how the feedback could be used in future assessments and learning environments. Modularisation with a diversity of assessment types and numerous, different staff members with dissimilar requirements were deemed to be barriers to the use of feed-forward (Price et al., 2010). Lizzio & Wilson (2008, p. 273) suggested that the problems associated with feed-forward could be alleviated by markers finding a balance between 'assignment specific' observations and 'transferable' comments.

Both student and lecturer dissatisfaction with the assessment and feedback process is well documented in the academic literature and, similarly, in student surveys such as The Irish Student Survey of Student Engagement (ISSE) and, in the UK, the National Student Survey. The following section explores some of these sources of dissatisfaction.

3.4.2.2 Problems with assessment feedback – the staff perspective

Some of the challenges as identified by academic staff have resulted from the changing educational environment (Boud & Molloy, 2013b; Carless, 2017; Evans, 2013; Gibbs & Simpson, 2004; Nicol, 2010). This includes the massification of higher education, larger class sizes, modularisation, semesterisation and the increased numbers of students with diverse needs entering third level (Brearley & Cullen, 2012; Gibbs & Simpson, 2004; Hounsell et al., 2008; Price et al., 2010). This, in turn, has placed greater pressures on staff with regard to the volume of assessment work to be corrected and the time and resources required to generate meaningful feedback (Boud & Molloy, 2013b; Carless, 2017; Evans, 2013; Sambell, 2011). Harland, McLean, Wass, Miller, & Sim (2015) noted that the academics who participated in their research in a New Zealand university expressed a preference for a decreased assessment load that would permit the greater use of formative feedback. However, in the modularised system in which they found themselves, the provision of feedback for learning was ‘marginalised’, due to the quantity of assessments to be graded. Less face-to-face contact with students and increased emphasis on administration and research workloads have also eroded the time and resources available to provide feedback (Brearley & Cullen, 2012).

Weaver (2006) notes that both anecdotal evidence and a small number of research studies supports the view that staff may become cynical about the provision of feedback, as students sometimes just focus on the actual grade and are less interested in the time consuming, written feedback. This is further reiterated by Sadler (2010, p. 535) who suggests that while assessment feedback in higher education has become more commonplace, ‘for many students, feedback seems to have little or no impact, despite the considerable time and effort put into its production’. The end result of this is ‘disconcerted’ and ‘discouraged’ staff (Sadler 2010, p.548). Pitt & Norton (2017) acknowledged the disillusionment of lecturers when students fail to take on board feedback, or sometimes don’t even collect feedback (Wojtas, 1998).

3.4.2.3 Problems with Assessment Feedback – The Student Perspective

In general, research (Hepplestone & Chikwa, 2014; Jessop et al., 2014; Lizzio & Wilson, 2008; Merry & Orsmond, 2008; Price et al., 2010; Weaver, 2006) suggests that students value feedback, yet are dissatisfied, as they encounter many problems or issues with the quantity, quality, frequency, timeliness, content, depth, detail, terminology, tone, focus, relevance and delivery of assessment feedback. However, Duncan (2007) noted that some students are only interested in the actual grade and others only read the qualitative feedback comments, if the grade received is not what they had expected. Harland et al. (2015) observed that, in a modularised environment, tasks and activities that had a grade attached, be they small or large assessments, captured the time and attention of students, to the detriment of the overall quality of learning. Similarly, Boud & Falchikov (2006) proposed the separation of grades from feedback as, combined, they can distract from feedback.

In a juxtaposition to staff frustrations about spending time on the provision of feedback that students may not even collect, students expressed similar frustrations that staff did not invest



enough time in the provision of feedback, in particular, tick box feedback sheets were deemed ‘an insult’ in the large scale study conducted by Price et al. (2010, p. 282).

Jessop et al. (2014) and Carless (2017) note the importance of students understanding the ‘rules of the game’ or the ‘goals and standards’ required for particular assessments. When this information is unclear or vague, it has a negative impact throughout the entire assessment and feedback process.

A commonly noted problem with feedback is the difficulty of reading lecturers’ hand-writing or the lack of depth or detail to the written feedback (Price et al., 2010). Merry & Orsmond (2008) suggest that their pilot study with 15 students identifies how audio feedback can overcome some of the aforementioned problems, as audio feedback can be more prompt and more detailed than the traditional written feedback.

Numerous small-scale pieces of research have been conducted on students’ views of feedback. Weaver’s mixed methods research (Weaver, 2006, p. 379), albeit with just 44 students in a UK university, is indicative of such studies, where students themselves identified a number of problems with assessment feedback. These problems included that feedback comments could be more ‘helpful’, that students sought support in ‘understanding’ and ‘using’ feedback, in advance of ‘engaging’ with the feedback available. The students identified that comments could be classified as unhelpful if they were unclear or imprecise, were centred on the negative, did not provide guidance, or were not connected to the assessment criteria. This left students feeling ‘short-changed’ and ‘understandably upset’ (Weaver, 2006, p. 390). This issue of interpretation, understanding and using or engaging with feedback is similarly discussed by numerous authors (Duncan, 2007; Price et al., 2010; Winstone et al., 2017). Price et al. (2010, p. 279) asserts that ‘feedback can only be effective when the learner understands the feedback and is willing and able to act on it’.

Brearley & Cullen (2012) highlighted that one of the many problems students encounter is in respect of the timing of feedback, when feedback attempts to address both assessment for, and of, learning. In such a situation, students receive a grade and feedback concurrently. While the grade contributes to their overall module grade, the feedback is often seen as a justification for the grade (Price et al., 2010); however, this is redundant unless they can feed it forward to subsequent assessments. Jessop et al. (2014, p. 84) reiterates the argument that feedback needs to be provided to students when ‘it matters most for their learning’ and, in the context of aforementioned resource constraints, this may mean a move away from the well- documented, widespread, lecturer-led model of summative feedback. Another problem with feedback and barrier to the use of feedback is identified by Winstone et al. (2017) as a reluctance on the part of students to invest time and effort in acting upon feedback.

While there are many problems and challenges with assessment feedback, there are many examples of good practice in respect of assessment and feedback. The following section of the literature review examines examples of good practice.

3.4.3 Features of Good Practice in Assessment and Feedback

Feedback is viewed as a limited and precious resource that guides student learning (Bayerlein, 2014; Li & De Luca, 2014). Feedback allows students to assess and critically evaluate their own learning as well as taking responsibility for their learning (Evans, 2013). Hattie & Timperley described feedback as one of the most “powerful influences on learning and achievement” (Hattie & Timperley, 2007).

To enable sustainability and effectiveness in assessment feedback, new approaches and activities are being trialed and implemented across Institutes of Higher Education on a global scale to replace the traditional mode of feedback with a contemporary model (Boud & Molloy, 2013a; Y1Feedback, 2016). 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.

The role of the student in the assessment and feedback process has become a focal point of sustainable feedback, with a move from the traditional ‘monologue model’ of feedback to a more ‘dialogue model’ (Boud & Molloy, 2013a; Orsmond, Maw, Park, Gomez, & Crook, 2013). Enabling students to engage in dialogue about their learning improves their understanding of the assessment process, the purpose of the assessment and allows for critical evaluation of their performance. An informed student that monitors and evaluates their own learning is more likely to develop key attributes that will facilitate them in the process of lifelong learning (Boud & Molloy, 2013a). An employer will look favourably upon the enterprising, enquire-based and effective student who has shown an ability to assimilate feedback, set goals and plan their learning.

Orsmond et al. (2013) identified a number of additional features that feedback should embrace in the current Higher Education context such as the involvement of peers, encouragement of self-assessment and encourages the student to be ‘proactive’ not ‘reactive’ with their feedback. So, what are the key features of good practice in assessment and feedback? Examples of models and strategies of good feedback practice available in the literature over the last 10 years include:

- Re-engineering Assessment Practices (REAP) project’s Twelve Principles of Formative Assessment and Feedback (REAP, 2007)
- The Dialogic Feedback Cycle (Beaumont, O’Doherty, & Shannon, 2008)
- Australian Learning and Teaching Council’s Seven Propositions for Assessment Reform in Higher Education (much of which is concerned with feedback) (Boud, 2010)
- Feedback Triangle and their Features of Effective Feedback (Yang & Carless, 2013)
- Principles of Effective Feedback Practice (Evans, 2013)
- ASKe What Makes Good Feedback Good? project (OBU, 2014)
- Evans Assessment Tool (EAT) (Evans, 2017)
- Developing Engagement with Feedback Toolkit (DEFT) Winstone & Nash (2016)

Reviews of the student’s perspective on feedback have identified intervention as being an important feature, examples including one-to-one tutorials post-assessment; facilitating student reflection on feedback followed by dialogue with assigned tutors (Cramp, 2011). While this type of



intervention is beneficial and suits the small class group, when teaching to large student cohorts a more efficient mechanism must be developed. This is where technology emerges as a tool for use with large student groups in assessment and feedback. The National Forum for the Enhancement of Teaching and Learning identified technology as allowing for 'quicker, customised and diverse' methods of assessment and feedback (Moore, 2014).

3.4.3.1 What do students look for from the feedback process?

Students in the UK's National Union of Students developed a resource in 2008 outlining the ten principles for feedback followed by a charter on assessment and feedback in 2010 (NUS, 2010). Some of the main points from the charter include: variety in assessment, electronic submission of assessment, timely feedback, some form of face-to-face feedback in the first year, self-assessment, availability of rubrics and marking criteria and more choice in the format of feedback (NUS, 2010).

These key points relate to more recent publications where students continually rate timely, useful feedback high amongst their preferences (Li & De Luca, 2014). One study looked at the effect of replacing manual feedback with automatically generated feedback and the student's perspective. This trial aimed to reduce the time/effort in generating feedback while maintaining high quality feedback. The outcome suggested that students found timely automatic feedback to be just as constructive as manual feedback. Another interesting finding from this study was that students do not discriminate between timely feedback and extremely timely or instant feedback (Bayerlein, 2014).

3.4.3.2 Examples of good practice

A recent review by Jackel, Pearce, Radloff, & Edwards (2017) looked at practice and innovation in higher education assessment and feedback with an emphasis on feedback and feed-forward techniques, peer and self-assessment and the rapid evolution of technology in feedback practice.

Evans (2017) developed the Evans Assessment Tool (EAT) Framework which presents an evidence-based approach to feedback and assessment, incorporating three main dimensions of Assessment Literacy, Assessment Feedback and Assessment Design (Figure 6 & Figure 7).

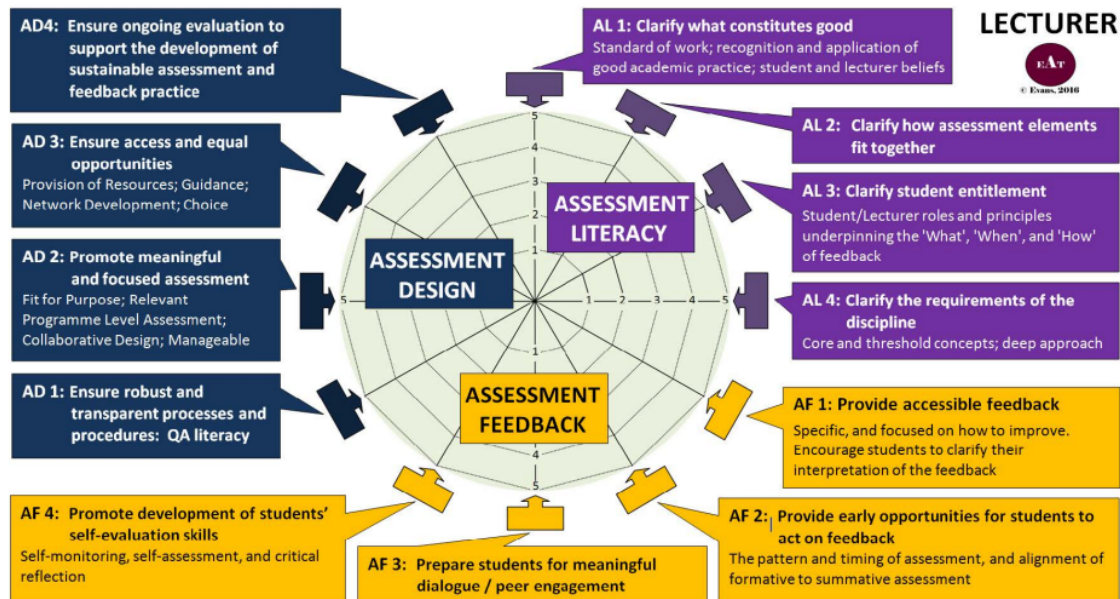


Figure 6: EAT Framework: 12 teacher-focused areas (three dimensions x four areas) (Evans, 2017)

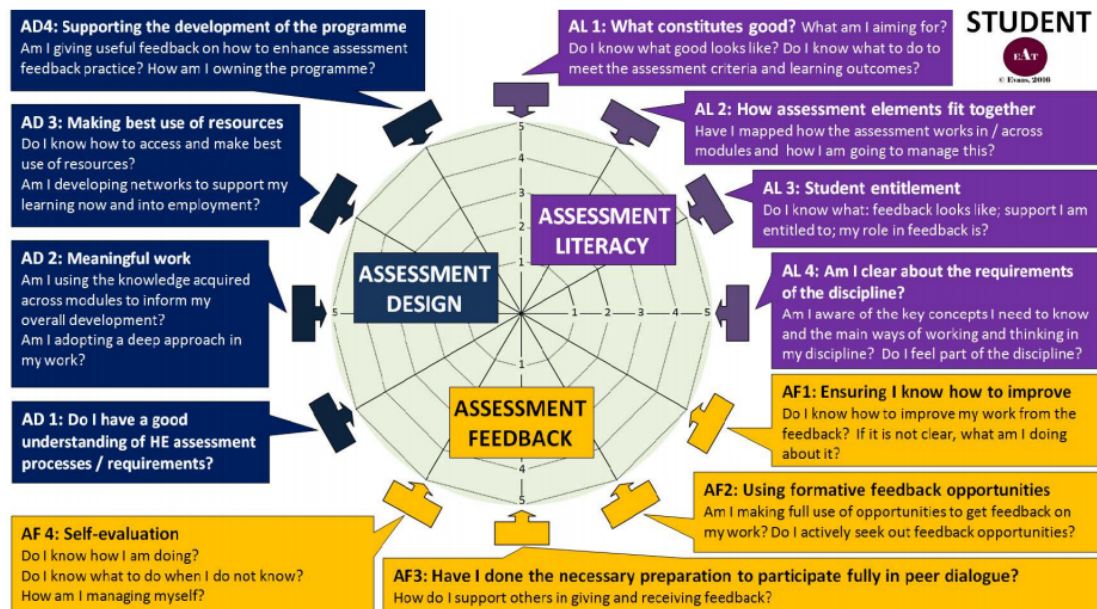


Figure 7: EAT Framework: 12 student-focused areas and questions (three dimensions x four areas/questions) (Evans, 2017)

Jackel et al. (2017) developed a concept map in their review of assessment and feedback which nicely outlines the fundamentals such as fit-for-purpose assessment and standards, followed by current practices and innovations inclusive of technology and peer assessment and lastly emerging ideas, such as programmatic assessment and identification of the gaps where more research is needed (Figure 8).



Figure 8. Concept map informing assessment and feedback (Jackel et al., 2017).

Winstone & Nash (2016) published their Developing Engagement with Feedback Toolkit (DEFT), which includes a student guide to understanding feedback, a portfolio guide and a workshop guide. The emphasis of this toolkit is on the improvement of student reception of feedback, in recognition of the changing role of the student in the feedback process in higher education.



A major goal of the REAP (Re-Engineering Assessment Practices) project was to culture a learning environment that allowed for student autonomy and self-regulation. It evaluated and implemented innovative models of assessment for incorporation into first year classes, encompassing a range of learning technologies inclusive of podcasts, blogs, electronic voting systems, online tests, e-portfolios, discussion boards, simulations, intelligent homework systems and feedback software (Nicol & Draper, 2009).

3.4.3.3 Models of Formative feedback on assessment

Formative feedback on assessments allows students to identify their strengths and weaknesses and affords them the opportunity to improve upon their grade in their next assignment. How students use that feedback determines their performance in the next assessment but in the majority of cases, students will read the comments but do not understand and are unsure how to process those comments (Higgins et al., 2002). Table 4 outlines the range of feedback methods highlighted in the literature.

One-to-one tutorials provide an intervention method that may prove more beneficial than written feedback (Murtagh & Baker, 2009). Face to face interaction is an enabler of student engagement and self-regulated learning where the student can reflect on their interaction with their tutor. Cramp (2011) looked at improving student's reflection on feedback and how to improve their next assignment. This form of feedback helped students to understand the requirements of the assessment, the skills needed to complete it and the concept of feedback.

As aforementioned, automatically generated feedback and comments is viewed by students as a beneficial method of feedback (Bayerlein 2014). Other studies have implemented technology-enabled written feedback, such as typed comments and annotations as a feedback tool. Banks of comments can be generated by GradeMark in the VLE BlackBoard allowing for quick, efficient and high-quality feedback to students on their submissions (Buckley & Cowap, 2013; van der Hulst, van Boxel, & Meeder, 2014).

3.4.3.4 Innovation and Technology in assessment and feedback

The TEAM (Technology Enhanced Assessment Methods) project, a collaborative cross institutional project led by Dundalk IT and partnered with IT Sligo, Athlone IT and IT Carlow, explored the use of digital technologies to enhance assessment of laboratory sessions in Science, Health and Engineering disciplines (Kavanagh et al., 2018). A top-down and bottom-up approach was adopted by staff to increase student confidence and engagement with assessment and feedback in practical settings. By building on existing good practice and embedding the right technology into practice, the overall learning experience is enhanced. Examples of technologies implemented included pre-practical quizzes, electronic laboratory notebooks, e-portfolios, digital feedback and rubrics. Additionally, student expectations were evaluated leading to their involvement in the design of assessment methods, ultimately improving student engagement leading to an enriched and powerful learning environment.

Electronic assessment allows for the development of online quizzes including the generation of banks of questions and answers, which can be used for application to many modules within a



particular discipline. Holmes et al. reported the use of a continuous e-assessment through a VLE whereby the students were required to take weekly assessments online. Students reported increased levels of understanding and engagement with feedback (Holmes, 2014). The REAP project in the University of Strathclyde implemented MCQ-style assessments with automated feedback in a Marketing module. Students were given a two-week window to take the test and repeat the test, thus learning from their mistakes. The tests were introduced to improve confidence for the summative assessment with 74% of students agreeing that the sample MCQs improved their performance.

E-portfolios and Wikis are also reported in the literature as useful methods for assessment and feedback used through VLEs. The development of graduate attributes is a nice output from the incorporation of E-portfolios, which can be presented as a collection of achievements and learning. Additionally, they are 'digital' records of a student's learning, what employers will look for in this age of technology. FEATS (Feedback engagement and tracking at Surrey) is an initiative developed by Winstone & Nash (2016) that aims to support students in their synthesis and understanding of feedback using a feedback learning portfolio embedded in a VLE. The unique feature is that all feedback is stored in a common place. Wikis allow for tracking student contribution to group work, enhancing collaboration and transparency in the process (Caple & Bogle, 2013). In addition, Blogs allow for self-reflection, supporting autonomy, ownership and self-regulation of learning (Epstein et al., 2002).

Peer feedback describes feedback to students from their peers on their submitted pieces of work. The benefits of this format of feedback is that students find the feedback more understandable, more accessible and the volume of feedback is enhanced where multiple peers are involved (Nicol, 2014). The PEER toolkit project, also at the University of Strathclyde, developed resources for the implementation of peer review activities and the guiding principles for peer review (Nicol, 2014). Keppell, Au, Ma, & Chan (2006) reviewed the use of technology as a vehicle for peer learning with Art and Design students. The use of intra-group reflective journals as part of a group project facilitated through the VLE, allowed students to evaluate and assess their progress and contribute to each other's work over the course of the assignment.

Eric Mazur an internationally recognised expert in the field of education, introduced the concept of Peer Instruction (PI) a student-centred approach to learning that provides instant feedback to students on difficult topics in the classroom setting (Mazur, 1997). PI initially involved the use of ConcepTests or conceptual multiple-choice questions which were integrated into lectures, and students answered using flashcards. This approach to teaching has many benefits including enhanced student performance, engagement and retention (Jurukovski, Callender, & Schoberle, 2015). Clickers or wireless polling devices soon replaced flashcards and currently students use their Smartphones to logon to TurningPoint online quizzes or other freely available tools such as Socrative, GetKahoot and Mentimeter. McLoone & Brennan (2015) report the use of a visual CRS (Classroom Response System) that allows students to generate freeform sketches in response to questions posed by the lecturer in class. Models such as these that allow for free text or free sketching are best suited to small class groups, allowing the lecturer sufficient time for feedback.

Crook et al. (2012) investigated the use of video recordings to address issues surrounding good quality and timely feedback and the impact on both students and staff. The study encompassed all faculties including Arts & Humanities, Business, Science, Life Science and Social Science

including 287 student participants. The ASSET feedback loop design incorporated the important element of feed-forward, where the video focuses explicitly on the areas for improvement. The overarching findings were that 80% of students wanted to continue receiving video feedback, and that there was a positive change in the attitude of staff to feedback provision. Merry & Orsmond (2008) have previously highlighted that students prefer the use of video feedback as it is more personal, more easily interpreted and understood than written feedback.

The application of data analytics to student learning is an emerging theme in assessment and feedback, whereby student data and behaviours are analysed to optimise student success. The National Forum for Teaching and Learning has developed an Online Resource for Learning Analytics (ORLA) (O’Farrell, 2017). PredictED is a learning analytics tool developed in DCU that uses student behaviour to predict performance in summative exams (Corrigan, Smeaton, Glynn, & Smyth, 2015). Students received regular automated email alerts with predictions of their exam performance based on their interaction with their university VLE. Students who took part observed a 3% improvement on grades post intervention.

While there is a significant workload attached to the re-design of any module there is a significant return on investment once it has been developed. The same applies to the introduction of technology into the process whereby rubrics are developed, online tools optimised or banks of questions and answers are generated for application to many modules. An additional worry for educators is the rate at which technology is currently evolving and tools once implemented can become quickly outdated.

Table 4: Examples of Assessment and Feedback practice

Practice	Specific Example	Summary Of Activity	Reference	National/International
Technology-enabled written feedback	Typed comments/ annotations	Comments generated online by Grademark	Buckley & Cowap 2013 Van der Hulst et al. 2014	Staffordshire University VU University, Amsterdam
Audio/audio-visual feedback	Audio feedback	Audio feedback through VLE – voicemail; students encouraged to respond – dialogic feedback	<u>Macgregor et al. 2011</u>	Liverpool John Moores University
	Video feedback	Video feedback and distance learning	<u>Borup et al. 2014</u>	Brigham Young University
	Screencasts	Screencasts of model answers	<u>Haxton & McGarvey 2011</u>	Keele University
	Screencasts	Screencasts of feedback annotations of the students’ excel and word submissions	Marriott & Teoh 2012	University of Winchester

Practice	Specific Example	Summary Of Activity	Reference	National/International
	Screencasts	Screencasting technology as a feedback mode for written work in the performing arts	Bissell 2016 JPAAP	Royal Conservatoire of Scotland, UK
	ASSET Video feedback	Using video as a means of enhancing the feedback experience for both students and staff ASSET Feedback Loop – nice schematic on feedback	Crook et al. 2012	UK – multiple institutions Reading; Leeds; Staffordshire; Plymouth
Peer feedback	Turnitin	Focus on peer review and feedback using Turnitin PeerMark software and criteria formulated by instructor	Nicol et al. 2014	University of Strathclyde
	PeerWise	Creation, sharing, evaluation and discussion of MCQs	Bates et al. 2011	University of Edinburgh
	PeerWise	Creation, sharing, evaluation and discussion of MCQs	Galloway & Burns 2015	University of Nottingham
	Peer marking of exemplars	Students mark exemplars of former students (pass to distinction samples); then submit their own case study later in the module.	Wimshurst & Manning 2013	Griffith University, Brisbane, Australia
E-portfolios	E-portfolio & blog feedback	Tutor feedback via a weekly blog on e-portfolios which logged student's reflections	Currant et al. 2010	University of Bradford
	E-portfolio & grad attributes	Mapping experience/evidence of work to grad attributes/professional bodies	Faulkner et al. 2013	University of South Australia
Electronic Lab Notebooks (ELNs)	LabArchives /OneNote	Online lab notebooks – LabArchive - \$15 per student or OneNote (free) Rubrics provided, all lab reports online so student can generate a portfolio upon graduation – graduate attributes	Kavanagh et al. 2018	Dundalk Institute of Technology

Practice	Specific Example	Summary Of Activity	Reference	National/International
Automated feedback tools	REAP – automated MCQ	Immediate feedback on randomly selected questions from a bank of questions in a 2-week timeframe.	REAP 2007b	University of Strathclyde
	OpenEssayist †	Automated feedback on long pieces of text – linguistic analysis engine processes the text as the student writes and presents feedback	Whitelock et al. 2015	University of Oxford
Classroom response systems	TurningPoint † Clickers	CRS system – questions and immediate answers – relate to peers	King 2011	Drexel University
	Visual Response CRS System	CRS that students use to generate freeform sketches in response to questions	McLoone et al. 2015	NUIM
	iClickers	Students use own mobile phones to respond to questions	Lee et al. 2013	Hong Kong Baptist University
	TurningPoint † AnyWhere Polling	Lecturer can generate questions on the fly or in any application	TurningPoint/Turning Technologies	Turning Technologies LLC
Learning Analytics	PredictEd	Predicts performance in end of semester grades – based on interaction and engagement with the VLE	Corrigan et al. 2015 PDF	DCU
	FEATS (Feedback Engagement & Tracking at Surrey)	Feedback tool – centralised feedback	Naomi Winstone	University of Surrey
E-Assessment	No access to this article – cannot find detail on method	Self-marking online MCQ	Snowball et al. 2014	Rhodes University, South Africa
	Wikis	Using Wikis as part of group assessment	Caple & Bogle 2011	University of New South Wales, Australia
	E-assessment through VLE	Continuous e-assessment	Holmes et al. 2015	University of Northampton

This section has provided an overview of good practice in respect of assessment and feedback, the next part of this literature review will discuss the role of assessment and feedback in the development of graduate attributes.

3.4.4 Assessment & Feedback in the Development of Graduate Attributes

Barrie (2007) describes graduate attributes as “the core outcomes of higher education”. Similar terms have been used to describe this concept, such as key competencies, key skills, transferable skills, and employability skills (Thompson, Treleaven, Kamvounias, Beem, & Hill, 2008). In general, upon completion of a high education programme, graduates are only at the start of their education into their chosen profession, the better the students “key skills”, the better they will be at managing their profession development from that point on. In 2013, DIT’s academic council agreed that graduates should be Engaged, Enterprising, Enquiry based, Effective, and Expert in chosen subject discipline (DIT, 2013). Within these terms the following is included, being socially responsible, contributing meaningfully and positively to their environments, the ability to solve problems with practical solutions, have a desire to learn and build on existing knowledge, belief in positive change, and ability to reflect and review on their own and the work of others.

Hughes & Barrie (2010) state that traditionally graduate attributes were seen to be inherent learning outcomes of a student’s higher education experience, whereas in recent years they are included within or in addition to existing learning outcomes. There are many challenges to incorporating graduate attributes into a programme. One of the first challenges is, due to the diverse programmes within higher education institutions, converting the institutes chosen graduate attributes into a discipline-specific (Hughes & Barrie, 2010). Assessing the development of these key skills in module assignments is important, as is outlining what will be assessed in the overall assignment/assessment criteria. Failure to include these assessed skills in the assessment criteria will likely result in a disconnect between the teacher and the students perception of the development of graduate attributes (Hughes & Barrie, 2010; Thompson et al., 2008). For successful implementation of assessment of the development of these attributes, programme adoption over solely module adoption is required (Thompson et al., 2008).

Although inclusion of graduate attributes in learning outcomes is an important part of this process, the more critical component is how to assess the development of these skills. Nicol (2010) believes that the key to attaining many of the required attributes is through the critical evaluation of a student’s own work and the works of others, he believes that through critical evaluation simultaneous development of several attributes is possible. Holmes & Beagon (2015) trialed the use of problem-based learning through group assignments, comparing the student’s perception of their skill level, before and after the assignment, for several key skills. In terms of development of graduate attributes, the students stated a development across all skills, although for some only a minor improvement, over the course of the assignment. As this was the students first encounter of project-based learning, and a trial for the school, students were unprepared for the level of commitment required, resulting in presentations that were very poor. This is in line with the findings presented by Thompson et al. (2008) which outlines the importance of programme adoption for successive engagement of students with the development of their graduate attributes.

This review presents a summary of the literature available around assessment and assessment feedback, setting the scene for piloting an assessment feedback strategy within TU Dublin that has best practice and the development of graduate attributes at its core. As evidenced by the literature, assessment and feedback 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 skill set that enhances their success of employment. The limitations of current assessment and feedback strategies have been outlined in this review, which places us as educators in a significant position, whereby changes can be made and best practice implemented at university-level. Highlighted within the review are specific examples of excellent assessment and feedback strategies, national and international, which benefit both staff and students across all disciplines. How such strategies feed forward into the development of key employability skills



has been discussed, which results in well-rounded and informed high quality graduates that not only contribute significantly to their chosen field but to society as a whole.

Issues regarding Assessment and Feedback emerging from literature review

- The literature highlights the significant potential and power of feedback on the student learning process.
- Information can only be considered feedback if it affects learning and there is a change in student performance or behaviour, therefore it is important to close the feedback loop.
- Student dissatisfaction is consistent across student surveys on feedback.
- Student difficulties centre around the timeliness, frequency and quality of feedback. Understanding or interpreting feedback, its purpose and emotional impact can prove difficult for students.
- There is a need for a transition from the monologue approach to the dialogue approach of feedback which will enhance a student's assessment literacy.
- Delivery of feedback is challenging for lecturing staff due to larger class sizes, modularisation, semesterisation and diverse needs of students.
- Traditional models of feedback to be replaced with new approaches that are quick, customised and diverse resulting in more timely and streamlined feedback.
- Global evidence in HE institutions of widespread incorporation of digital technologies to enhance assessment and feedback processes.
- Assessment and feedback strategies should have graduate attributes at its core developing students as self-directed and autonomous learners.

3.5 Interviews with national and international experts

3.5.1. Introduction

In this work package, experts in the field of assessment and feedback were asked for their views on effective assessment and feedback as well as effective approaches to developing and implementing institute-wide assessment and feedback strategies. Accordingly, the aim of this section of the LEAF report is twofold; firstly to provide an overview of philosophy and principles underpinning good assessment and feedback and secondly to feed into the development of an institute-wide assessment and feedback strategy for City Campus which is underpinned by an evidence-based approach to strategy development and organisational change efforts.

3.5.2. Methodology

For the purposes of this aspect of the study, 18 experts in the field of assessment and feedback were contacted by email to ascertain if they were willing to be interviewed. These experts were identified as a result of the LEAF literature review process, through the experts' national and /or international involvement in assessment and feedback research and / or their roles in university teaching and learning support functions.

Twelve respondents agreed to be interviewed. These 12 interviewees were comprised of five males and seven females. Four were from UK-based universities, one from a New Zealand



university, one from an Australian university, one from a Hong Kong- based university and five from Irish universities or university learning support centres.

Once confirmation of willingness to participate was received, a consent form, information sheet and a list of questions were emailed to the individual interviewee. The list of questions was derived from a trawl of the assessment and feedback literature, in addition to questions which focused on the respondents' own individual research and experiences. Six interviews were conducted via Skype and six were face-to-face interviews. The interviews took place over the period March to October 2018. Five members of the LEAF research team were involved in the completion of these interviews.

3.5.3 Results

The results are divided into two sections with the first reporting on the expert panel's views on principles of good assessment and feedback and the second focusing on how an assessment and feedback strategy can be effectively developed and implemented at institutional level.

3.5.3.1 Defining the terminology

In respect of the development of assessment and feedback philosophies, strategies and principles, one of the issues discussed by the interviewees centred on the terminology employed at institute, college, school and programme level, with regard to assessment and feedback. This indicates what is meant by assessment and feedback, and provides staff and students with a clear and consistent understanding of what the terminology encompasses. As noted by interviewee 7, 'people have very different understandings of what assessment means, what feedback means'. This interviewee identified the importance of 'a common language. And, whatever that language is, is that people understand it and use it and is in sort of strategy'.

Interviewee 7 had previously worked with the students' union on the issue of assessment and feedback, and indicated the importance of involving students in the definition of these terms. 'So, I'd like to do a piece with them and with the student body, around a wider understanding of feedback as well. So that they understand this wider definition' (interviewee 7). This was reiterated by interviewee 3, who emphasised the importance of the student 'voice is being heard in the process of creating that new strategy'. Similarly, interviewee 5 discussed the possibility of involving students in establishing the assessment criteria 'other projects we have running, where staff actually get students involved in the assessment criteria, and they say right here's what you need to do, but you tell us what criteria you think should be actually evaluated and the class will agree'.

Interviewee 2 illustrates some of definitional issues in the following quotation.

Yeah, so I think having a sort of, I don't have a catchphrase, but a brand is actually really useful which makes sense to staff and students and the word assessment is always problematic, you know, so we're trying to shift from assessment of learning to assessment for and assessment as learning and, depending how far you want to go, mean I'm more assessment as learning. Assessment should be a learning opportunity, rather than a testing opportunity, you know, just about testing. So, if you could find terminology which sort of captures that... The way the theory has gone, and maybe this is just because I sort of work in theoretical areas too, assessment for learning, in some peoples' heads, is associated still with a very teacher-centric kind of model, where teachers are doing assessment to students, and I don't think of it like that at all. I think of an assessment as learning, but I do wonder if there would be a different, you know, some different terminology might just help. So, one which I quite liked, which I've just seen a paper written by



Helen McClane which is about... she's called 'Assessment that Supports Learning'. I really quite like that because it's sort of, you know, it kind of doesn't suggest that it's the teacher [laughs] or the student. It's just supportive. So, thinking about the terminology, I think, is quite important for whatever you decide to call your drive, you know. [Laughs]. It has to be something that they can buy into.

Similarly, interviewee 7 highlights the importance of a clear understanding of what is meant by assessment and feedback.

Assessment has different purposes because it can be, you know, for accreditation, for learning, for grading. So, for grading or it can be for feedback purposes, feedback enhanced your learning. And then the other aspect it can be is to help students monitor their own work. And, so we did a piece on the former. And we called it assessment of, for and as learning, to help distinguish between those different ideas around. And that was a useful piece, so that was a national understanding of those terms. And that is useful, I think, for any strategy, of what we mean by the terms... For any strategy, you need to have what we mean by feedback as well. And one of the pieces we're really pushing here is that there are lots of different forms of feedback. The classic feedback, where you give students feedback but that could be problematic for all sorts of different reasons. But, moving to onto group feedback, to automated feedback, to online feedback. And, then, moving to more, the terms we're using a little bit here, is student generated feedback. But, that's the assessment for and as learning. And that's students getting involved, engaging in feedback.

I think we measure far too much and we do assessment for learning far too little (Interviewee 8).

3.5.3.2 The role of staff and students

Following on from the issue of defining the terminology for the benefit of both the staff and students, all of the interviewees highlighted the importance of determining the role and engagement of the student in the assessment and feedback process. This is something that should be acknowledged within an institute's philosophy, strategy and principles. Rather than a lecturer-centred approach to assessment and feedback, all interviewees noted how students could be more involved and advocated a dialogue rather than monologue focused process, which encouraged students to become less dependent on the lecturer and more self-empowered. This approach also enhances a student's soft skills development through the use of self and peer review, reflection, the development of opinions and critical thinking. 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'.

The role, responsibility and empowerment of the student is illustrated by some of the following quotations.

Putting the responsibility on the student to generate internal feedback, and to self-monitor over time, and they're not reliant on the teacher to give them feedback. It's student driven. It's student self-monitored and, actually, I think this is good practice. I'm more sceptical about feedback designs that require the teacher to do more and more (Interviewee 1).

You know, but we had to construct the peer feedback in such a way that they're not just getting the feedback from peers as a gift, as it were, they're getting, they're learning to give feedback, but then the tutor's role is to help them sort of see how far their feedback is appropriate. So, it's not the feedback that they get from other students that matters, it's that they learn to actually generate feedback (Interviewee 2).

To help scaffold them into giving feedback and seeing themselves as feedback generators, rather than feedback recipients because they come from school, well certainly in our polytechnics, they come from school very sort of reliant on tutors to mark their work, and tell them where they've gone right, and where they've gone wrong, and all of that and, up to a point that's really important still to enable them to see, you know, which bits of their work are, you know, doing well and which bits are less effective, but the problem with it, if you overdo that, is that it keeps the student very reliant on the tutor and, of course, it's hugely time-consuming but, also, the students then see feedback as corrective, and feedback actually isn't just corrective in higher education, it's about helping the student to know when and form a sort of tacit understanding or a sixth sense almost for when they're doing the right thing, and when they're doing the wrong thing (Interviewee 2).

We'd looked at all sorts of institutional feedback policies and relatively few of them really focus on engagement with feedback. Or the skills of doing that and even fewer focus on designing assessments to create the skills for engaging with feedback (Interviewee 3).

We want to work on not just engaging the students, but empowering the students (Interviewee 5).

I think students getting a problem, trying to solve it and then marking each other's work or marking their own work is a far more learning-centred way of doing things than the burden of teachers doing more and students doing less. It seems to me, it's like the Singaporean curriculum than the school curriculum, teach less, learn more (Interviewee 8).

3.5.3.3 Assessment and feedback philosophies, strategies and principles

'Ideally, whatever initiative you implement, there's something in it for both the staff and the student' (Interviewee 5).

This quotation, from one of the expert interviews, illustrates the significance of acknowledging the role of both staff and students in the design, development and implementation of all aspects of an institute's philosophy, strategy, principles and initiatives, with regard to assessment and feedback.

As illustrated by interviewee 2, the linkages between assessment, teaching and learning were also identified as core elements that underpin any philosophy, strategy or principles, in respect of assessment.

So, you don't see a big separation of learning, teaching and assessment. You see them completely as a coherent whole. In my head, you're always trying to completely integrate, in a seamless way, assessment feedback teaching and learning (Interviewee 2).

3.5.3.4 What constitutes good assessment and feedback?

Philosophies, strategies and principles should explore and question what constitutes a good assessment and good feedback.

According to interviewee 1, 'a 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'. Interviewee 4 encourages academics to question the type and format of assessment.

Sometimes I think we need to take a step back and think why are we doing these tasks. Is it just because they're common? It is just because they've always been there? Because they're easy to



mark? Or, can we actually articulate to students why this is a valuable assessment for them to be doing? (Interviewee 4)

In a similar vein, interviewee 8 questioned the relevance of numerous assessments, another issue for consideration within an assessment strategy and principles.

I think students are on a treadmill and I think the assessments, often small and frequent assessments, are not that challenging. And, they trivialise the whole game of trying to think deeply and understand, integrate content and knowledge and thinking (Interviewee 8).

The private nature of assessment is also questioned by interviewee 8 and, again, identifies an issue for consideration within an assessment strategy and principles.

I think we have privatised assessment terribly. And, I think the more we move assessment into the public domain, the more authentic and it better it gets for students (Interviewee 8).

In respect of the underpinnings of good feedback, Interviewee 7 captured the sentiment of many of the interviewees.

I really think the secret of good feedback is, I think, all of education is about being known. And, I think the challenge in maths higher education is students don't feel known. And, I think David Nicholls' work on this is really interesting, in the sense that students are looking for a relationship with their tutors in the feedback, and they find there's something quite impoverished instead, cut and paste or very criterion-referenced in a way that kind of excludes the human dimension. So, I sort of think anything that's dialogical conversational is much more gripping for students as feedback and much more usable (Interviewee 7).

The issue of equity and fairness in assessment and feedback was also identified as an important assessment principle.

The creation of time and space in the curriculum was similarly recognised as a central element of assessment and feedback.

Creating time and space, when people are very caught up with their content and their disciplinary knowledge, is actually a value system that's hard to change. And it's, it could be confidence of doing it in class and doing stuff like that. But, often, it's more, they won't, people won't let go of an hour here and an hour there. Because, well, now we won't have covered this you know... So, but, it's a shift in how we work and it's a shift in, you know, being more confident that, like, maybe, we'll do a little bit less of this and do more of that (Interviewee 7).

You've got to be much more selective about content and you've got to move away from an information explosion content driven curriculum and have a curriculum that's much tighter and allows space for students to do stuff in class that involves some sort of evaluative judgements and some feedback (Interviewee 8).

3.5.3.5. Alignment and coherence in assessment and feedback strategies

Alignment and coherence of assessment and feedback practices at programme and module level were identified as important elements of the philosophy and principles of assessment and feedback.

3.5.3.5.1 Alignment and coherence at programme level

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 1 noted that 'It has to be part of the course design and part of the plan'.

This was reiterated by interviewee 7 who suggested that 'it does need to align with, you know, programmatic reviews. It does need to align with the kind of the documentation that people put stuff into in the first place'. This identifies the importance of the role of assessment and feedback in quality assurance programme review documentation.

Interviewee 8 suggested 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'. This was echoed by interviewee 7, who also observed the valuable role of developing 'student friendly' programme assessment and feedback strategies for each programme.

Similarly, it was noted by the interviewees that 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). This creation of linkages between modules also communicates the importance of assessment to students, as described by interviewee 9 'everything is linked. So, the students very often don't have a choice; if they don't do the work to a certain stage, they may as well give up for the rest of the semester'.

All interviewees highlighted the challenges of the 'practical issues' (Interviewee 1) associated with creating greater alignment and coherence at programme level, including the time pressures of modularisation, module ownership / teaching in silos, mixed feedback messages from different staff, organisational politics and organisational change. Some examples of these concerns are illustrated in the following quotations.

I think so many of the challenges with assessment and feedback comes from modularisation. The difficulties applying feedback or seeing its relevance. I think if we can, somehow, set up a process where assessment is at a much higher level, drawn out of those modules into something, that is much more interconnected (Interviewee 4).

One of the key things that we're trying to work on is the programme level idea, which is quite challenging. Generally assessment is modular based. It is very independent. It is very private. And, it is generally one of the other big challenges we're facing is over assessment, so what we would do a lot of the time is working with people to reduce assessment and, where possible, reduce it across a year, and one of the devices we use is a capstone module. We find that brings things together. The complaints we're getting from, maybe, the student side is that they don't see the connection between modules (Interviewee 10).

Any programmes team is only really going to be as good as its weakest link. And, you know, we've done all this great stuff with feedback and assessment, but there's still, which there is in our team, one or two people who are just giving appalling feedback. And the students are going to be thinking that they'll get appalling feedback (Interviewee 3).

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. And, actually, sometimes to get a brilliant programme, it requires Mary, even, or others brilliant to sacrifice some of their modular autonomy for the greater good of a coherent programme (Interviewee 8).

Interviewee 1 observed that in order for students to ‘make sense of their assessment and feedback experiences’ ‘vertical integration’ between modules in different years of a programme is vital.

Across module assessment and feedback mapping is described by interviewee 5 as an ‘assessment workload project’, by interviewee 6 as ‘programme focused assessment’ and by interviewee 7 as ‘curriculum mapping of the assessment’. Regardless of the terminology used to describe this activity, interviewee 7 highlights the importance of ‘knowing what’s going on’ in respect of assessment and feedback. Interviewee 6 illustrates the core aspects of any such mapping exercise.

So, to look at the assessment across the year, the programme, the subject, and see is there an adequate range of assessment. Are the graduate attributes being assessed throughout? Are there gaps in the assessment? Is there too much assessment? Is there too much of one type of assessment? Are all the learning outcomes or all the programme outcomes being assessed? So, it is very, very complicated. Essentially, it’s firstly about mapping them but, secondly, about that conversation where they can talk about their assessment (Interviewee 6).

The aforementioned mapping exercise should also have a positive impact on the frequently documented issue of over-assessment. Mapping of assessment across a programme could facilitate the reduction in the number of assessments and introduce a ‘smarter’ (Interviewee 2) approach to assessment and, concurrently, staff develop a greater awareness of peer colleagues’ assessment strategies. This could enable the use of horizontal integration across modules. Interviewee 5 noted the use of online assessment calendars for staff, in addition to students, to build awareness amongst staff as to the assessment types and submission deadlines of peer colleagues.

Quite often you find that you’re assessing the same learning outcomes several times, and so it may well be that you can slim down the burden of assessment, you know, which is burdensome for staff and for students, and do it a lot smarter, and do it a lot better but much less frequently (Interviewee 2).

In addition to the issue of over-assessment, interviewee 7 observed the importance of a contemporary research theme that explores the creation of some ‘breathing space’ in the curriculum. Again, this is a concept that would have to be discussed at programme level. This issue was also commented on by interviewee 8, who suggested that ‘there’s a hell of a lot of repetition of content across modules’ and advocated a programme team approach to the removal of unnecessary content. Interviewee 7 suggested having

A themed module, maybe put two modules together and have a theme. And go a bit deeper. Is there, you know, a learning portfolio that you build for students? That they can actually start to make connections and dump one of the modules out of the thing. And, you know, trying to create some space. But that takes, like, a programmatic decision... it is a capstone model that helps bring it all together, in one large capstone.

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. So, I think it’s got to be a whole programme decision... And, I think what we’ve got to do is make a joint decision to summatively assess less and to take on the challenge, and it’s a challenge really of how to teach well (Interviewee 8).



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 3 emphasised that this would need to involve a programmatic approach to the use of such portfolios.

Focusing less on just what is good quality feedback. What should it look like, what should it contain. And more about how can we get students to actually use it and find it useful. And that, I think, should probably be the core of any policy (Interviewee 3).

Another measure to aid consistency, noted by respondents, was the development of school- or programme-wide policies, procedures and resources on assessment-related issues, such as referencing, late submissions and word count. A separate document or web link containing this information reduces the length of the assessment brief and ensures fair and consistent treatment of students across modules within a programme.

3.5.3.5.2 Alignment and coherence at module level

Integration and coherence at module level were 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 'that assessment task one leads into assessment task two and assessment task two and assessment task two builds on assessment task one'.

3.5.3.6 Strategy development and implementation: an organisational change perspective

This section presents participant feedback on development and implementation of assessment and feedback strategies. Barriers to implementing an institute wide strategy are presented in the context of organisational change, followed by guidance from the experts on how best to overcome these barriers.

3.5.3.7 Barriers to implementing assessment strategies

A number of interviewees highlighted that the development and execution of institute level assessment strategies has received growing attention in recent years. Often national student surveys provide the impetus, as assessment and feedback is generally highlighted by students as needing attention:

We've looked at the [student survey] data and students are always least happy with the assessment and the feedback processes (Interviewee 6)

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. As highlighted by one participant:

If you haven't got a plan to actually implement it with people and whole teams and with tactics and strategies that affect assessment, it actually is just a pretty picture (Interviewee 8)

Similarly, Interviewee 10, emphasised that without support and buy in from lecturers and an enabling support system at institute level, a strategy cannot be implemented successfully.

Creating and executing a strategy for feedback and assessment can often necessitate a change in the beliefs, assumptions and values of individuals within an educational institution and therefore constitutes cultural change. Achieving such change can be difficult.

What we're trying to achieve really is cultural change and that's always going to be a little bit slow (Interviewee 6)

It was acknowledged by several participants, that when attempting this type of change, a strategic approach is necessary.

Often what we do I think is try and look for the little things that we can do and hope that they have a big impact. Whereas, really 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)

However, several participants also argued that the best way to effectively achieve change is to take small steps which steadily and cumulatively lead to cultural change.

Strategy development and implementation of that strategy to achieve organisational change can be difficult to achieve for a number of reasons. Modularisation and semesterisation can be problematic as it has resulted in a more siloed approach to teaching and assessment within programmes, underpinned by a socially constructed perception of 'ownership' of modules, which makes it more difficult for lecturers to engage in programme level change. Additionally staffing issues such as a lack of permanent staff can result in a lack of buy-in to strategy development.

I think we've often lost the team approach, partly because of modularisation and people saying well my module is fine and modules or timing trumping the view of a programme, but [there are] other issues - if you have a lot of part time staff and also just the whole fragmentation of the curriculum (Interviewee 8)

In a similar vein, many participants highlighted that the workload of academic staff can make it difficult to get buy in from individuals to engage in the process of strategy development and in implementing changes. In fact, workload was mentioned as a barrier by most participants, both because it could be difficult for academics to fit in meetings to discuss strategy development 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....even if it actually isn't going to create workload. That sort of implicit workload of re-learning new processes and so on. I'd say from the staff side that is the biggest consideration. (Interviewee 3)

Individual resistance to change can also be difficult to overcome as change can be challenging and emotionally stressful for individuals. Introducing changes in teaching, learning and assessment can be particularly difficult as there is often a strong sense of ownership of teaching approaches.

People own their assessment strategy, you know. They really feel quite passionately and vehemently about it, and if you ask them to change it's one of the hardest things to get to change. So you have to do it softly, softly. (Interviewee 2)



Indeed, assessment strategies are often not the focus of change efforts and can be overlooked.

Staff often get in a rut. And the most unchanging thing in any particular course from year to year, it's not the lectures... It's the assessment. An assessment traditionally works by making minor variations each year. You keep the same format, keep the same level of activity. And just change the questions. And you've got to break out of that. (Interviewee 12)

There is also a degree of autonomy around teaching practice within third level education that does not exist in many other sectors which means that gaining agreement on change at programme, school or institute level is not always easy. Additionally, participants highlighted that individuals may not want to engage in change as it involves risk as they may be deviating from the status quo. Fear of using new technology can also be a barrier to introducing changes.

Participants also reported that a lack of buy-in from students can discourage efforts to change and improve assessment and feedback strategies.

[students have] found it difficult to use feedback or you know. 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)

It was highlighted by a participant that students are often conservative about assessment and have often entered a third level institution directly from the second level sector where they have a lot of traditional assessment such as exams with some assignments. As a result there is resistance on the part of students to engaging with assessment and feedback practices that don't follow that traditional pattern.

Essentially, achieving change in a complex academic environment is often difficult and the limitations related to the environment must be acknowledged.

We have to work within an imperfect system, and just try what we are trying to achieve as academics and what we can reasonably achieve and reasonably be expected to achieve in education and assess that. (Interviewee 9)

Bearing the complexity of the academic environment in mind, the remainder of this section provides feedback from the expert group on how assessment and feedback strategy might best be developed and implemented.

3.5.3.8 Top-down and bottom-up approaches to developing and implementing strategy

Taking a strategic approach to improving assessment and feedback across an institution can have varying levels of management and staff input. However, a combination of top down and bottom up support was a successful strategy highlighted several participants when describing developing and executing institution-wide strategies on assessment and feedback. Interviewee 6 provided a case study of a top down formal project to introduce institutional wide change on assessment and feedback which was led by a member of the senior management team. In this project, a team of academics were seconded to work on the project and were able to provide bottom-up input.

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 but also getting the champions from within the disciplines and giving them a proper role has been important to us (Interviewee 6)



Several other examples were given by participants of institutions establishing temporary positions to allow the secondment of academic lecturers as assessment and feedback 'champions'. The individuals in these roles engaged with their academic peers in developing strategy and rolling it out across the institution. Successful examples were also given by other participants of a combined top down and bottom up approach to change where support from the top ensured that assessment strategy received appropriate attention and buy-in of champions on the ground meant that roll-out of the strategy in a practical sense in the teaching environment actually occurred.

It must be acknowledged that academic staff may not have evidence based skills or knowledge to support other staff in assessment and feedback strategy development at an individual or module level. It must also be acknowledged that academic staff should not be expected to have the skills and knowledge needed to lead change initiatives. Accordingly, active support and training from a central staff training and development support unit was highlighted as an important component of a combined top-down, bottom-up approach to change:

You'll get a core group of early adopters....but they still need help. No matter what institution they're from you still need that core central support. (Interviewee 5)

Similarly, support from upper management is key so that those responsible for leading strategic development efforts in an institute are aware of and involved in assessment strategy development and can as a result, integrate assessment strategy into an overall institute strategic plan.

I work very closely with the Provost and the Vice Provost so what we do would be very strategic and very much about the organisation of [the institution] or of the education in [the institution] and not just the individual academic development (Interviewee 6).

Indeed, support from upper management was seen as crucial by many participants who highlighted that support at this level is necessary in order to overcome some of the barriers to developing and implementing strategy.

When I'm working with people on assessment, you know, a lot of it is still trial and error, and people are trialing things and it is about innovation and I suppose from a strategy perspective how do you build in the supports for that innovation as well. Like L&D is one way but, and I think there has to be more so I suppose if I think about an Institute of Technology situation I would definitely look for the space for programme teams to work together... I feel that you would need more time to do that. Where is the space in the timetable? Where is the space in the year to do that? Where is the space if I'm teaching eighteen to twenty-one hours a week... To really change assessment and feedback it requires training, ongoing support and I think the key support for me if I was looking, would be around time...perhaps there would be less teaching hours (Interviewee 10)

The sorts of support and solutions proposed by this participant are not possible without upper management buy-in evidenced by tangible actions to support and nurture staff attempting to engage in strategic development and the change initiatives necessary to execute strategic decisions. Several participants recommended involving managers in the strategy development exercise itself to help ensure its success. The individuals could either be at upper level management at an institute level as described by interviewee 6 earlier or at an upper level of management within a school or college as highlighted by Interviewee 1:

[if] you haven't got sufficient high level representation....there's a danger that they will say well you didn't consult us, or you only had a relatively junior member of staff.



Nevertheless a bottom up approach to change was also seen as important. Taking a bottom up approach to change can be more effective if it is undertaken at programme level. Taking a programme approach to changing assessment and feedback approaches can remove the risk element for lecturers who are not comfortable deviating from norms established at programme or school level:

I think people are very risk averse and they start to only use what works and things only work for a few years before you have to reinvent them. And it's always about saying let's take a couple of risks across the programme. And often if we take them together it's safer. (Interview 4)

It was noted that in some situations, it can be helpful to have an external facilitator to guide programme teams through the process of reflecting on and adjusting assessment and feedback strategies within their programme. The importance of champions was also acknowledged by several interviewees as part of a combined top-down, bottom-up approach to change as champions can provide support, educate and train their peers who may not be well versed in the range of possible approaches to assessment and feedback.

[Lecturers] are experts in their fields and they're experts in what they do and they're expected to be like that. ...But they can't be expected to be experts in teaching and learning because they may be chemistry people or physic people. (Interviewee 8)

Champions can provide support on a practical level, for example in the use of unfamiliar technology.

In summary, there was common agreement that a combined bottom up and top down approach to assessment and feedback strategy development and roll-out is an appropriate 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. Initiating change at programme level rather than the level of individual lecturers was seen by many participants as a particularly effective bottom up approach.

3.5.3.9 Communication as a key element

Communicating a convincing rationale was highlighted as a key component of implementing any new strategy at institution level:

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. A clearly delineated evidence base can help provide this rationale.

Having strategic and tactical and evidence linked direction of travel and educational principles that actually inform the change process. So people beginning to say well actually we can go with this because there's some principles and evidence. (Interviewee 6)

It was acknowledged that sometimes academic staff use different terminology when describing their approaches to assessment and feedback and that this can be problematic.

What we found is that people didn't have the language to talk about [examples of good practice in assessment and feedback] and while they were doing the practice and doing it brilliantly, they didn't have the language and it was actually almost a language barrier. (Interviewee 10)

This participant highlighted that a strategy and the accompanying documentation and training will give staff a common language to describe and discuss assessment and feedback which in turn facilitates common understanding. But it is important to be consistent and use the agreed terminology to broadcast a clear message to staff. Another participant highlighted a situation where staff received mixed messages about the assessment and feedback strategy with the result that there was widespread misunderstanding about what it entailed. Opposition to the strategy resulted from this misunderstanding.

When developing a strategy and agreeing on the clear messages that should be communicated to staff about assessment and feedback, the language used can be important.

Assessment should be a learning opportunity rather than a testing opportunity, you know, just about testing. So if you could find terminology which captures that. (Interviewee 1)

Additionally, it was highlighted by participants that it can be useful to showcase examples of existing good practice within the institution. Providing these examples highlights to academic staff in a practical way how they might improve their assessment and feedback practice.

Effective communication and collaboration within programme teams, possibly involving compromise was highlighted as important in effecting changes in assessment practices at programme level.

It's really about relationships. It's about getting people working together. That is a key challenge around over assessment, you know, no one wants to give up their bit...Everyone thinks that 'my bit is the most important bit'. Everyone thinks that 'my bit is the bit that they can't do without'. (Interviewee 11)

Communicating a consistent message was also highlighted as a key component in strategy development and implementation, whether the message be communicated at programme, school, college or institute level.

The student voice is also a key voice to consider. Students are often strategic when it comes to their learning.

There is a reluctance by students to do things for nothing, you know, in terms of course time.... You have students gauging, you know, well I'll do that or I don't have to do this. (Interviewee 10)

This must be taken into account in the development of an assessment strategy. Additionally, acknowledging that student's resistance to changes in assessment is a natural reaction to the fact that they have reached college through engaging with traditional assessment practices for the most part:

And that means that they have a natural and appropriate resistance to all changes in assessment. They're not being awkward; this is an appropriate and rational thing for them to do. So the most important thing for students is that you need to be incredibly convincing and persuasive about any new approach to assessment. (Interviewee 12)

Thus taking account of the student experience is important in strategy development as is engaging with students to explore that experience.

enabling the student union and student representatives to have a significant say in contributing to, or not contributing to the assessment strategy [is important]. (Interviewee 1)



You know capitalising on the fact that most people are more inclined to listen to students than each other. (Interviewee 8)

3.5.3.10 Hard vs soft approaches to implementing assessment strategy

Organisational structures are the formal procedures and mechanisms within organisations which guide or restrict employee behaviour and changing these mechanisms can be described as taking a hard approach to change. Soft approaches to change involve changing attitudes, behaviours and beliefs of individuals. 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.

A lot of institutions create processes that make iterative change quite difficult. You've got have things banked and locked in two years before you're going to teach it and that kind of thing. (Interviewee 3)

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.

So you have a readymade vehicle there so in terms of sustaining change. I think the programme review is a good vehicle for that. (Interviewee 10)

Similarly, Interviewee 10 highlighted how assessment strategy was integrated into the curriculum framework at institution level which ensured its roll-out. Additionally, as highlighted by Interviewee 5, routine programme quality assurance mechanisms such as external examiner reports, student feedback and programme team feedback can provide both a rationale for the need for improving assessment and a means of measuring the impacts of improvement efforts.

As with the juxtaposition between top-down and bottom-up approaches discussed earlier, participants suggest that a combination of hard and soft approaches to change is the most effective approach to operationalising a strategy, even though the integration of soft approaches into change initiatives can be complex.

Building a different culture... its built on dialogue and development and not just testing and quality assurance as a process [but] it's something that's always very difficult to do. Because of course we get set targets to improve student satisfaction by X%. And so it sort of leads you down to those instrumental type solutions. (Interviewee 4)

As highlighted above, it can be tempting for those involved in executing a strategy to focus on hard approaches to change, but it is also important to include soft approaches.

There was also an emphasis by some participants on flexibility. The complexity of introducing change was acknowledged and emphasised by participants.

There's multiple variables in it, change in attitudes, changing beliefs around teaching. (Interviewee 7)



Accordingly, flexibility in how an assessment strategy might be implemented is important. There will be a cohort of staff already engaged in evidence based assessment practice and they should be encouraged to continue.

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)

Accordingly, flexibility in approach is needed. Such flexibility is also useful in dealing with unexpected results or failed attempts at change. Strategy execution in academia occurs in a complex environment and there is no guarantee of success.

You need to be open to the fact that some things can go wrong. And willing to acknowledge that some things can go wrong....you learn as much from what went wrong as from what went right. (Interviewee 11)

Issues identified by expert interviews

- Philosophies, strategies and principles should explore and question what constitutes a good assessment and good feedback.
- 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 (involving both hard and soft approaches) and this need for change at an organisational level must be recognised and planned for.
- Without support and buy in from lecturers and an enabling support system at institute level, a strategy cannot be implemented successfully. Modularisation, semesterisation, a more siloed approach to teaching and assessment within programmes, the issue of module 'ownership', prohibitive workloads and a lack of permanent staff can result in a lack of buy-in to strategy development.
- Creating and executing a strategy for feedback and assessment 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.
- Other barriers to change include a fear of using new technology and a lack of buy-in from students can discourage efforts to change. This lack of student buy-in may be the result of students' conservative views of assessment originating from experiences in second level where traditional assessment and exams remain popular.
- This type of cultural change 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 is needed.
- A combination of top down and bottom up support, involving senior management and local champions, was a successful strategy highlighted by several participants when describing developing and executing institution wide strategies on assessment and feedback.
- 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. 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. The showcasing of existing good practice was also identified as a useful practice.

- In addition to senior management and staff, the student voice and experience is important. Students should be involved in the design, development and implementation of all aspects of an institute's philosophy, strategy, principles and initiatives, with regard to assessment and feedback.
- Similarly, rather than a lecturer-centred approach to assessment and feedback, all interviewees advocated a dialogue rather than monologue focused process.
- A good assessment and feedback strategy should involve better linkages between modules, and within and across programmes. Across module assessment and feedback mapping could support this process. A mapping activity also creates greater awareness among staff about the assessment and feedback practices of peer colleagues and enhances the students' learning experience.
- 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.
- Organisational structures in the form of quality assurance mechanisms can serve as both barriers and facilitators to developing and implementing assessment and feedback strategies. Different aspects of quality assurance mechanisms such as, external examiner reports, student feedback and programme team feedback can provide both a rationale for the need for improving assessment and a means of measuring the impacts of improvement efforts. When the review of assessment and feedback features as a required aspect of programme development it can facilitate sustained change.
- 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.
- The challenges associated with creating greater alignment and coherence at programme level, include the time pressures of modularisation, module ownership / teaching in silos, mixed feedback messages from different staff, organisational politics and organisational change.
- To aid consistency schools and programmes could develop school- or programme-wide policies, procedures and resources on assessment-related issues, such as referencing, late submissions and word count.
- A strategy and the accompanying documentation and training at institute, college, school and programme level will give staff and students a common language to describe and discuss assessment and feedback which in turn facilitates a clear and consistent, common understanding.

3.6 Examining the staff perspective

3.6.1. Introduction

This survey was made available to all City Campus staff and was conducted via SurveyMonkey.com. It was released on the 20th of March 2018 and was available to all staff until the 24th of April. The purpose of the survey was to capture staff practice and attitudes towards assessment and feedback. The survey also included questions about best practice and sought to determine which factors impede the development of assessment and feedback methods.

3.6.2 Respondents

The survey was completed by 340 Respondents representing all Schools in TU Dublin - City Campus. A high number of staff employed as assistant lecturer (32%) and lecturer (41%) completed the survey. Respondents represented all stages of employment and the different academic roles within the institution (Figure 9). The average contact hours reported was 13.4 and the average class size was 29.5 (Figure 10). Staff reported that they were aware (55%) or somewhat aware (22%) of the TU Dublin student attributes when setting assessments.

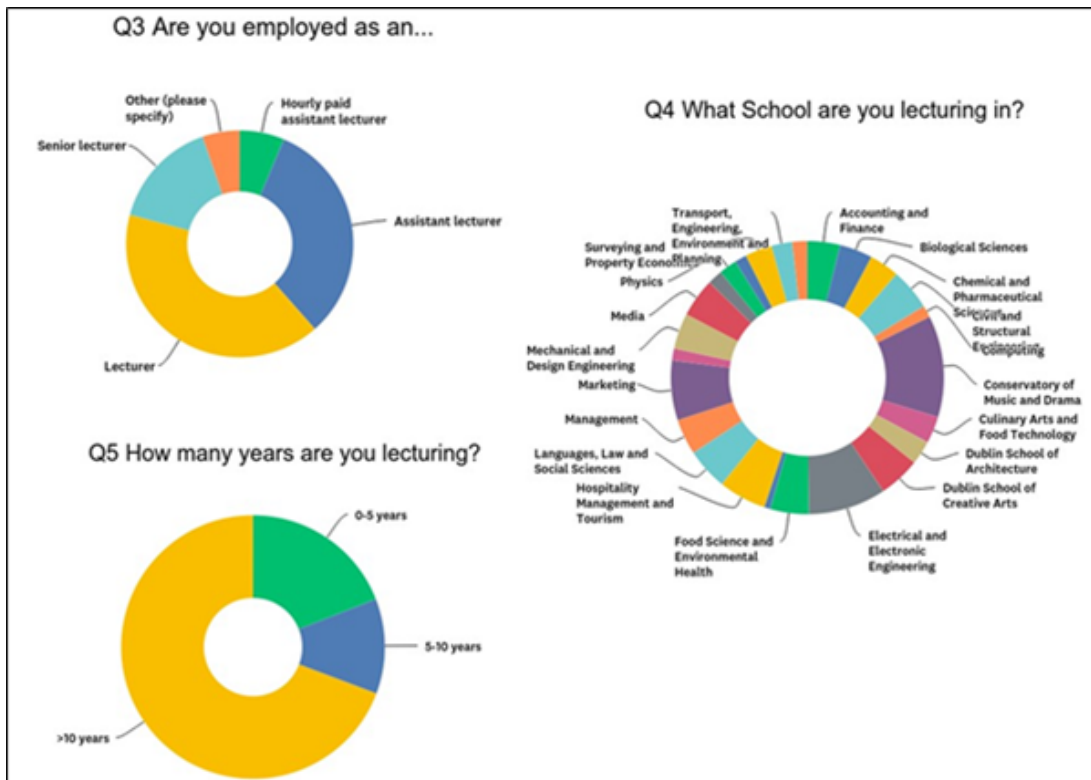


Figure 9: Respondent details. Respondents (340) from all Schools represented all stages and types of employment.

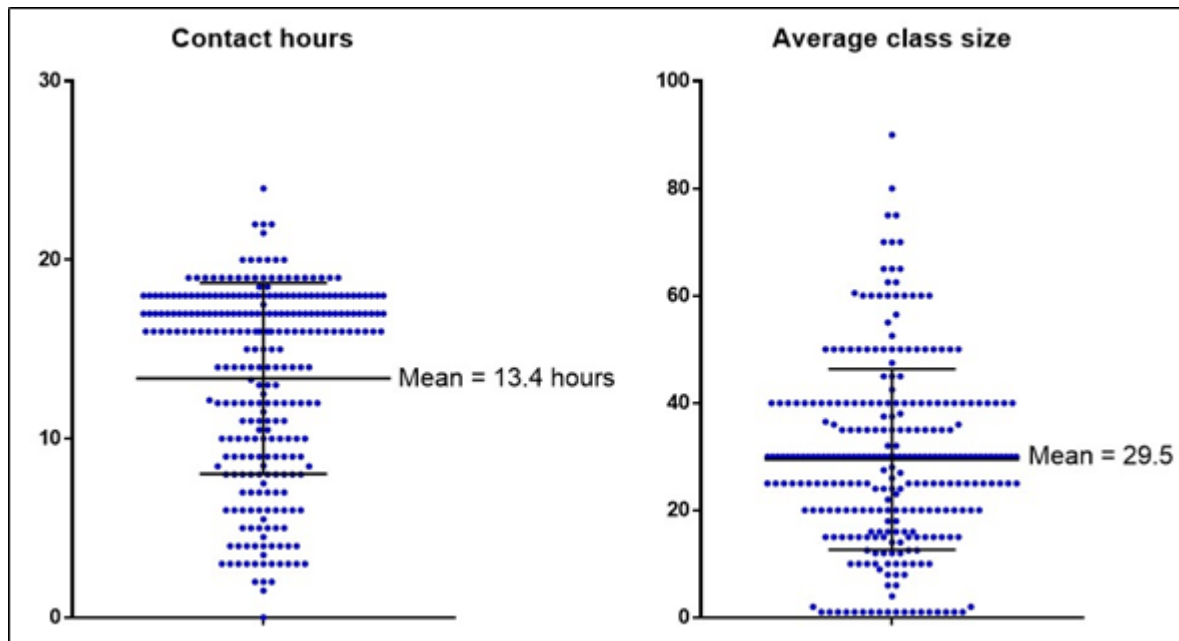


Figure 10: Respondent contact hours and average class size

3.6.3. Teaching Methods Employed

The top 4 Teaching methods reported were: lectures, group work, practical sessions and tutorials demonstrating that traditional teaching methods are still favoured (Figure 11). Staff submitted other teaching methods not listed on the survey including: field work, guest speakers, one to one, production, seminars, and peer to peer. When School responses were grouped under the headings Science & Engineering, Business, Social Science, and Creative Arts, teaching trends appeared similar across these broad disciplines (see Appendix 1).

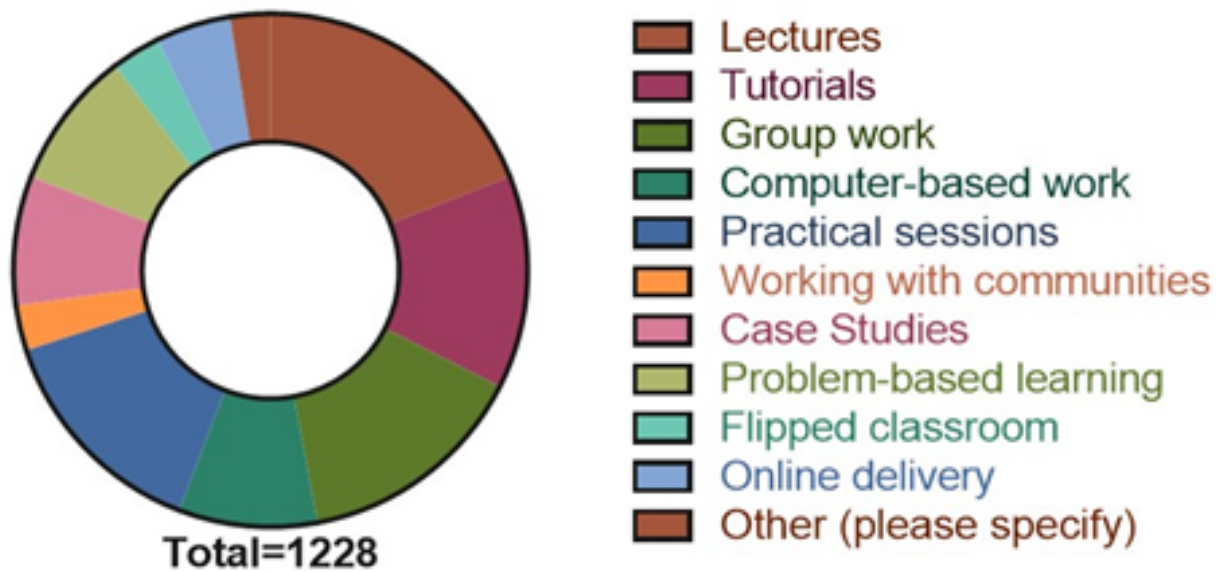


Figure 11: Teaching methods that are regularly used by City Campus staff.

3.6.4 Assessment

Respondents were asked what kinds of assessment they use, how often they use them and how students submit their assessments. End of semester exams are used 'very often' and were followed in popularity by in-class continuous assessment and project/dissertation and presentation. Once again, it seems that traditional assessment methods are favoured .

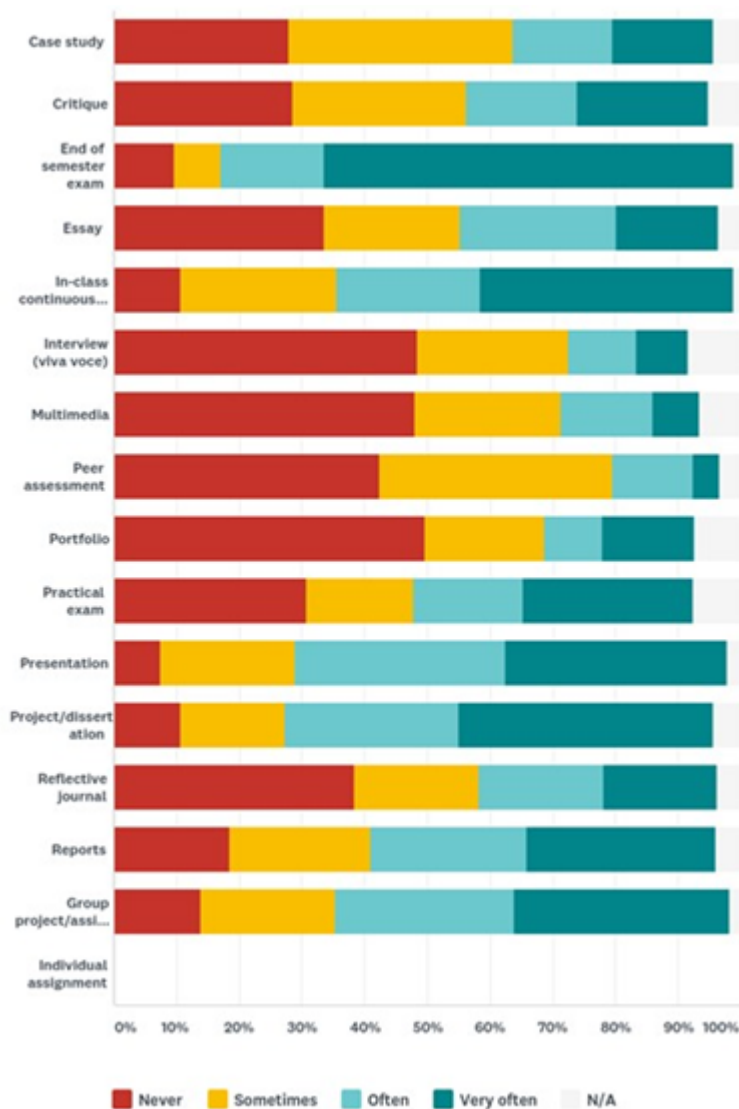


Figure 12: How often specific assessment methods are used by City Campus staff

In terms of assessment submission, in-class submission of assessments was used “often” or “very often”, followed in popularity by printed submission (both traditional methods of submission) and VLE/SafeAssign despite negative comments which highlighted the need to enter results and feedback one by one (Figure 13). Academics also highlighted other methods of assessment submission including: Google suite, Self-Made Website, Design Project Submissions, OneDrive, Dropbox, Wix, WordPress, GitHub, Presentation and vivas, Class Aid, staff postbox, HEA Filesender, E-portfolio, wikis, and wetransfer.com

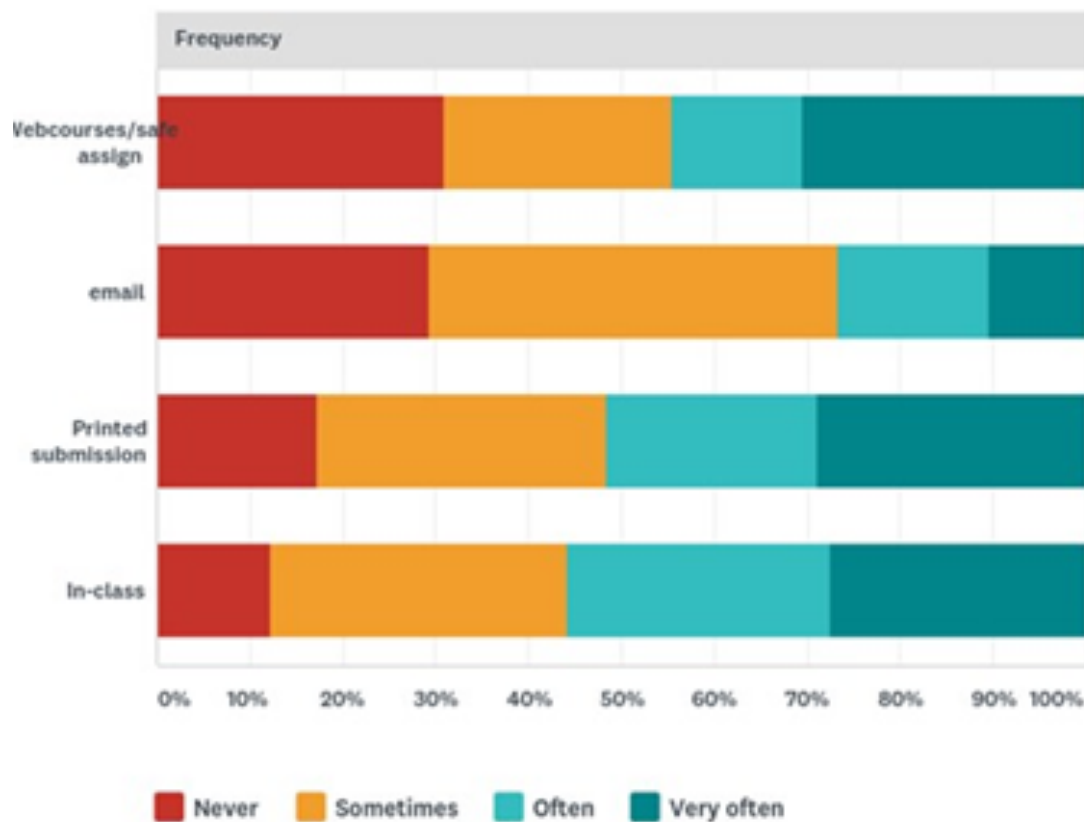


Figure 13: Means of assessment submission and how often they are used.

Staff were asked to report which technologies they use for the purposes of assessment. The institutional VLE is the most popular (49% of respondents) but a significant number (42% of respondents) do not use any technology for assessment (Figure 14). Staff were invited to list any technologies they use that were not included in the list and responses included the following: Numbas, Google suite, Pro Tools, Basecamp, TestOut PCPro, Survey Monkey, Google Classroom, PBworks, NetAcad, EdPuzzle, Freedcamp, blogs, second life, NearPod, Wordpress blogs, programming tools, videos, Moodle, Moodle quizzes, social media, publisher provided tests, dedicated module websites, and online video tutorials. When Schools were divided by broad subject categories (Science & Engineering, Business, Social Science, and Creative Arts) some differences in the use of technologies were observed (Appendix 1). For example Schools of Creative Arts were less likely to use technology for the purposes of assessment.

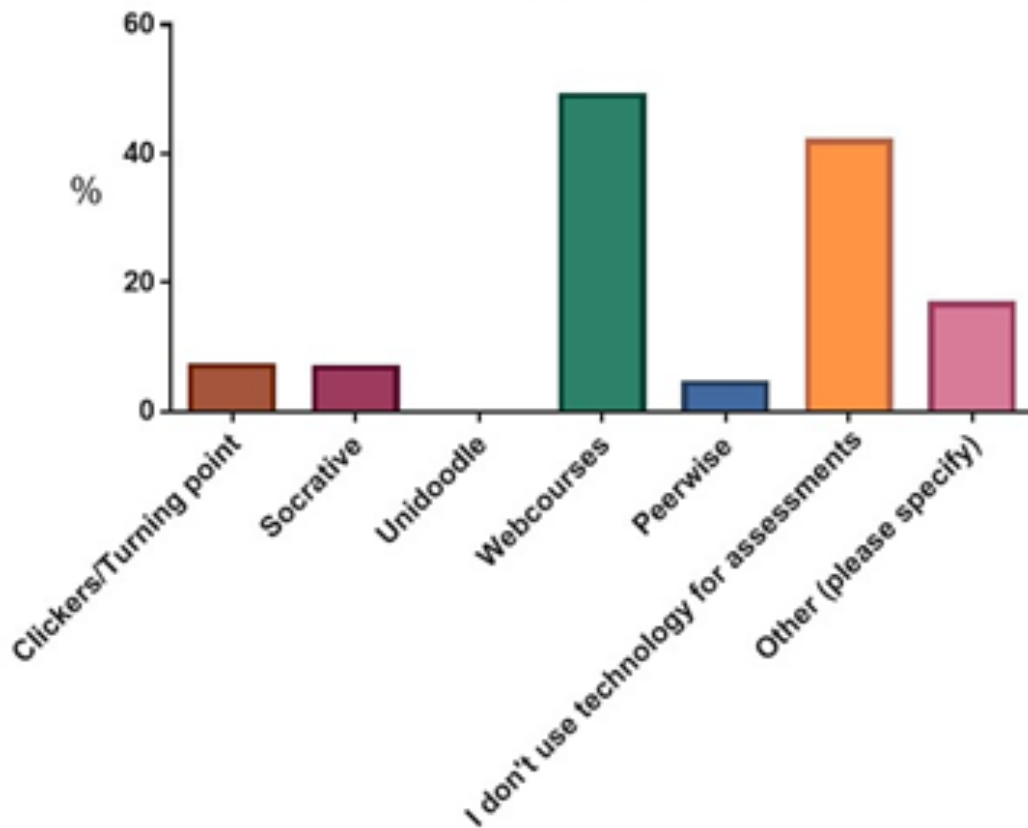


Figure 14: Technologies used by staff for the purposes of assessment

Staff were then asked whether they had any further comments with respect to assessment practice in City Campus. There were many comments added (~70) but several common themes emerged. These included:

- Concerns that students are being over-assessed.
- A certain scepticism about technologies that may be “here today, gone tomorrow” and do not address the underlying issues.
- Concerns regarding time and resources for good quality assessment.
- Increasing student numbers dictating assessment strategy.
- Concerns regarding our current virtual learning environment and optimism regarding the incoming platform.
- The perceived overuse of group assessments which some staff do not believe are popular with students or effective.

3.6.5 Feedback

In terms of the method of feedback used by respondents, the findings are positive with a good variety of methods demonstrated. Regular feedback, general class feedback, grade with detailed

individual written feedback, and model answers are used “very often” and “often”. Grade only feedback is very rarely used (Figure 15).

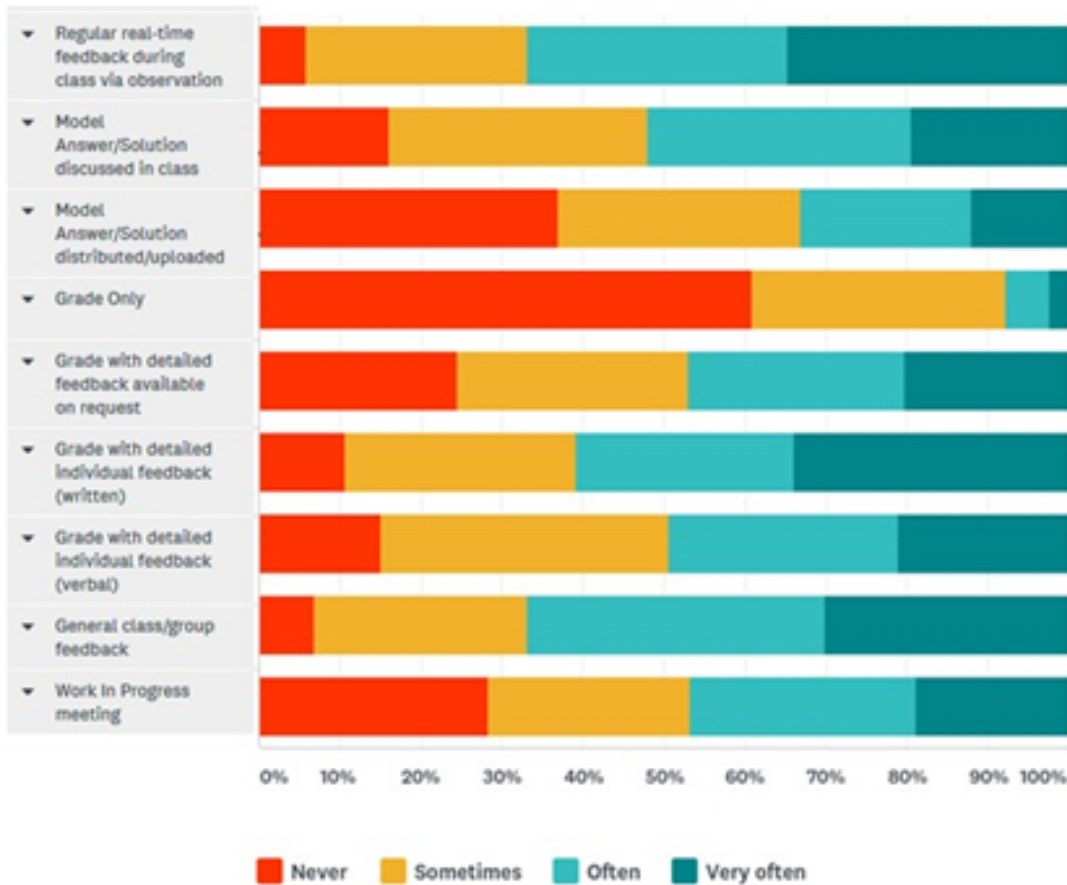


Figure 15: Frequency of the use of various feedback methods

When asked what technological resources they use for feedback, email was the most popular (59%) followed by the institutional VLE (44%) and standardised feedback sheets (43%) (Figure 16). When responses were grouped by discipline area (Science & Engineering, Business, Social Science, and Creative Arts), approaches were mostly similar except for less use of the VLE for feedback in Schools of Creative Arts (Appendix 1). Staff were encouraged to provide other feedback methods in the “other” section of the form and contributed the following: GitHub, standardised feedback sheets, video (screen capture), thesis supervision (ongoing feedback), Google Suite, anonymised graphically-based class averaged online webinar discussion, and Blackboard Collaborate webinar.

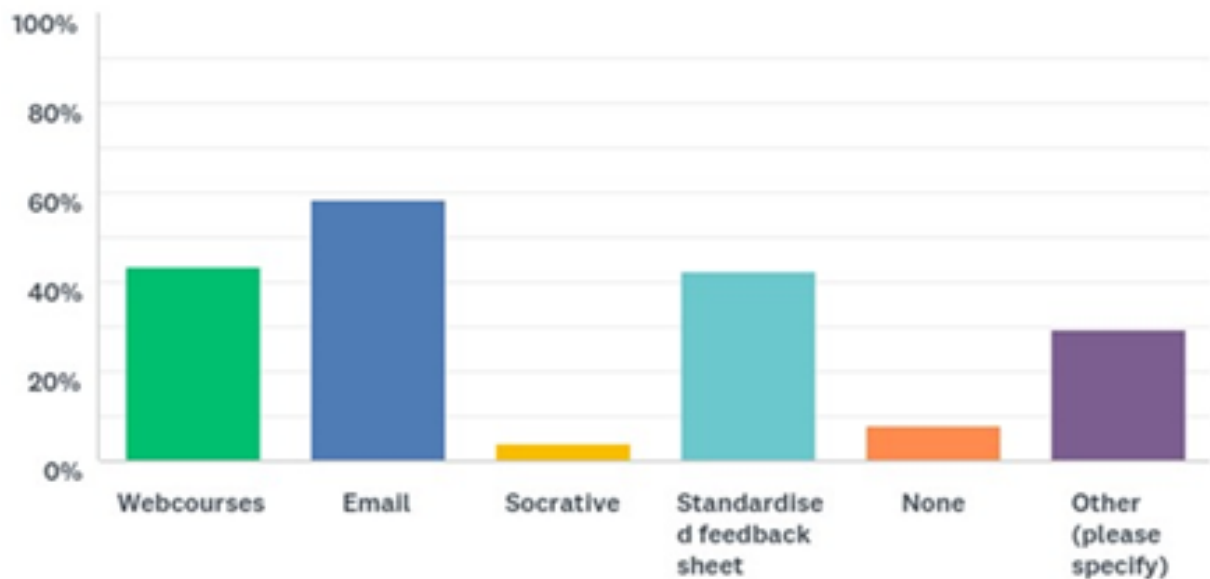


Figure 16: Technologies used by staff for feedback

The results of the survey suggest that students receive feedback most commonly within a fortnight or a month (Figure 17).

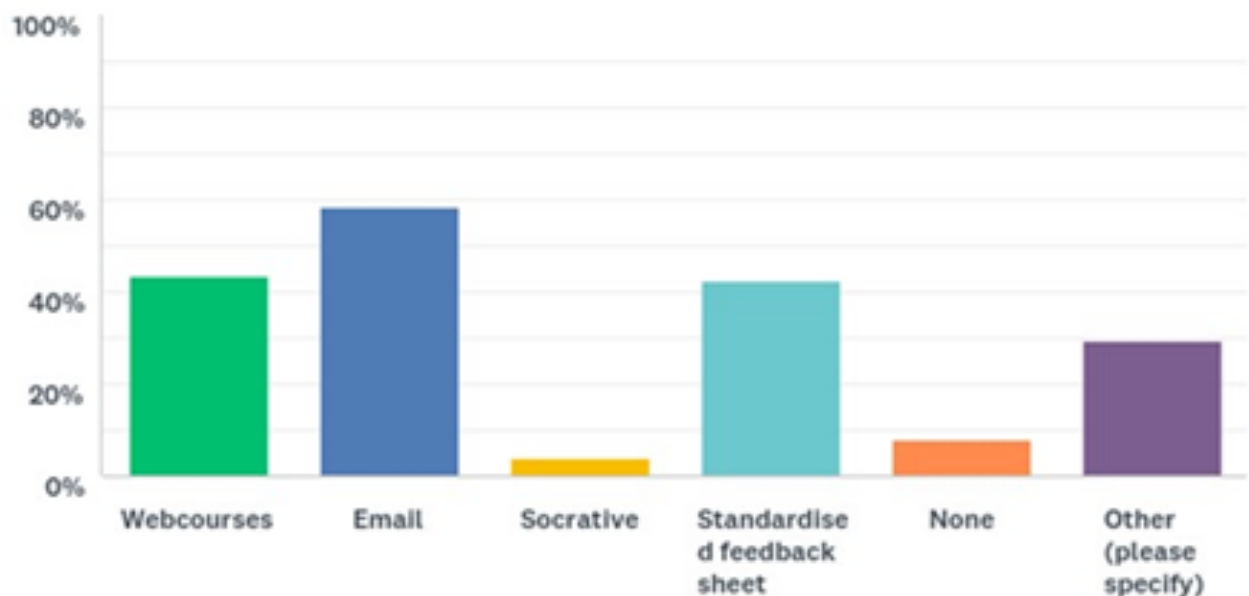


Figure 17: Frequency of feedback within various timeframes.

3.6.6 Reflection

As part of the survey, staff were asked whether they were satisfied with their assessment and feedback methods. Fifty one percent of respondents are happy with assessment and feedback with 39% reporting that they were somewhat happy. Staff were offered the opportunity to explain what factors impede the improvement of their assessment & feedback practice. Of ~160 responses, the vast majority cited resource issues. Time and support available to commit to feedback and development of new teaching methods, increasing class sizes and increasing workload were all mentioned very frequently.

Respondents were also asked for examples of best practice from within their School that could be applied more broadly. There were around 70 individual responses and, while there was significant variation, those methods that were prominent are listed below:

- The use of peer assessment
- The use of problem-based practical exercises
- Turningpoint for assessment
- Standardised feedback forms
- Feedforward
- Online tools (GitHub, Numbas, Socrative)
- Video recording of feedback
- Portfolio assessment
- Online MCQ (open book with >1 attempt)
- Group/class feedback i.e. class average
- Expert led and designed

Issues arising regarding assessment and feedback from staff survey

- While traditional teaching methods are generally favoured, a good variety of methods are used throughout the institute.
- Traditional assessment methods (exams, presentations, dissertations, in-class continuous assessments) are still the most common methods employed; a minority of staff are using more ambitious assessment methods including peer assessment, multimedia methods and reflective journals.
- Printed/in-class is still the most common methods of assessment submission.
- While roughly half of respondents use the institutional VLE for assessment, 42% use no technology for assessments.
- A wide variety of feedback methods are utilised and feedback comes within a month in the majority of cases.
- Email, VLE based and standardised sheets are the most common resources used for feedback.
- While the majority of staff are satisfied with their assessment and feedback approach, limited time and support coupled with increasing student numbers and workload impinge upon the potential to further develop their practice.



3.7 Summary of key issues identified

It is clear that while many positives have been identified in section 3 there are also many challenges. These issues can be categorized at the module, programme, student and institutional level and are outlined in section 4.

At the module level the key challenges are that there is a necessity to move away from the monologue to the dialogue approach, students want a clearer description of what is a successful assessment and want more feedback quicker. This is challenging for lectures with bigger class sizes and increasing other commitments and fundamentally feedback is only useful if it effects change and sometimes students are not aware that they are receiving feedback. It is also vital that assessments enhance graduate attributes. In an effort to address some of these issues section 4 outlines the tools that were piloted by this project and evaluates their success.

At the programme level the key findings are that programme teams need to discuss Assessment and Feedback more, graduate attributes need to be part of assessment and feedback and there needs to be better linkages in terms of assessment and feedback across the modules of a programme. An approach to dealing with this issue is discussed in section 5.

A key challenge for students is receiving appropriate feedback and then knowing how to deal with it, section 6 outlines ways in which this situation can be improved. Finally section 7 relates to the institutional challenges of effecting change in terms of assessment and feedback and links in to the final recommendations of the project.

3.8 Summarizing key issues

As the previous sections have identified there a number of key issues which have emerged from this phase of the project and they are synopsized below.

- The timeliness, amount and quality of assessment feedback is an issue.
- Aligning expectations so that the student can identify what constitutes a successful assessment.
- Monologue versus dialogue approach to assessment feedback.
- Ensuring the closure of the feedback loop.
- Assessment and feedback may not be consistent across a programme.
- Assessment and feedback are not core in the academic quality framework.
- Resourcing assessment and feedback.
- Assessment needs to be clearly aligned with graduate attributes.
- Organisational change, incorporating top down and bottom up approaches is necessary to effect change.
- Student voice is vital.
- Technology is not being used widely for assessments.

4. Assessment and Feedback Tools piloted

4.1 Introduction/overview

The piloting of tools ran throughout both semesters in 2018/19 academic year. With 26 members of staff over all four colleges, and representing 14 Schools with many of the individuals trialing multiple tools in different modules across their programmes, resulting in over 40 different programme years being represented. For further detail on the number of students who participated in the student survey post-pilot see Section 3.2. The pilot team represented both fellowship members and staff not connected with the research but who were interested to assist in the pilot. Figure 18 shows the college representations, with individual blocks for each school that participated.

The largest represented schools were Biological and Health Sciences, Hospitality Management and Tourism, and Electrical & Electronic Engineering. With the following schools having lower numbers of representations, i.e. 1-2 individuals, Chemical & Pharmaceutical Sciences, Computing, Food Science & Environmental Health, Physics, Languages Law and Social Sciences, Music & Drama, Accounting & Finance, Marketing, Civil & Structural Engineering, Mechanical & Design Engineering, and Transport Engineering, Environment and Planning.

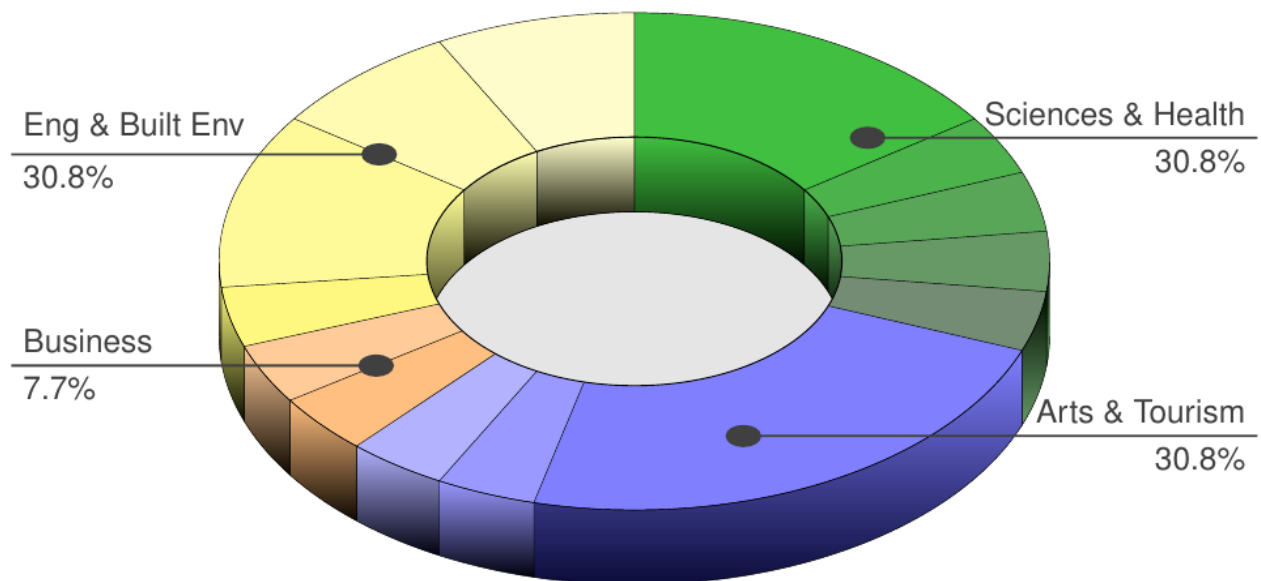


Figure 18: Module Trials per College

The methods or tools that were trialed are outlined in Figure 19, and more detail is introduced in the following sections.

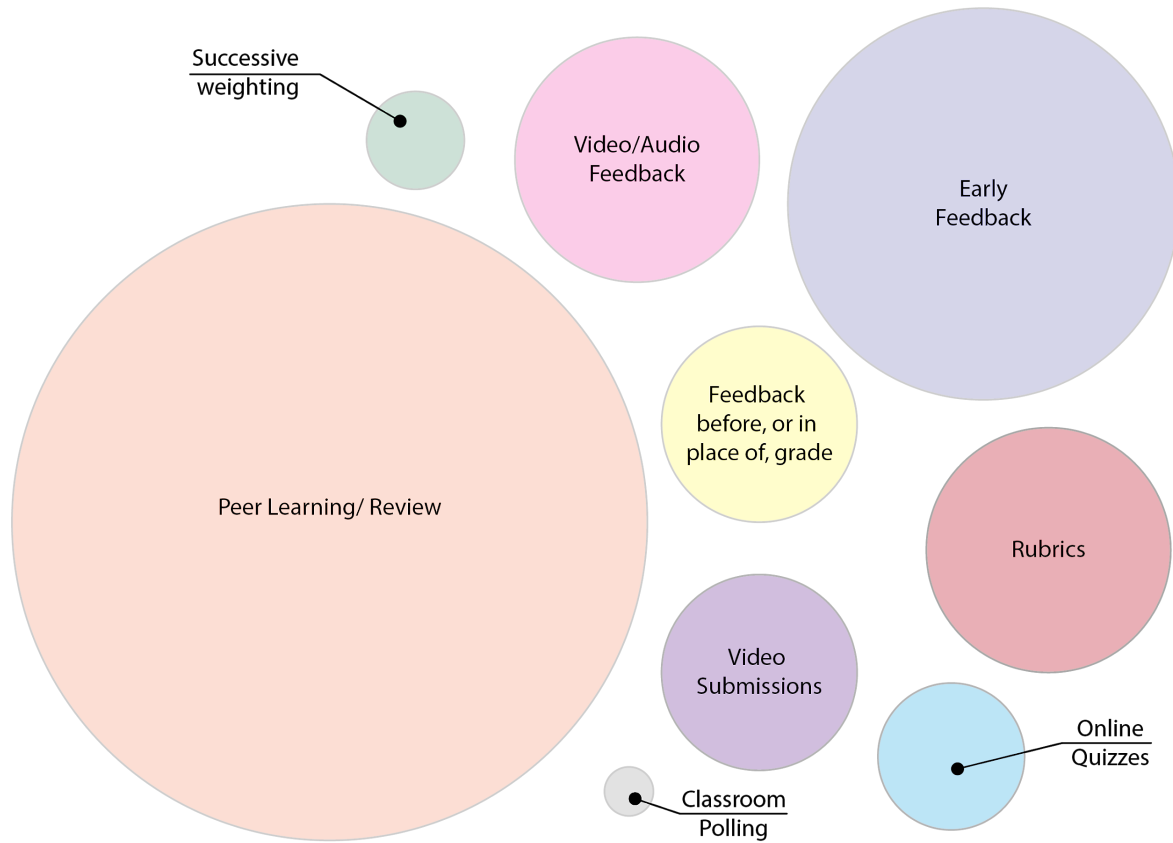


Figure 19: Methods/Tools Trialed on Modules

The following sections describe and evaluate the effectiveness of each tool, in particular focusing on how they address some of the issues outlined in the summary tables in section 3. Figure 20 below shows which issues each tool sought to address.

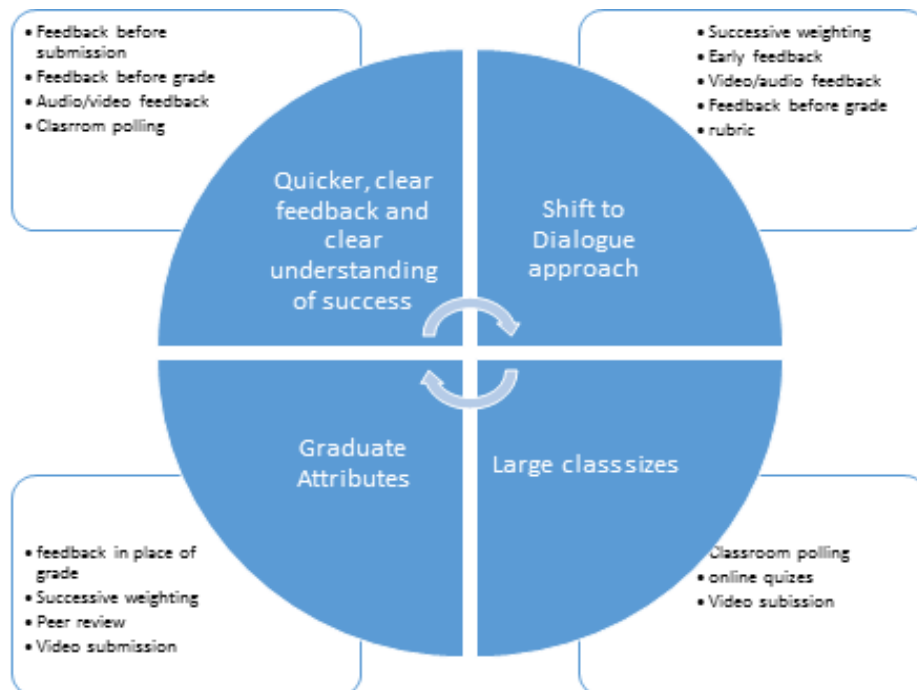


Figure 20: The tools piloted to address the issues raised relating to assessment and feedback at the module level.



4.2 Successive Assessment Weighting

Information only becomes feedback when it is used productively (Carless 2006). The design of this tool aimed to encourage students to engage with feedback on a low weighted assessment and use this feedback to feedforward into a higher weighted second assessment. It was hoped that this tool would aid students struggling to gauge the required academic standards and enable them to identify areas for improvement. This format of assessment endeavours to help students to understand how they are learning through the provision of good quality and detailed feedback.

This tool was trialed in the School of Biological and Health Sciences with 110 students on a level 7 programme. The aims were to ease the burden on incoming 1st years and to highlight the importance of scientific writing, so the focus was on giving detailed and prompt feedback on the first submission with a low weighting that could feedforward to the second report to enhance those marks. Students were provided with a brief on the format and layout of a lab report, the assessment details, emphasising the importance of passing the practical component and deadlines.

From the lecturer's perspective, students appeared to engage more with the feedback on this assignment than in the previous year, as their second reports greatly improved. There was significant evidence of students reading their feedback comments. While initial feedback is time consuming and you need buy-in from other lecturers co-delivering a module, one reaps the reward on the second submission.

Students were quite positive about this assignment as evidenced by their comments below. The low weighting reduced anxiety around the submission of their first formal lab report in their first semester. While students might favour even lower weightings, a balance must be maintained so that students do not completely disengage from the first assessment.

"I found it really advantageous as it meant I could better prepare for the second lab report and learn from mistakes I made in the first lab report. It gave us a better idea on the marking schemes lecturers have and what level of work/material they expect from us"

"I think the lab reports were very beneficial to me as I learned from my mistakes"

"I liked that they were weighted differently but it would be better had they weighted the first one even lower and maybe had a bit more instructions"

"Very advantages because the feedback from the first report helped a lot for the 2nd one"

"It's a handy way to engage students to participate in class and also interactive learning is the best way to study"

"Gave time to work on the lab report technique between the first and last lab report"

"It's a good tool to revise the course"

"Could be weighted lower"



4.3 Early Feedback Tools (including Online Quizzes)

Students' belief that feedback on work in progress and feedback early in the semester would be helpful to the completion of their assignments was highlighted in ISSE and institutional programme evaluation forms. This is also reinforced by the literature, "students continually rate timely, useful feedback high amongst their preferences" (Li & De Luca, 2014).

As part of LEAF fellowship, two approaches were trailed using early feedback. The first was early feedback within the first four weeks of teaching and comprised a number of methods such as in class tests, online MCQs and reflections. Three lecturers, from the School of Accounting & Finance and the School of Mechanical & Design Engineering trialed early feedback. The first example was an in-class test with 80 first year level six students. Students were not graded on their attempt rather they marked their own work and submitted a reflective piece where they marked on their engagement and the quality of their reflection. An early in-class test with 25 second year level 8 students and an online MCQ with level 7 first year and third year students were also trialed as part of early feedback.

Students seemed to respond well to the reflective writing exercises, and early feedback seems particularly useful to first years who are coping with a significant transition. Students benefited from the reassurance that they were up-to-speed with early tests, while other students who had begun to fall behind were alerted to this in good time. This provides the lecturer with a timely opportunity to clarify any issues that the students were finding difficult. It also rendered the students to be a more captive audience, as they had recently covered the material, were just after doing the test and knew that it would be relevant going forward.

The generation of an online multi-choice test through the VLE takes time to set up initially, however it is quick and easy to run. Additionally the template and questions can be used to generate other quizzes which is also a time saver for lecturers. Students felt more time could be assigned but this can be easily amended in the settings. Students liked getting the answers at the end and the fact that it was open book and could be done at home or in college added flexibility, which was favoured by the student cohort.

The second approach adopted in relation to the provision of early feedback used previous assessments as learning examples prior to assessment. Students essentially receive feedback prior to their own assessment which generates discussion around assessment format and marking structures. The role of the student in the assessment and feedback process has become a focal point of sustainable feedback, with a move from the traditional 'monologue' model of feedback to a more 'dialogue' model (Boud & Molloy, 2013a; Orsmond, Maw, Park, Gomez, & Crook, 2013). With this in mind a number of staff trialed this tool across the Schools of Hospitality Management and Tourism and Biological and Health Sciences.

In the School of Hospitality Management & Tourism, 85 first year and second year students were emailed with a list of feedback issues/suggestions based on previous year's assessments e.g. about use of referencing, layout, following the brief correctly, wording etc. The students received this email within a couple of days prior to submitting their assessments. Assessment clinics were set up where students could receive feedback on drafts of assessments. In general, there was varied feedback on emailed comments due to varied levels of engagement. The assessment clinics were successful in that those students who engaged with them benefited from the experience.

This approach was also taken with mature part-time level 6 students, in the School of Hospitality Management & Tourism. Students reviewed a range of assessment, broke into groups and discussed what they thought was a good assessment. They fed back to the class on the standard



of work, according to the assessment criteria and then collectively, developed a range of 'assessment tips' for their submissions. A good supportive environment for mature students stimulated dialogue and generated a useful list of assessment tips.

In the School of Biological & Health Sciences, the previous year's assessments for early and quick generic feedback were used with 140 first year level 8 students. Before the written assessment, the previous year's assessment was made available on the VLE. Highlighted were common mistakes made, aspects well done and further comments for improvements. For large group teaching, this method reduced the number of queries about the assessment, enabled quick feedback and aided in the delivery of complex content. Student found it useful to be aware of the level of difficulty to expect of an upcoming assessment and the intervention reduced anxiety before the assessment.

Early feedback using previous assessments as examples was trialed in the School of Hospitality Management & Tourism with 50 level 8 final year students. Anonymised assessments from the previous year and marking structures were provided for students to grade. This initiated a discussion about grade band and the quality of work required and led to a two-way discussion, as opposed to the lecturer just delivering the brief. From the student's perspective this approach enhanced understanding of grade bands, resulted in more in-class engagement and encouraged dialogue e.g.

'using past students assignments as examples has been extremely helpful',

'please keep using past students papers as examples'

'giving student's assessment examples really helped me to build my assessment structure and content'.



4.4 Using a marking rubric

In an educational setting a Rubric is defined as a 'scoring guide to evaluate the quality of students' constructed responses". Rubrics usually contain evaluative criteria, quality definitions for those criteria at particular levels of achievement, and a scoring strategy (Reddy and Andrade, 2010). For the LEAF project a rubric was created for each assessment with task specific criteria. In line with findings from the literature review, the goal of this assessment strategy was to foster feedback literacy and to close the feedback loop (Boud & Molloy, 2013a). The Rubrics were incorporated into the Assignment feature of the VLE and were used in the assessment of year two and three students at the individual level and for group work evaluation.

Price et al (2012) suggest that feedback can only be effective if the learner understands the feedback and is willing to act on it. As Winstone et al (2017, p2016) concluded, for this dialogic feedback to work it is advised that students receive training on how to become 'proactive receivers of feedback' and educators encourage learner involvement in the generation and use of feedback. Placing emphasis on addressing feedback may be incorporated into this intervention through the use of Rubrics in two stage assessments or in successive modules at a programme level.

The rubric feature of the VLE allows the creation of rubric with varied column and row number to incorporate the task specific criteria, the varied levels of achievement and the associated scores. While marking, the lecturer can both score and provide feedback for each criterion, adjust final scores and make a summary feedback comment. The VLE feature then populates the Grade Centre where the student can see both score and feedback comment for each criterion and the final grade.

Staff feedback to the rubric tool was generally very positive with staff commenting on the ease of set up and use, advantage of the move to paperless assessment and the automatic entry of marks and comments into the VLE gradebook. Staff found it *very helpful in terms of ensuring consistency with grading*, in particular where more than one lecturer was marking and that *the rubric provided good rationale for the marks*. Negative comments centered around the tool constraints.

Students felt the rubric *let them know where their weak areas were and guided them to achieve a better mark for their final submission*. Students felt that *the feedback would help them in future assessments and they would like to see this tool used in other modules*. Satisfaction was higher from year 3 students who were aware that 'this mark will contribute to my degree classification' *Students agreed that the feedback would help them to be more successful in future assignments*.



4.5 Provide feedback before, or in place of, grade

This method of providing feedback is designed to combat the following issues, which were highlighted based on a review of 2016/2017 ISSE, institutional programme evaluation forms, and Staff survey:

- Students feel that they don't have sufficient discussion with lecturing staff.
- Assessment feedback is monologue rather than dialogue.
- Staff feel students do not read/incorporate given feedback.
- Students are not developing their graduate attributes from provided feedback.

The following tools can be implemented to administer this method:

- Feedback only.
- Feedback initially, percentage mark following at a later stage.
- Feedback initially, letter grade following at a later stage.

Details of approaches used:

- Module BIOL2011 (School of Biological and Health Sciences): Students completed group disease project following guidelines given. Students given group feedback initially (verbal and written) on a draft report, percentage mark following later on final body of work.
- Module ACCT1001 (School of Accounting and Finance): Portfolio work - students received feedback on their performance in short assignments at frequent intervals throughout the semester. The grade students received for work across semester significantly reflected their engagement with that feedback.
- Module DESI3201 (School of Mechanical and Design Engineering): Direct feedback (one to one) given on Stage 1 submission of Final Year Project.
- Module TFCM1005 (School of Hospitality, Management and Tourism): Students submitted report for feedback (one to one written and verbal). They were then allowed to resubmit taking feedback into account for final mark.

Student and Staff experience

Overall the use of the tool was a positive experience for the staff and students involved. There were some common issues raised by the student groups across the four schools where this tool was trialed, and these comments are captured below.

- Students prefer direct feedback given on their work. It helps them to develop their own skills. It applies to them as the student and is better than general class feedback.
- Students appreciate receiving feedback without the risk of being penalised for mistakes. Students also valued the opportunity to get timely feedback.
- This feedback tool helps students to know where the problem areas are, rather than grade alone. It helps them to improve in subsequent submissions. They like direct feedback, which is specific to their submission, rather than general feedback.
- Having the opportunity for a trial submission of their first piece of work, with no risk, appealed to them. They found the individual feedback (verbal and written) very helpful.



The lecturing staff also shared their experiences of using this approach and the main findings are reported below.

- This approach works well for smaller class groups and group projects. It encourages open discussion and engagement and helps to develop the learning relationship between lecturer and student. Could be time consuming for larger groups. Some students don't take the feedback on board.
- This is a practical way to provide ongoing feedback to students and to encourage students to engage with it. Marking portfolios was less time consuming than class tests. Good approach for larger groups. The focus is on learning rather than penalising students for mistakes while learning.
- Some students don't take the feedback on board for improvement in subsequent submissions. Going forward - must show how feedback was used.
- This tool worked very well for first year group and for students on the part time programme.

4.6 Using video and audio feedback

As mentioned in Section 3.4.2, video/audio feedback can eliminate some of the problems that were identified in relation to feedback practices. These included difficulties in reading handwritten feedback (Price et al., 2010), as well as allowing feedback to be provided sooner and in more detail (Merry & Orsmond, 2008), as many people can talk faster than they can type. More detailed and prompt feedback naturally leads to students getting a better sense of how they are progressing in the module, and enables students to utilise feedback in subsequent assessments, i.e. closing the feedback loop, these are additional issues identified in Section 3 above.

Five members of staff, all members of the fellowship, carried out this pilot in their modules. A number of methods of delivery of this type of tool were used. These included the following;

- Kaizena
 - A Google Docs add-on that allows reuse of audio clips.
 - Students had to submit documents in Google Docs format - which may not be convenient in all scenarios.
 - Staff did not find a time saving in the first use, as the interface is an add-on it is not supported by IT support in the college. However, time can be saved by the reuse of saved audio clips.
- Voice Recording App
 - Mobile Application.
 - Used for unique individual/group feedback.
- Screen capture with audio recording, while working through model answer.
- VLE based assignment audio recording.
-

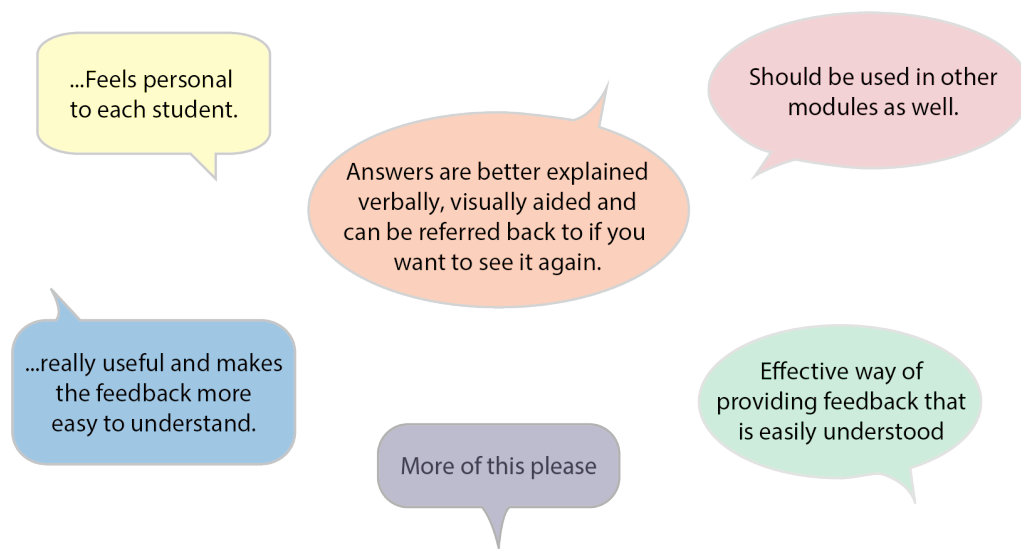


Figure 21: Positive comments from Student Survey

Figure 21 shows a sample of the positive comments in regard to this method. From the student survey 78% would like to see it used in more modules, 78% felt it would help them with future assignments, 72% felt it helped them understand the subject matter and only 11% felt that it was not effectively delivered.

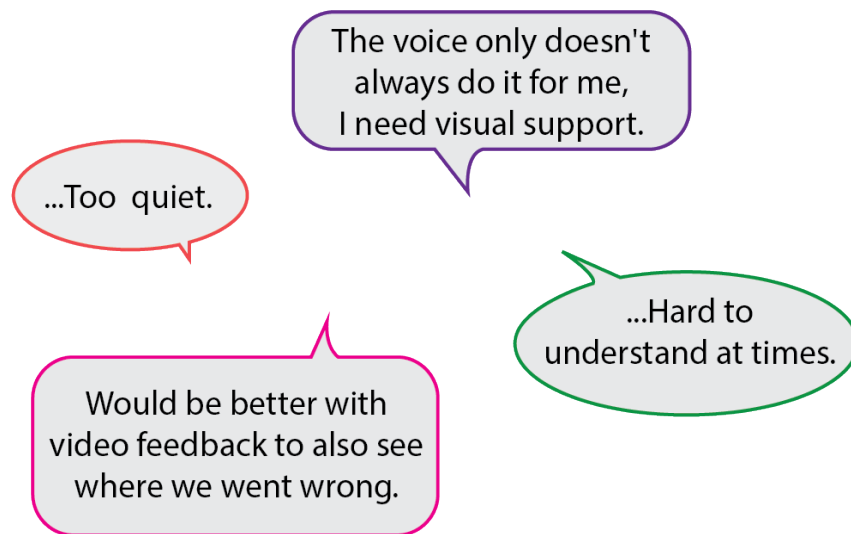


Figure 22: Constructive Criticism from Student Survey

Figure 22 shows some of the comments that were less positive from the students survey. The staff utilising these tools found that some tools required time to get used to, which was reflected in the student comments, and therefore did not provide the desired time saving. However, the recordings that were more general, i.e. not unique, can be utilised for subsequent assignments/years. Upon the reuse of these recordings, the reduced review time is achieved, resulting in students receiving prompt feedback.

As part of the fellowship, Livescribe smartpens were purchased. The idea was that you could record audio while writing and marking up assignments. As special paper is required when using these smartpens, the potential for the pens to be used for marking once students had utilised this special paper for their assignments was explored. Unfortunately the finding was that the students would need to complete their assignment with both the smartpen and the special paper. Therefore utilising this device for this method was not possible. It was utilised for one groups video submission, where they had an assignment to create a video tutorial working through a mathematical problem. Although this worked well, it was not feasible to provide enough smartpens for the whole class to utilise. For the purposes of the creation of the video tutorials, by lecturing staff, the smartpens showed promise, but as this was not linked to assessment or feedback it was not utilised further in this research.



4.7 Video submission

Video submission for assessment was identified as a possible mechanism to address Phase 1 key issues, such as embedding graduate attributes within assessment, assessing groups including large group sizes, utilising technology and designing assessment methods to ensure that learning is taking place. The method was trialed in modules across a range of disciplines, including biology, engineering, marketing and music. A variety of approaches were employed across modules and within modules, where in some cases students were given the opportunity to submit videos in a format of their choice. The method was used for both individual and group assessments and across an array of assessment types, such as presentations, mathematical solution tutorials, career-focused business pitches and music performance.

Why use this method?

While there was a diversity of approaches there were some common findings across the disciplines. Students and lecturers noted that the method has the potential to:

- Address graduate attributes, including reflective practice, digitally literacy, communication and innovation
- Embrace technology and digital literacy skills within assessment
- Improve quality of communication, presentation and performance skills
- Reinforce learning and understanding, thus ensuring that learning is taking place
- Encourage self-reflection, engagement with learning and more thorough preparation
- Offer a student-focused approach to assessment
- Accommodate group learning and assessment, including for large group sizes
- Provide potential future learning and teaching resources

However, there was an acknowledgement that there was some time investment in setting up and introducing the video submission method and that students may require additional support or training in video creation. There was a concern raised that perhaps the method inhibited interpersonal communication skills when used for a standard presentation. There were also questions raised around best practice in assessing this type of submission. With the introduction of a new VLE, there is scope for further development of this method, particularly as there is a video submission tool integrated within the system.

4.8 Peer Learning

Several methods were trialed for peer learning and assessment, these are detailed in the figure below, along with team members associated with same. Overall the feedback on the peer learning and assessment has been primarily positive from both staff and students, although the implementation can be the biggest hurdle. The following sections will detail two of the methods used. Further details on the implementation of these two methods are available at the following blog posts: <https://tudeep.home.blog/2019/02/07/peer-learning-using-peerwise/> tudeep.home.blog/2019/02/25/peer-self-assessment-dont-like-your-mark-grade-it-yourself/

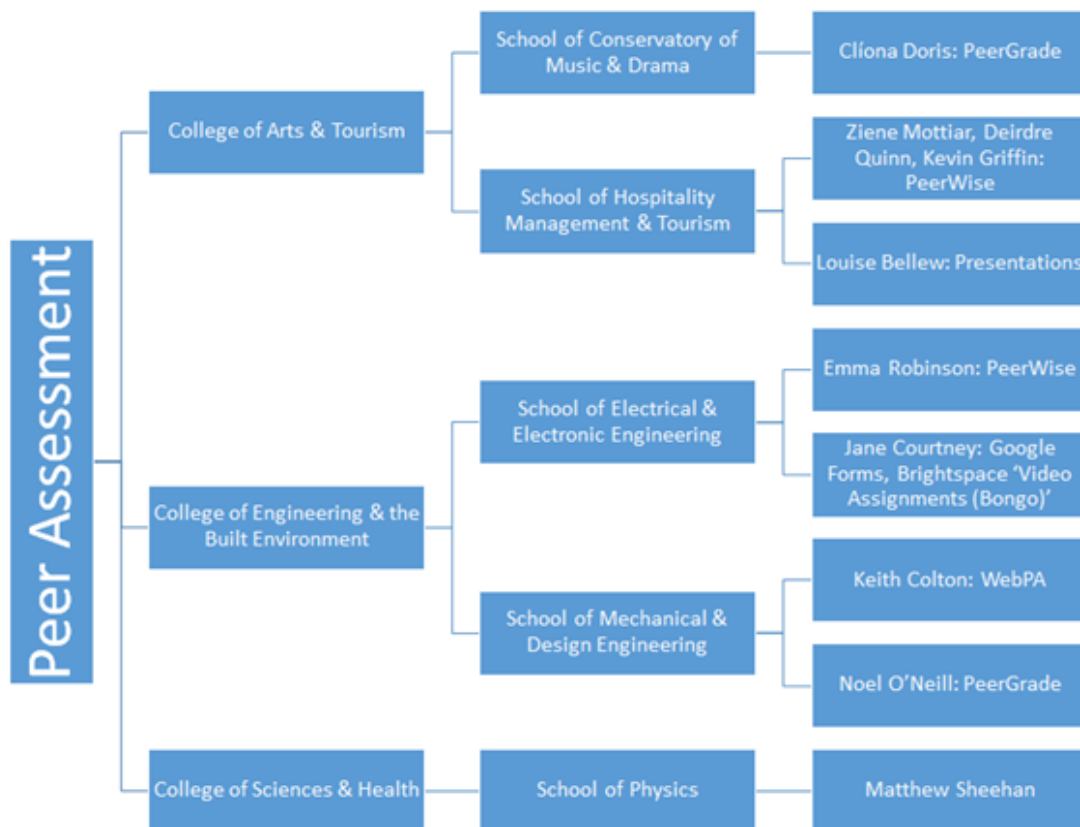


Figure 23: Peer Assessment tools across the institute

Peer Learning and Assessment using PeerWise

PeerWise is an online platform, where students create, answer and evaluate questions (all multiple-choice questions MCQs). Students were given guidelines on question generation and instructed on minimum engagement thresholds.

Peer learning is evident as students author questions, which other students then use to study. However students also comment and give feedback and corrections for questions on the platform. This was incredibly beneficial for the tutors involved as it identified misconceptions and misunderstandings among the student cohort.



Peer assessment was done on a few levels using this platform, as students rate questions, which then allocates points to the question author. The questions generated were used to create a question bank for an end of term multiple choice quiz on the virtual learning environment.

Highlights of this method:

- Students who engaged got very competitive and were clearly engaging with the course material
- The class group saw that the PeerWise assessment element was across all groups and thus standardised the experience.

Some issues encountered:

- Students who engaged later on found it difficult to catch up on points. So those who engaged early clearly benefited.
- Support was required in getting the students up and running in PeerWise, in particular guidance was required on how to come up with MCQs.

Peer & Self Assessment (Google Forms and the VLE)

Peer Assessment (including Self Assessment) was piloted using Google Forms, where students filled in a grading rubric assessing presentations on group projects. A second scheme, using Bongo, a plug in to TU Dublin VLE was also implemented where students assessed each other's technical articles. Findings from both these test cases are summarised here.

Motivation

Besides the potential time savings, there are many benefits to self and peer assessments:

- Students are the source of their own grades, which gives them ownership of the outcome.
- Students get to see each other's work and see what a good piece looks like.
- A bit of perspective helps students. Comparing to others' work puts their own work in context.
- What is 'quality'? Peer assessment allows for a consensus on an otherwise subjective idea.

Challenges

Peer assessment is not suitable for all types of work and care needs to be taken in designing the process. Here are some challenges faced along the way:

- In group work, if any part is the same for each team member, the mark should be the same for that part. This will not always be the case with this grading method.
- Subjectivity: One person's 5 is another person's 3.
- Students have to participate honestly. If it's 5s across the board (or 0s!) the grading scheme loses all meaning.

Findings

To sidestep these potholes, here's a few tips and findings.

Suitability

This method is good for grading:



- Subjective work: Designs, essays, projects, etc.
- Individual work: Usable for individual elements of group work and useful for distinguishing between team members.

It is not good for:

- Common elements: a single piece of work submitted as a team can end up with different grades for each student if students are graded individually by their peers. However, common elements can be graded as one mark by peers and then the grade can be assigned to each team member;
- Absolute answers: if it's right it's right, if it's wrong, it's wrong.

Consistent Grading

A well-structured, guided rubric is key to defining the standards for each grade.

Carrot and Stick

In guiding the students through the process, highlight the opportunity for them here – the potential to have a say in the grading process, an input into their own grade.



4.9 Class-based polling

This method of assessment or immediate feedback tool is designed to combat the following issues, which were highlighted based on a review of ISSE and institutional programme evaluation form data

- Staff struggle to provide prompt and detailed feedback to classes with large numbers.
- Students want prompt and detailed feedback.
- Students struggle to gauge academic standard and identify how to improve.
- Students are unaware they are falling behind.

TurningPoint

- TurningPoint was implemented to administer this method.
- TurningPoint polling software is an easy-to-use engagement (discussions), feedback (instant) and assessment (formative and summative) solution that allows learners to participate in real time using a keypad/clicker or their own mobile, tablet or computer
- The audience response system provides a variety of interactive polling options:
 - Powerpoint polling - deliver interactive powerpoint presentations
 - Anywhere polling - poll with any application using a floating toolbar
 - Self-paced polling - poll your students at their own pace

Student feedback

- Tool Survey - Students Agreed and Strongly Agreed to the following questions:
 - *'enjoyed the tool', 'more engaged with module', 'helped understand subject matter', 'would like to see it in other modules', 'will help with future assessments', 'enjoy when new technologies are used in-class'*
- Comments
 - *+'I found it very useful and engaging'*
 - *+'Very good way of learning'*
 - *-'Uses up too much phone battery when used for too long'*

Lecturer feedback

- The tool promotes engagement and learning in the classroom. It can be used for both assessment and feedback. Training is recommended and the portability of the turning point software is an area of concern.

Multidisciplinary uses

- It could be used in most disciplines, to meet the unique needs of each and every environment.

Section 5: Assessment and Feedback at the Programme Level

As the literature review and key informant interviews show, it is vital that assessment and feedback is not just identified as an individual activity undertaken by a lecturer at the module level. Yet judging by the analysis of the quality documents and the school review documents within the university, at the moment, this seems to be the case across most schools. This has led to specific recommendations relating to quality assurance and programmatic reviews as outlined in section 7. As part of LEAF, two programme level issues were developed/trialed; a programme assessment calendar and the TESTA model.

5.1 Developing a programme assessment calendar

An accurate, up to date assessment calendar is a vital resource for students. The availability of this information allows students to plan their studies and can also help them to understand the variety and weighting of the assessments they undergo. The assessment calendar can also be a very valuable resource for programme teams when it comes to reviewing assessment burden and distribution.

At present, there is no standardised method of preparing assessment calendars in TU Dublin. The task is generally the responsibility of programme stage coordinators/tutors and can be onerous. As part of the LEAF project, a new method for collating assessment details has been promoted that uses a spreadsheet template. An example of the output is shown in figure 24.

5	15 insert weighting module title, time, location Type	16 insert weighting module title, time, location Type	17 20% Metabolic biochemistry 2-3 KA2-008 Theory Assessment	18 10% Control and Integrative Physiology Lab report	19 insert weighting module title, time, location Type	20	21
6	22 15% Control and Integrative Physiology, KEG007, 2pm Theory Assessment	23 insert weighting module title, time, location Type	24 20% Prof and Research Skills, In workshop Referencing Assessment In-class test	25 insert weighting module title, time, location Type	26 insert weighting module title, time, location Type	27	28
7	29 insert weighting module title, time, location Type	30 insert weighting module title, time, location Type	31 insert weighting module title, time, location Type	1 20% Bioinformatics for Biomed Sci, 2-3pm, B-034 Theory Assessment	2 10 Molecular Immunology 1 14: 00-15:00 KE4-008 Theory Assessment	3	4
8 NOVEMBER	5 insert weighting module title, time, location	6 10% Metabolic biochemistry KE 3017-3018	7 20% Cell and Molecular Biology 12.00	8 insert weighting module title, time, location	9 insert weighting module title, time, location	10	11

Figure 24 – An example of the new assessment calendar output

This method is:

- - Collaborative
- - Live and easily updated



- - Accessible from any device
- - Detailed (date, time, location, assessment type & weighting)
 - - Aligned with the TU Dublin academic calendar
 - - Transparent
 - - Capable of sending alerts when any changes are made to the calendar

Several programmes are trialing this method and its success will be monitored in the coming academic year. As TU Dublin moves towards adopting a new VLE, consideration should be given to how best to communicate assessment dates, locations, weightings and formats to students. A method like this is easily integrated into the VLE and will be straightforward for students to access.

5.2 TESTA - Transforming the Experience of Students Through Assessment

The TESTA approach has been used with more than 100 programmes in over 40 UK universities, and in Australia, India and the USA. TESTA works with academics, students and managers - and for students, academics and managers – to identify study behaviour, generate assessment patterns to foster deeper learning across a whole programme (TESTA, 2018).

The TESTA approach addresses the challenges often associated with modular programmes where the sum of the parts (modules) does not equate to a 'whole' programme (Jessop, et al., 2014). This can lead to issues such as too much summative assessment and not enough formative assessment or a lack of connectedness and consistency across modules in a year of a programme and between years of a programme.

As part of the LEAF project TESTA was trialed in the School of Hospitality Management. The School was undergoing a School Review and best practice assessment strategies were being reviewed. It was agreed to trial three programmes: BA Tourism Management, BSc Tourism Marketing and Add On programmes BSc Tourism Management and BSc Hospitality Management.

The process involves a number of stages:

- The Programme Assessment Audit
- The Assessment Experience Questionnaire (AEQ)

(As part of the TESTA process focus groups with students would also take place, but the timing of our implementation did not allow for this).

Trial: A TESTA masterclass took place in October 2018 to introduce the School to the concept. A mock programme audit was facilitated by Tansy Jessop, where staff identified the number and type of assessment in their programme.

The AEQ was issued to the student body to gather feedback on their perception of assessment at programme level. Staff facilitated the collection of data during class time.

The programme audit involved all staff reviewing the modules as to the type of assessment formative and summative, breakdown in terms of assessment and exam, example of the type /range of assessment, type and quantity of feedback and time to return feedback. This material



together with the student survey feedback formed the basis for a second TESTA workshop, where programme teams reviewed the information together.

Benefits: Bringing programme teams together to view assessment as a strategy across the programme, visualising the number and range of assessments employed and how skills are developed across the years of a programme. Opportunities were identified to reduce the number of summative assessment across the programme. Opportunities were identified to share assessment across modules on a given year of the programme.

Challenges: Where modules are shared across programmes, a purely programme focused audit can be challenging. In this case a School wide approach may be needed, where assessment changes can be achieved across the first year of all programmes for example.

While this process has not been completed, in the case of the three programmes for which it was trialed, the audit of the programme and the discussions among the programme team have clearly put assessment and feedback on the agenda. As recommended in section 7 below, approaches such as TESTA and assessment mapping are valuable tools and aid a programmatic approach to assessment and feedback.



Section 6: Supporting Students with Assessment and Feedback

As noted above, in the student survey there is considerable positive feedback from TU Dublin - City Campus students regarding assessment and feedback in the university. However, there are also concerns around the timeliness and nature of feedback and as the literature shows, students can be confused by feedback and be unsure how to use it to improve subsequent work. It is also important to ensure consistency of experience across programmes, schools and campuses.

As part of this project we have developed a design concept and resources to support students with assessment and feedback. In the first instance this will be in the form of information provided to incoming first years regarding assessments. This information will be included in an induction pack issued to incoming students in August. Further information will be provided at specific points in the academic semester via the students union website. The longer term potential of what has been developed as a design concept is significant and sustainable as it can be developed to be used in newsletters, on the website, on videos across campuses with very clear messages that are timely and useful.

Section 7: Assessment and Feedback at the Institutional level

The expert interviews in particular highlighted the importance of dealing with assessment and feedback at the institutional level, as this is where significant change can occur. As noted, flexibility is needed in order to implement organisational and cultural change and there are important roles for senior managers, local champions and quality assurance. Equally, support systems in terms of training and time in particular are vital to effect change.

As students are increasingly evaluating the university on the basis of their assessment and feedback experience, it is vital for us as an institution to examine how we perform in this regard, what we need to change and determine how this change can be implemented. The recommendations below highlight a number of ways in which this can be done.

Section 8: Recommendations

The recommendations from the LEAF project have emerged from the extensive collection of data from key informants, literature, students and staff as has been documented in section 3, and the piloting of assessment and feedback tools as outlined in section 4 and 5. They are divided in terms of the level at which the recommendation is situated; module, programme, student and institutional. It is recognized by the LEAF team that instigating change can be challenging, but this set of recommendations provides a basis from which to initiate discussions across the whole university and provides opportunities for a variety of different strategies which will improve the learning and teaching experience.

8.1 Institutional level

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 within the university. It must also involve support and buy in from lecturers and students and an enabling support system at university level, a strategy cannot be implemented successfully.



Creating and executing a strategy for feedback and assessment can often necessitate a change in the beliefs, assumptions and values of individuals within an educational institution and therefore constitutes cultural change. This change should also involve the development of a common language and terminology to facilitate a clear, consistent meaning of assessment and feedback across the entire university.

Achieving cultural change can be difficult, however without such change, assessment and feedback strategies will not be realised and the student learning experience will not be enhanced. This type of cultural change requires a strategic approach, yet several of the expert interviewees also argued that the best way to effectively achieve this type of change is to take small steps which steadily and cumulatively lead to cultural change. Flexibility in the approach employed is imperative.

As noted in the literature and the expert interviews, it is important that college and university strategies addressing assessment and feedback practices must be both top down and bottom up. Consideration should be given to developing a champion system whereby lecturers champion new innovative practices and tools and showcase best practice. It is important that academic staff are given the time and breathing space to work individually and collaboratively on the development and implementation of new approaches to assessment and feedback.

Student voice and experiences should be included at all stages of the design, development and implementation of an institute's philosophy, strategy, principles and initiatives, with regard to assessment and feedback.

Questions regarding assessment and feedback should be included on the QA to ensure that this is an aspect that is analysed by programme teams as part of the quality framework as it is fundamental to the student experience.

As part of a programmatic review programme teams should be required to analyse and present their assessment and feedback strategies. As part of this, programme teams should be encouraged to consider graduate attributes in their discussions and analysis, the students assessment experience and the overall programme assessment strategy.

External examiner reports should specifically address issues of assessment and feedback.

A module in the VLE should be developed to support greater understanding of assessment and feedback.

The staff handbook should include a section dealing with Assessment and Feedback (items to be included: time to discuss student performance/areas of improvement, early feedback (prompt & detailed) on draft/work in progress - schedule earlier assessments/online resources).

A range of workshops should be offered to upskill academics on new best practice tools of assessment and feedback and to help deal with issues such as larger groups, providing prompt feedback and dealing with group assessments, guidance on setting assessments to ensure learning is taking place (for example peer feedback rubric, PBL practical exercises, Portfolio assessment, peer assessment, GitHub, Expert led and designed, Numbas, Vivas, Quizzes, project-based learning, online MCQ-open book etc.).

IT support is an essential part of trying new assessment and feedback tools and this needs to be offered centrally to encourage and support innovative trialing of new methods.



When decisions are made about what extra VLE tools should be included in the institutional package to which we subscribe, special consideration should be given to those useful for innovative Assessment and Feedback.

Student handbooks should outline the assessment breakdown for each module and explain the pass marks and thresholds for each assessment component. Furthermore they should have a section providing information to students about the importance of assessments, how to approach assessments and how to deal with feedback. This could be standardized by school.

WiFi and USB desk chargers are required for effective use of digital teaching and learning resources in the classroom.

8.2 Programme level

Alignment and coherence of assessment and feedback practices at programme and module level is important.

Programme teams should have Assessment and Feedback as an item on their agenda for one programme meeting annually, as this will encourage a programme focused approach to assessment. If Assessment and Feedback becomes a question on the QA, it will provide a focus for this discussion, which will then be fed in to the Quality system.

In analysing assessments at the programmatic level, it is recommended that module mapping activities such as TESTA may be considered as useful tools.

Programme teams should consider using an Assessment calendar tool such as that being developed through the College of Science and Health Teaching Champions scheme to help students and lectures to manage the assessment workload and set prompt assessment feedback dates.

8.3 Module Level

Early feedback is beneficial for first year students in their transition to third level. Low weighted early assessments give students confidence and should be considered in particular in first year modules.

Lecturers should consider online quizzes and/or class-based polling as an easy way of students getting instant feedback and building on digital literacy skills.

Rubrics are a good way of outlining to students how marks are distributed and broken down and guiding them to maximising their marks. This leads to greater clarity and transparency in grading. They are also essential for any peer assessment.

Technology should be employed where possible to enable automated feedback tools to reduce the time involved in generating feedback while maintaining high quality feedback. The role that the VLE can play in this needs to be further explored.

Developing peer and self assessment practices among students should be considered by lecturers as it aids the development of key graduate attributes.



Guidance and best practices need to be put in place to help lecturers use new assessment and feedback tools for the first time. A bank of assessment resources may be useful in this regard, perhaps an update of RAFT.

8.4 Student Level

Digital resources need to be created to enhance student's understanding regarding assessment and feedback. The Students Union should play a key role in this with academic staff to ensure they are pitched appropriately for the audience.

Greater use should be made of the dialogue model of feedback in order to engage the student in all aspects of the assessment process and including greater interaction with their lecturer, peers and technology in order to enhance the assessment and feedback process.

Training should be provided for students to develop an appreciation of their responsibility with regard to the receipt, generation and use of feedback as a graduate attribute for both their learning and working lives.

Students need to be encouraged and shown how to reflect on their assessment feedback and effectively use this to improve their subsequent assessments in order to close the feedback loop. This should occur as part of the extended first year induction.

While LEAF has developed a concept of student support regarding assessment, this needs to be 'owned' by an appropriate department in the university and the Students Union to ensure its continued use and development.

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Appendices

Appendix 1 - supplementary information from academic staff survey

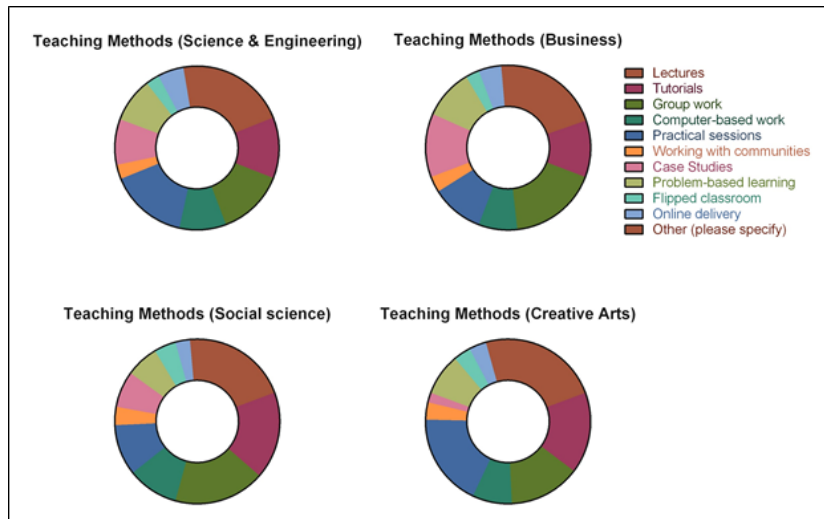


Figure A1: Teaching methods did not vary significantly between when Schools were sub grouped by discipline.

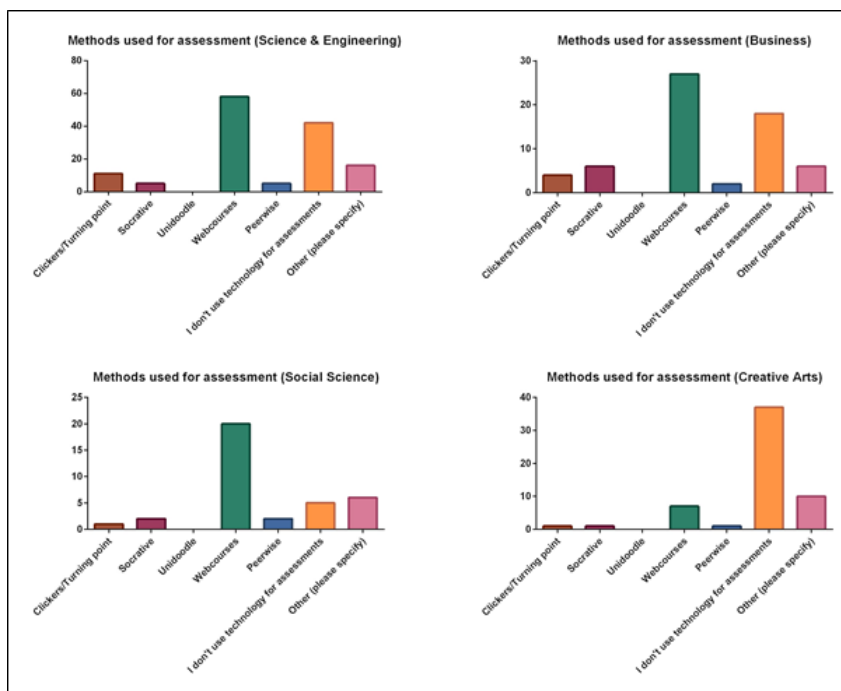


Figure A2: Some differences were observed in the use of technologies for assessment across broad School categories.

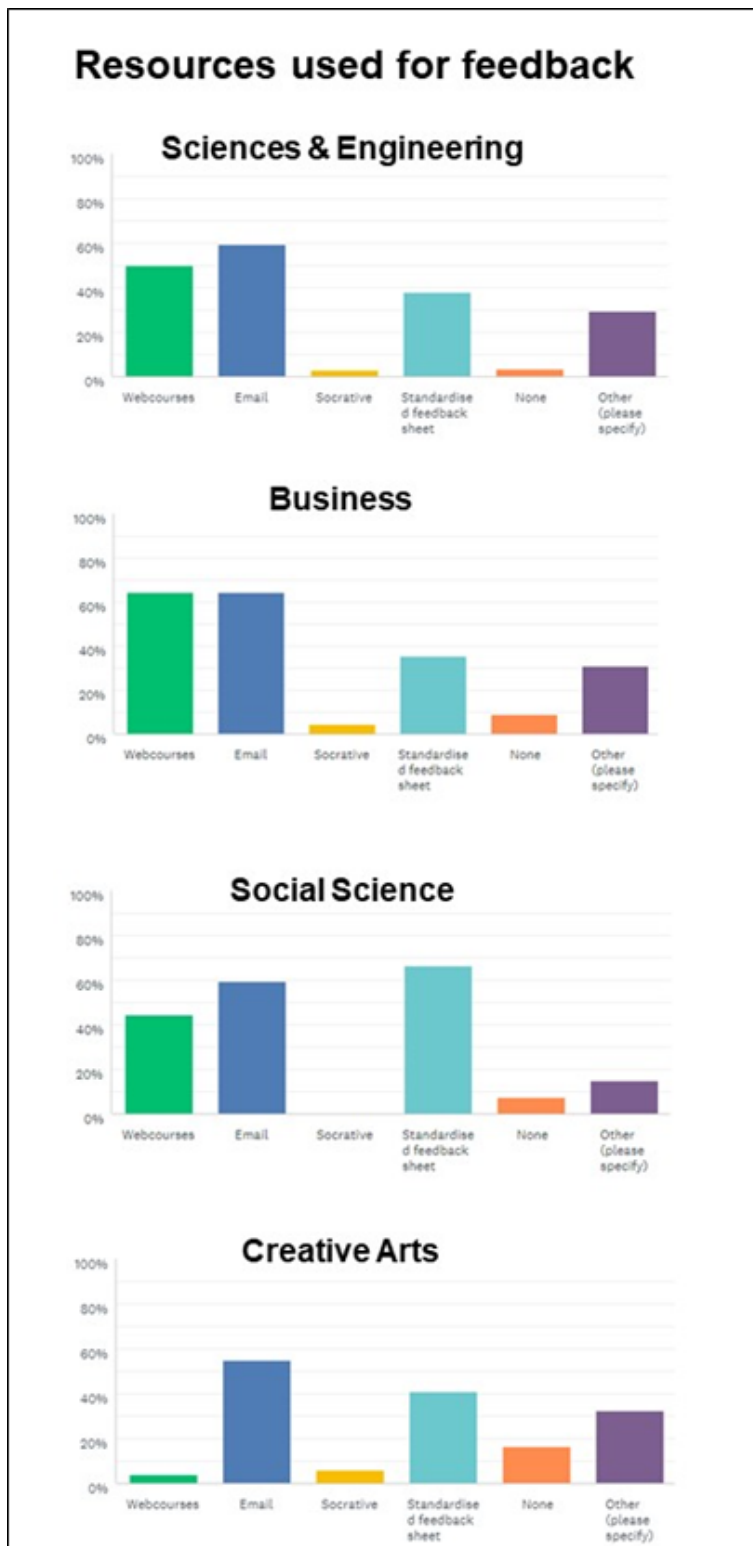


Figure A3: Resources used for feedback were quite consistent across discipline areas.



Appendix 2 - Outputs during the lifetime of the project

Website: <https://leafproject.wordpress.com/>

Conference/Seminars:

Bellew, L, Gorham, G, Harris, L, Hopkins, N, Hurley, A, Mottiar, Z, Assessment and Feedback strategies: An evaluation of academic and student perspectives of various assessment and feedback tools piloted as part of the LEAF project in TU Dublin, Assessment in Higher Education (AHE) Conference, June 2019

Robinson, Emma, Peer Learning Using PeerWise, INSPIRE TU Dublin Conference, May 9th, 2019
Robinson, Emma, Using PeerWise, Dublin eLearning Summer School 2019

Re-thinking Assessment and Feedback at the module and programme level was a half day seminar that was organized by the LEAF project and funded by the National Forum, May 2019

LEAF team Assessment and feedback strategy fuelled by student, staff and experts views. Poster at QQI conference Best Practice in Student- Centred Approaches in Education & Training, Nov 2019

Lynch, Louise and Mottiar, Ziene Learning from and engaging with Assessment and Feedback (LEAF): A strategic initiative in Technological University, Dublin. Polytechnic Summit, USA June 2019

Mottiar, Z Using big data to inform LEAF (Learning from and Engaging with Assessment and Feedback) Dublin eLearning Summer School, June 2019

Paper under preparation:

Robinson, Emma, Byrne, Greg, Courtney, Jane, Harris, Leanne, Hurley, Anne, Mottiar, Ziene and Lynch, Louise, LEAF Fellowship...growing practice, IJAP 2019 "Ireland has a new Technological University – insights and foresights" November 2019

Ongoing activities and outputs that have emerged as a result of LEAF:

College of Sciences & Health Teaching Champion role

LEAF activities around the development of an assessment calendar tool have led to Greg Byrne being designated a Teaching Champion in the College of Sciences & Health for 2019/20. This role will involve promoting the adoption of tools to facilitate the preparation of assessment calendars.

A community of practice

An important outcome of this project has been the development of a community of practice which comprises academic staff throughout the campus who have an active interest in the area of Teaching and Learning and the project has facilitated the building of strong relationships which may result in future work together.