Enhancing learning through better understanding of feedback on assessment perspectives of students and tutors in the built environment disciplines

Tim McLernon[1] and John McCord[2]

[1] University of Ulster, Newtownabbey, N Ireland, t.mclernon@ulster.ac.uk
[2] University of Ulster, Newtownabbey, N Ireland, ja.mccord@ulster.ac.uk

Abstract

The principles and practices of assessment and feedback are of key importance to all higher education institutions. This research seeks to enhance learning through better understanding of feedback on assessment perspectives of students and tutors in the built environment discipline. Adopting a phenomenological approach, the research undertook content and thematic analysis of qualitative data in order to evaluate the congruence between the provision of feedback on assessment by educators and how undergraduate students recognise, understand and use this feedback. The findings identify preferences for feedback and also highlight a number of areas where the perception of students and tutors towards assessment and feedback process diverge. The findings also identify issues and practices where assessment and feedback mechanisms can be significantly improved to enhance student learning. Furthermore, the research argues that, within the built environment discipline, assessment and feedback should be reconceptualised to depart from formative and summative paradigms and move towards a continuous assessment approach to the formative learning experience in order to enhance student knowledge and learning. A model for doing so is proposed.

Keywords: *Congruence, Educators, Students, Assessment, Feedback, Built Environment.*

1. Introduction

Assessment and feedback practices remain a key concern to higher education institutions. However, the assessment feedback process is complex and remains a problematic 'learning' enigma for many tutors and students. In recent years, a burgeoning corpus of literature has examined the modalities of assessment and feedback practices in higher education. In this context, research has highlighted a number of different perceptions of students and tutors towards the assessment and feedback process including multiple difficulties relating to purpose, effectiveness and temporal dynamics which can inhibit the student learning experience and propagate dissatisfaction. Despite this, there is a paucity of literature which examines congruence between the provision of feedback on assessment by educators in higher education and how undergraduate students recognise, understand and use this feedback.

The distinct emergence of built environment education and the high degree of interest in student satisfaction with assessment and feedback has magnetized increasing academic attention on the student learning experience. In meeting the needs of built environment undergraduate learners, assessment in the built environment discourse is required to facilitate and accomplish a multiplicity of purposes and there is a clear need to provide a diversity of authentic assessment practices that allows students to engage in meaningful learning in the changing HE environment. [1] However, whilst assessment and feedback has been a source of concern for built environment educators for some time, the exploration of formative assessment practice and feedback mechanisms in built environment education has received little attention with a limited body of research highlighting that the validity and effectiveness of traditional modes of assessment are under increasing scrutiny. [2]-[3] Therefore, in order to enhance learning through better understanding of feedback on assessment in the built environment discipline, the aim of the research is to

probe how built environment students and lecturers experience, understand and interpret the process of assignment and feedback.

This paper constitutes a summarised version of a significantly longer report that is currently under preparation and which will ultimately be submitted to the UK Higher Education Academy as an information paper. The research seeks to add to emerging research knowledge on assessment and feedback within the context of the built environment education in order to improve the quality and experience of student learning. The paper presents emerging findings from the research in relation to preferences for feedback, highlighting where the perception of students and tutors towards assessment and feedback process diverge and identifying where feedback mechanisms can be significantly improved to enhance student learning. The paper comprises the following; section 2 provides a brief review of literature relating to assessment and feedback in the higher education context. Section 3 outlines the methodology employed by the research including data methods and analysis. Section 4 presents the emerging findings from the research, identifying the core areas of convergence and divergence in the perspectives educators and students on assessment and feedback. Section 5 offers a concluding discussion of the emerging research findings highlighting opportunities to improve assessment and feedback through authentic assessment tasks and, more radically, by developing a continuum of formative learning practice.

2. Literature

The principles and practices of assessment and feedback are of key importance to all higher education institutions. In recent decades, approaches to learning and teaching have changed significantly and assessment practices have been the topic of wide ranging discussion [4]. With the concept of life-long learning beginning to permeate HE [5] and concomitant changes to educational standards and policy, finding ways to assess students' knowledge, skills, and competences has become a central focus of institutional effectiveness. [3] In the UK, the Quality Assurance Agency for HE has implemented changes in quality assurance standards at institutional level to enhance the student learning experience. This is to be achieved by creating a learning environment where students have the opportunity to engage in significant learning experiences which are defined in terms of learning outcomes and confirmed through the use of appropriate assessment strategies. [6] However, the impact of the recently publicised HE resource constraints on the student learning experience and extent of student dissatisfaction with the feedback processes, highlighted by the National Student Survey (NSS) results, have once again brought the effectiveness of assessment and feedback practice into sharp focus. [7]

The assessment and feedback process is a crucial medium to facilitate students' development as independent learners in higher education who are able to monitor, evaluate, and regulate their own learning in order to develop beyond graduation into professional practice. [8] In this context, there is a substantial and burgeoning corpus of research in HE which considers the importance of assessment and feedback for student learning [9]. Academic discourse highlights the significant role of assessment in the student learning experience from both a measurement and enhancement perspective. [9]-[10] Assessment is often at the epicentre of the student learning experience and traditional assessment systems which measure knowledge dominate the HE learning environment. However, contemporary literature on assessment refers to contestation, unsuitable and disjointed practices [11]-[12] and an underlying lack of clarity in assessment methods which make assessment 'the Achilles' heel' of the learning process. [11] Therefore, assessment to aid learners in more formative ways has been highlighted as currently failing students [13], leading some to argue that assessment needs to be 'fit for purpose' [12] and that, in conceptualising assessment for learning, students be exposed to sustained experiences to improve the quality of their work and learning. [14] A fundamental aspect of this is through continuous assessment feedback.

It is widely accepted that feedback is an essential component in the learning cycle and facilitates learning and development within and beyond formal educational settings. Indeed, a number of influential meta-analyses have confirmed that feedback is an essential ingredient for positive student learning [9] [15] by providing the means by which students can assess their performance and make improvements to future work. [16] However, despite its significance, literature reveals that the feedback process is considered

limited in its effectiveness and considerable challenges confront educators wishing to enhance student learning through feedback. Although a body of evidence reveals that students want good feedback [17] and do revisit feedback given to them [18]-[19], difficulties in learning from feedback remain. [20] Literature indicates that most student complaints focus on the technicalities of feedback, including content, assessment activities, timing, and lack of clarity. In this context, research highlights that feedback may lack specific advice to improve [21]; may not be transferable to future learning [19]; can be difficult to interpret, understand and use [16] [22]-[23]; and may have a negative impact on students' self-perception and confidence [9] [19]. However, research evidence also shows that ineffective feedback is not simply a result of deficient practice of educators. Literature indicates that students are able to identify feedback as meaningful in terms of learning and development [18] [24] and that challenges to learning is the result of students not making use of or acting on feedback [17] [25]-[27]; failing to recognise the benefits feedback provides [16] and lacking appreciation that comments on one piece of work could help achievement on later work. [28] Literature also highlights that a fundamental lack of dialogue between lecturers and students can also result in failure to act on feedback. [29] Therefore, the feedback process confronts challenges, such as time, miscommunication and emotional barriers that distort the potential for learning. [19] Such differences in interpretation and use of feedback, exacerbated by a lack of dialogue, can result in a feedback gap and differing perspectives.

Enhancing feedback alone is not sufficient to improve outcomes [30] and needs to be considered against many contemporary tensions and pressures inherent in HE institutions. Indeed, the massification and consumerization of HE mean that it is an environment of rapidly changing contexts and the demographics of the student population have shifted considerably. [5] Increasing numbers and diversity of the student population increased competition between the providers of HE, declining resources and new approaches to teaching and learning [31] mean that it is difficult to define the optimum learning environment for all students' [3]. Furthermore, students do not hold a homogenous view of feedback [24] and there is little systematic empirical evidence on feedback for specific contexts. [32]-[33] In this regard, feedback is still relatively underexplored across various disciplines [17] and lecturer perspectives [34] and concerns remain relating to the perceived lack of impact of feedback on current practice. [35] Furthermore, evidence of progress is lacking [20], conflicting and lacks consistency [36]-[37] and there remains confusion about assessment design to improved learning for students in higher education. [38] Therefore, it is argued that approaches to conceptions of feedback have remained orientated towards transmission perspectives underpinned by narrow conceptions of the purposes of feedback and shifts in relation to formative assessment and feedback have been painfully slow to emerge. [39] Considering these matters, Black and McCormick (2010) contend that greater explication is required on strategies to enhance independence in learning; there should be a greater focus on oral as opposed to written feedback and harmony is needed between formative and summative assessment. [40]

3. Methodology

The principal aim of the research is to help to improve the quality of student learning in undergraduate built environment education by investigating the attitudes, conceptions and views of students and educators in the area of assessment and feedback practices. To achieve this, this small scale study employs a mixed methodological approach to generate multi-dimensional information to triangulate data. [41] In this context, quantitative analysis of NSS data is used to provide a baseline context of the wider built environment student cohort perception of assessment and feedback. This approach supports the study of social reality and permits the application of mathematical aggregation, comparison and summarisation of data observations in a more explicit format. [42] The research also adopts a qualitative approach involving the collation of empirical data and evidence which examines both student and lecturers perceptions of assessment and feedback process. This method of data collection is founded on an interpretivist philosophy that emphasises words and meanings in the collection and analysis of data and is receptive to elastic interpretation in the development of concepts and theories. [43]

3.1. Analysis of NSS data

The NSS results for the previous five years were downloaded from the Higher Education Funding Council for England (HEFCE) website (http://www.hefce.ac.uk) in Excel format. The data was cleansed by subject matter related to the built environment and questions relating assessment and feedback (Q 5-11). This allowed the collated data to be easily aggregated and analysed to produce descriptive statistics and show measures of central tendency and overall trends from the survey relating to satisfaction with assessment and feedback among a random sample of undergraduate students in the built environment discipline in the host University.

3.2. Participants

In order to elicit staff and student perspectives and experiences of assessment and feedback, a total of 9 built environment lecturers/senior lecturers and 29 undergraduate built environment students gave their informed consent to participate in semi-structured interviews and focus groups which explored their perspectives and experiences of feedback in a higher education context.

Purposive and opportunistic sampling was used to recruit the lecturers/educators from a range of disciplines and specialisms within the built environment discourse. According to Griffiths (2004) the built environment discourse comprises a range of practice orientated subjects concerned with the design, development and management of buildings, spaces and places. [44] In this context, Radcliff (2007) states that the built environment is best understood as a set of processes including the planning, design, construction, regulatory, financial, transportation and information encompassing the disciplines of architecture, building science and engineering, construction and landscape urbanism[45]. For the purpose of the research, the built environment, is comprised of the following disciplines: (1) Housing; (2) Property; (3) Engineering; (4) Building; (5) Construction; (6) Surveying; and (7) Transportation. This approach was desirable as the sample is selected by the researcher, on the basis of knowledge of the population and nature of the research aims, to serve the purpose of the study. [46] A random sampling approach was adopted to recruit the students from the same built environment course/modules as participating lecturers for the purpose of interviews and participation in focus groups.

3.3. Semi-Structured Interviews and Focus Groups

Semi-structured interviews were conducted with students, lecturers/module coordinators of the School of the Built Environment to explore their respective perceptions of assessment and feedback. Separate confidential interviews were conducted with the student and lecturer cohorts to enable the participants to speak more freely and ascertain the perceptions of students and lecturers without undue bias. All interviews were entirely confidential and the data generated anonymous. With permission, interviews were recorded using a digital voice recorder to permit the secure digital storage of interview data, which was subsequently transcribed. The researcher also made contemporaneous notes during the interview process. Focus groups were also conducted with students as a mechanism to synthesize and validate ideas and conceptions. [47] This approach permitted organized interactive discussion with students to further obtain multiple perspectives to gauge opinions and learn from experiences. [48] The interview schedules were developed by identifying issues surrounding the research area, clustering of and sequencing relevant topics and designing informal interview probes. [49] In order to achieve this, relevant academic literature and research were used in the construction of the interview schedule and themes were identified through a meta-analysis and review of the burgeoning literature pertaining to assessment and feedback practices.

3.4. Analysis of the Qualitative Data

The qualitative data from the Interviews and Focus Groups were analysed using the proprietary software package NVivo 8 'computer assisted qualitative data analysis software' (CAQDAS). This software facilitates the systematic management of qualitative data and provides a platform from which qualitative data can be analysed down to the finest levels of granularity to capture the concepts, categories and ontologies that describe and constitute the issue under investigation. [50] NVivo permits the research to proceed iteratively between data collection and analysis, using techniques of constant comparative method, 'memoing' and deviant case analysis. [51] A phenomenological approach was adopted to

identify units of relevant meaning which can be clustered to identify and compare emerging themes. [52] Accordingly, the data was coded, categorized and analysed under each theme and compared with evidence from the different data sets. Where relevant, quotations that exemplified relationships between data were extracted from the interview transcripts and reported.

4. FINDINGS

4.1. The National Student Survey – Trends from the Built Environment

Overall trends from the 2009 to 2013 surveys indicate that satisfaction among undergraduate students enrolled in Built Environment disciplines has been variable, but have shown improvement. In general, the results showed high satisfaction amongst the student cohort in relation to support with studies and overall trends for the seven assessment and feedback categories have observed continuous improvements over the past five years. Considering annual change, the results indicate that there has been marginal improvement across five of the key assessment and feedback domains from 2012 levels, with two categories showing slight decline.

In relation to assessment issues, aggregated NSS figures for 2013 indicate that 87 per cent of students overall agree that they are able to contact staff when needed. A further 80 per cent agreed that they received sufficient advice and support with their studies with 71per cent agreeing overall that the marking criteria had been made clear in advance. However, a lesser proportion of students, 62 per cent, agreed that assessment arrangements and making were fair.

Considering feedback on assessment, analysis of the most recent NSS results also highlighted that just over half of students surveyed, 56 per cent, were in overall agreement that feedback has been prompt, with a similar proportion, 58 per cent, agreeing that the feedback comments received on assessment were sufficiently detailed. Notably, just over one third (34 per cent) of students disagreed that the feedback they received helped clarify issues they did not understand.
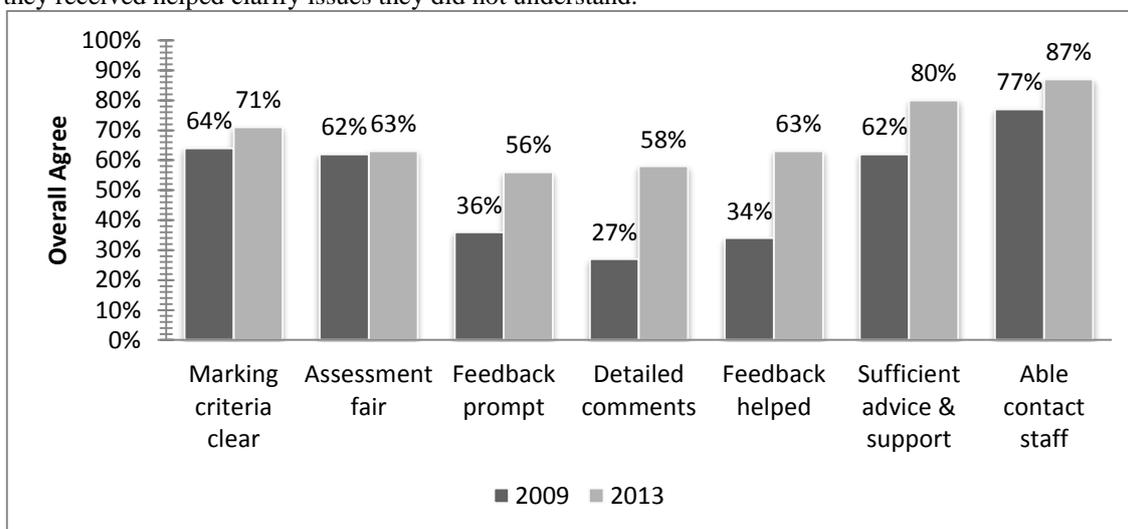

Figure 1. Change in Student overall agreement between 2009 and 2013.

The results indicate that assessment practices have a higher level of satisfaction than feedback practices over the time period and that this area requires significant attention in order to enhance the learning experience of students within the built environment discourse. Most notably, statistics showing the overall percentage change between 2009 and 2013 reveal that there has been significant improvement in the student experience in relation to feedback. However, despite significant improvement in this area, issues pertaining to feedback have scored lowest over the period and overall scores remain low with less than two thirds of students agreeing that feedback was prompt, sufficiently detailed and helped with their learning.

4.2. Emerging Findings from the qualitative data

The primary empirical evidence was drawn from a selection of lecturers currently employed within the School of the Built Environment and undergraduate students enrolled in a course within the School. The evidence base is therefore drawn from an inter-disciplinary range of discourses encompassing construction, engineering, surveying, law, property, housing and transportation; ensuring a wide span of disciplines employing differing assessment techniques and criteria and also assessment schedules and typology.

The discussion of the results was grouped into core thematic strands premised on the qualitative data and developed from the analytic procedures described in the methodology section. The focus of the study was to examine congruence between the provision of feedback on assessment by educators in higher education and how undergraduate students recognise, understand and use this feedback. This paper restricts itself to setting out below those primary, core thematic strands that were identified as areas of convergence and divergence between those educators and students who participated in the study.

4.2.1 Assessment

Understanding the purpose of assessment
Emerging findings on understanding of assessment shows that there is academic and student congruence on the purpose of assessment as a measurement tool and as a gauge understanding of knowledge. The findings further indicate a lack of future focus on the purpose of assessment from students and, to a lesser extent, lecturers. There is diversity across the student year groups by year group with some students in lower year groups not attributing value to formative assessment which does not contribute to their overall module grade.

Understanding of assessment criteria and requirements
The results relating to student and lecturer perspectives of assessment criteria indicate that there is overall congruence between lecturers and students relating to assessment scheduling with both groups referring to flexibility and group consultation to amend submission dates. Whilst the evidence revealed that assessment was generally set without student involvement, there is limited divergence in opinion on this issue with the majority of students stating a preference to having the coursework set by the lecturer. Nonetheless, there is a divergence amongst the student cohort by year group in relation to assessment topics with Year 3 suggesting that more input into assessment topics would be welcomed whereas this was not raised by Year 1 or 2 groups at all. There is some disparity in the views of lecturers and students relating to the communication of essential assessment criteria and requirements. Whilst there is overall agreement that lecturers do communicate guidance including context, marking criteria and requirements, students believed that this varied by discipline and assessment tasks and needed to be clearer with more assistance from lecturers. This criticism was not isolated to one year group indicating this may be an issue across the student cohort. This indicates that there was no standardised approach to assessment guidance and that this may cause students to believe that some lecturers do not provide as much help as others. In contrast, some lecturers pointed to students failing to put in the necessary effort or struggling with what was required of them. Students expressed a wish for additional assessment related guidance on virtual learning platforms. The findings relating to the provision of previous exemplars of high quality work displayed a slight divergence across the participants. Although the participants suggested that the assessment criteria is always provided and discussed in-depth, the provision of 'best practice' examples is at the discretion of the module coordinator. Student responses pointed to lack of uniform practice in this regard.

Assessment and Productive Learning
In relation to assessing student engagement towards productive and appropriate learning, the initial findings highlighted a number of issues. There is consensus between lecturers and students that a varied range of assessment approaches are used in order to replicate the skills that are expected by industry employers which engage students in active learning. However, students did not see summative examinations as a future learning platform. Crucially, there was congruence between all participants that assessments which linked to industry practice and setting real-world scenarios were the best method of

learning. Students preferred coursework related directly to industry and post-university employment. The majority of student stated a preference for practical continuous learning rather than summative assessment; however, there was slight divergence across year groups with year 1 students not aware of the nature of continuous assessment whereas year 3 could see the benefits. The finding that many students were desirous of continuous assessment in practical modules in preference to examinations is a significant one; however, lecturers are largely constrained by University regulations relating to summative assessment.

4.2.2 Feedback on assessment

There was congruence on how feedback can support learning. Lecturers highlighted that subject to resourcing and time issues, dedicated individual and group feedback would be advantageous. This was echoed by the student cohort who referred to follow up classes which provided a mixture of written and oral feedback and guided students through the coursework and model answers to map out improvements and feed forward. Across the built environment disciplines which are practical and mathematical there was also agreement between lecturers and students that feedback should be continuous and that there should be a departure from summative coursework and examinations towards formative continuous assessment. Importantly, students across all disciplines and year groups highlighted the lack of feedback on examinations as a barrier to learning and future performance. Students are critical that they are awarded a mark and do not see or obtain feedback on this summative assessment meaning they repeat the same mistakes. Lecturers confirmed that feedback is generally not provided and usually only where a student has failed the assessment.

The overarching interpretation of the data analysis is that summative assessment, i.e. that assessment that determines whether or not a student progresses to the next stage of the course and that ultimately determines the classification of the degree awarded to the student, is the *primary focus* of both the student and the tutor. The underlying significant reason is, probably, the emphasis placed on summative assessment by the higher education system. It is interesting to note that feedback, other than a mark or grade, on summative assessment, particularly unseen, written examinations, is minimal and students want this feedback to inform future learning. This may be onerous and supports the view of some academics that summative assessment should evolve to be more holistic and continuous.

5. Concluding Discussion

A fundamental requirement of HE is to facilitate high-quality feedback exchange and interaction between educators and students. The research has provided summary analysis of the views and experiences of academics and students regarding assessment practices in undergraduate built environment education. It has also presented the findings from a quantitative analysis of NSS results in related built environment disciplines in the host institution. The findings show areas of congruence in assessment and feedback between educators and students. Importantly, the review highlights the multiplicity of students' and lecturers' responses to the assessment feedback process and the value of bringing together their views to assist our understanding of assessment feedback and what approaches may suit built environment education in the modern HE institution.

In the built environment assessment underpins a number of the undergraduate programmes offered, particularly the more formal summative assessment strategies. At a general level, the findings show that there is clear tension between the summative and formative assessment processes and the delivery and usefulness of this knowledge to help teaching and learning. In this context, traditional approaches to feedback on assessment are remain the principal mechanisms employed to improve understanding and performance, however, this does not enhance performance in every context and is not the optimal medium of learning for all students across disciplines within built environment education. Clearly, the methods of effective assessment feedback design have been implemented and established remain problematic, and other methods should be explored.

Within the feedback terrain, the awareness and need to support student access to, and meaningful engagement in, feedback exchanges have increased enormously over the last decade. By necessity, the demands the educator to have empathy with and understanding of the student perspective, accurately detect academic and social needs and obtain and display the commensurate skills to employ appropriate scaffolding tools. However, in isolation this will not be entirely effective. Research highlights the increasing need to ensure that the student cohort are appropriately introduced and coherent with academic agency and requirement in order to sufficiently educate and promote student competency, autonomy and engagement which in turn can promote more meaningful contributions from students in the learning process. The present findings demonstrate that there remains a mismatch and conflict between the issues raised by students relating to feedback on formative assessment mechanisms and the perspectives of academics. Indeed, the current findings support previous research in that they demonstrate that the nature and agency of feedback is critical and should be congruent with and facilitate the needs, expectations and context of learner's discipline and industry if it is to facilitate meaningful, forward thinking which can be transferred from one context to another and impacts on the development of identity and self-concept for both the lecturer and student.

There is a strong history of assessment underpinning programmes offered in built environment undergraduate programmes, particularly through formal summative assessment strategies. Dichotomy in the views of students and lecturers clearly highlight a need for a framework that supports learners in the inter-disciplinary and complex structures of education within the higher education arena to facilitate and support longitudinal and effective learning, teaching and assessment. Building on the developments at both discipline level and beyond, a framework that will support academics in delivering a scholarly, developmental and holistic approach to assessment should include the following aspects:
- Creating assessment opportunities that are useful to learners
- Building students' understanding of the purposes of assessment – both formative and summative
- Creating and developing appropriate learning tasks that support formative assessment opportunities
- Developing learners' conception as self-regulated learners
- Creating opportunities for academics in the built environment to develop and share practice.

The opportunities exist for the creation of assessment paradigms within programmes and modules at undergraduate level. However, this requires academics to make the transition to providing transformative assessment activities. Also, building towards students' knowledge of how and why assessment takes the form it does, raising their awareness of ongoing assessment tasks as well as final processes, creating a sustainable environment where they can be self and peer assessors, and exposing them to how critical thinking about assessment can be an integral part of the learning process, should be primary aims of all HE teachers/lecturers. It is also of critical importance to involve students in the rationale behind assessment practices.

5.1. A model for the future?

Perhaps a radical step forward is to move away from being overly concerned with whether an assessment is formative or summative in nature and to see the various types of assessment as a continuum of the formative learning experience which should be embedded in the students' learning experiences. This infers that linking the development and scaffolding of students' knowledge and understanding of how and why assessment strategies are designed; raising awareness of ongoing development; and the critical engagement in assessment tasks as learning tasks with overall learning process should be one of the primary goals of lecturers/teachers. Fundamentally, the involvement of students is essential to this process. The emerging findings from the study leads the authors to argue that, within engineering disciplines, assessment and feedback should be reconceptualised to depart from separate formative and summative paradigms to move towards a continuous assessment strategy that encourages self-assessment in order to enhance sustainable student knowledge and learning which is forward feeding and suitable to industry. By necessity, this entails the architecture of a learning, teaching and assessment pathway that utilises an assessment and feedback strategy that catalyses change from a focus on summative assessment by, primarily, the higher education system and, secondly, the student, to a focus on continuous learning,

premised on understanding and advancing knowledge in order to better equip graduates with the attributes necessary for employment in industry.

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Authors

Principal Author: Tim McLernon is Faculty Coordinator of Learning and Teaching, and Faculty Co-ordinator for Continuing Professional Development in the Faculty of Art, Design and the Built Environment, University of Ulster.

Co-Author: John McCord is a Research Associate in School of the Built Environment, University of Ulster.