

October 2026

QQI's 10th anniversary funded projects

Summary reports for eight grant-aided projects relating to assessment in context of the National Framework of Qualifications (NFQ).

QQI INSIGHTS.



**Dearbhú Cáilíochta
agus Cáilíochtaí Éireann**
Quality and
Qualifications Ireland

TABLE OF CONTENTS

Foreword	5
1. Assessment identity, academic integrity and ethical practice	6
2. ExPeRA: External Peer Review of Assessment.....	13
3. Interactive oral assessment: a model for robust and authentic assessment design.....	17
4. Measuring attitudes towards academic integrity in Irish Higher Education.....	23
5. Prof-ASSESS: A programme-based approach to building authenticity into assessment and feedback processes through consultation with Professional, Statutory and Regulatory Bodies	29
6. To investigate the use of technology-enhanced simulation as an integrative authentic assessment approach on a blended learning professional programme.....	38
7. Real Intelligent Assessment Toolkits Across NFQ Levels.....	44
8. UDL-designed authentic assessment as a preventative measure of academic misconduct.....	56



FOREWORD

This presentation brings together a series of summary reports for projects funded by Quality and Qualifications Ireland (QQI) in response to a call for grant-aided proposals relating to assessment in context of the National Framework of Qualifications (NFQ). The aim of the call was to foster a growing community of practice in this area and to impact on the professional development of staff involved in assessment. The call was created to mark the 10th Anniversary of QQI which was celebrated in 2022.

QQI is grateful for the engagement from the sector on this initiative and to everyone who responded to the call. QQI congratulates the recipients of grants on the successful completion of their projects and commend them on their considerable effort and for the valuable impact of that their project insights and findings will have on the area of assessment in the context of the NFQ.

There was a strong response to the call with 34 applications for funding were received and eight projects were selected, with funding awarded totaling €374,000.

This publication presents a summary of each of the eight funded projects, together with their key findings and links to the full reports. In bringing this work together, QQI hopes that the learning captured through this initiative will provide a useful resource for practitioners and support the continued development and enhancement of assessment practice.

1. ASSESSMENT IDENTITY, ACADEMIC INTEGRITY AND ETHICAL PRACTICE

Lead researcher: Prof Marie Clarke

Institution: University College Dublin

Full project report: [Assessment Identity, Academic Integrity and Ethical practice](#)

OBJECTIVES OF THE PROJECT

The project explored the interrelationship between online assessment and student academic integrity and ethical practice at UCD. Specifically, the study aimed to enhance our understanding of students' experiences of online assessment, as well as their perspectives on ethical practice, academic integrity and academic misconduct by students (e.g. plagiarism, contract cheating, collusion, unauthorised use of artificial intelligence (AI) generators, and exam cheating). It considered students' feedback on the information provided by UCD on academic integrity and the university's expectations on the subject of assessment behaviour. The study investigated how these experiences and perceptions influence students' choices in the context of online assessment.

The evidence from these findings will be used to address the issue of academic integrity and ethical practice in assessment through the development of new and updated institutional policies and approaches. The findings also have broader relevance for the sector and will make a valuable contribution to national and international research in this area.

RESEARCH TEAM

The research was led by a postdoctoral research fellow, [Dr Deirdre Stritch](#), who was appointed specifically for this project. The research was conducted under the guidance and instruction of a principal investigator, [Prof Marie Clarke](#), Dean of Undergraduate Studies at UCD.

CONTEXT

This research was conducted as part of a suite of initiatives in UCD which focus on academic integrity and ethical practice. Since 2022, UCD has engaged in wide-ranging consultation and policy development in the areas of assessment and academic integrity.

Two Working Groups were established: the Working Group on Online Assessment and the Working Group on Academic Integrity and Ethical Practice which directed consultations with faculty and students and reported to the University Management Team Education Group and Academic Council Executive Committee. In addition, UCD was one of eight national recipients of QQI Anniversary Funded Proposals to support Assessment and Confidence in HE Qualifications. This resulted in the appointment of Dr Deirdre Stritch as a postdoctoral researcher in the School of Education and lead researcher on this project.

This research has provided us with necessary insights, capturing the most up-to-date definitions and literature in the field combined with the views of faculty and students in UCD. In conjunction with a number of related initiatives, it has informed the development of a new institutional Academic Integrity Policy that is holistic in its approach.

PROJECT METHODOLOGY

The overall project commenced with a consultation with the Teaching & Learning Committees at 37 schools in UCD, conducted by Professor Clarke and Ms Caoimhe Rehill, on faculty experiences of, and perspectives on, the move to online learning in response to the Covid-19 pandemic. The schools provided submissions on various aspects of online assessment, including its current usage, challenges, benefits and potential enhancements. Submissions were followed by semi-structured interviews which explored issues raised in more depth. These took place between October and December 2022. An analysis of the outcomes of the consultation with faculty was completed as part of this project and published on the UCD website in September 2023: [Online Assessment in UCD: Outcomes of Consultation with Schools](#).

The faculty consultation was followed by a literature review on academic integrity. The literature review entailed an overview of key definitions and significant developments internationally and in Ireland, as well as an exploration of which students engage in academic misconduct and for what reasons.

The study further engaged with students to explore their perspectives on the issues raised in the consultation with faculty and their experience to date of online assessment and academic integrity. This was also an opportunity to explore whether and to what extent the factors influencing academic misconduct identified in the literature review are at play in UCD. Consultation comprised a carefully designed survey to allow the collection of data from a wide range of participants reflecting different programme stages and demographic profiles across all six colleges in the university. The use of a survey was also intended to help mitigate the risk of self-selection bias inherent in focus groups.

Approval was granted by the UCD Human Research Ethics Committee to conduct a short, anonymous, online survey. Members of UCD's Online Assessment Working Group

and Academic Integrity Working Group were asked to enable survey completion in class on identified modules (undergraduate and/or taught postgraduate) and encourage colleagues in their schools to also enable survey completion in their own classes.

A targeted approach was employed to address the issue of low response rates typical of student surveys. To that end, a number of specific measures were adopted:

- Participating faculty were asked to:
 - **enable survey completion at the start of their class** on an identified module; and
 - consider class times with **typically high attendance** in a facility with **good Wi-Fi connectivity**.
- A **detailed information sheet** was provided to participating students in advance and **10 minutes** was set aside for survey completion **at the start of class**.
- The **survey was made available in Brightspace** so that students who were absent from class could complete it in their own time.

A total of 1972 students undertook the survey, representing a response rate of 77% and 6.5% of the 21,979 taught undergraduate students and 8,560 taught graduate students enrolled on the Dublin campus of UCD in the 2023/24 academic year.

PROJECT FINDINGS/OUTPUTS

Academic integrity and threats to same in online assessment was the dominant concern of faculty in the consultation published in September 2023: [Online Assessment in UCD: Outcomes of Consultation with Schools](#). Faculty observed an increase in academic misconduct with the shift to online assessments during the Covid-19 pandemic, and attributed this increase to factors such as lack of knowledge about academic integrity, excessive assessment demands, time pressure, external pressures, limited assessment timeframes, and varying social norms.

To mitigate academic misconduct, faculty recommended increased and obligatory education and training on academic integrity for students, stricter penalties for misconduct and measures to ensure the integrity of online assessments, such as physical invigilation, monitoring of UCD-owned devices, and e-proctoring. These issues were further examined in a student survey.

The student survey (the results of which have been prepared for publication and shared with QQI) found that the vast majority of participants had engaged in some form of online assessment, mostly typically online quizzes and online submission of assignments. Similarly, students across all categories expressed strong knowledge and understanding of academic integrity and the majority of related terms. The exception to this was in relation to collusion and contract cheating. A significant majority of students

across all cohorts and categories reported receiving information on academic integrity and related terms. Substantially fewer students, however, reported receiving information on collusion and contract cheating, perhaps partially explaining the lower levels of self-reported understanding of these terms.

Students were asked to rate how ethical or unethical they considered specified forms of assessment conduct to be. The vast majority of students considered exam cheating, plagiarism and contract cheating to be unethical to varying degrees. By contrast, over a third of students reported that sharing your past assessments with current students is ethical (13%) or only somewhat unethical (25%). This was highlighted as an area in which the lines between ethical and unethical practice are blurred for a number of students and in which greater clarity around university expectations and requirements would be useful.

Additionally, over a fifth of students (23%) responded that unauthorised use of AI is ethical (5%) or only somewhat unethical (18%). This is reflected in responses to later questions in which students expressed views that the use of AI is both ethical and necessary and it is up to UCD to ensure that students are taught how to use it well and appropriately as preparation for the workforce. Other behaviours which a significant minority of students (17%) considered ethical or only somewhat unethical are assisting another student to cheat (17%) and collusion (16%).

Students were also asked how common or uncommon in their view cheating is in specified forms of assessment. Students responded that cheating is rare or uncommon in in-person exams, but is extremely common (14%) or very common or common (48% combined) in quizzes and short exercises. Cheating was also reported as common to varying degrees in online un-proctored exams (56%), take-home exams with online submission (56%), online group-work assignments (36%) and written assignments such as essays (35%).

Time pressure, e.g., tight deadlines or multiple deadlines at once, lack of knowledge on academic integrity and what constitutes academic misconduct, lack of confidence in own ability, and perception that other students are cheating were identified as the factors most likely to induce a student to engage in academic misconduct. These were followed by a perception that getting caught is unlikely, lack of competence in academic writing skills, perception that cheating is easy, lack of positive relationship with faculty and lack of competence in English language.

A range of factors were identified as potentially preventing academic misconduct, including communication of expectations and sanctions in place; fewer assessments and/or better spread of assessment; more authentic assessment; in-person assessment modes; academic integrity awareness raising and skills building; and high-quality relationships with lecturers, tutors and peers. Fewer students reported that stronger sanctions and online assessment modes would help prevent academic misconduct.

Students were asked whether there are circumstances in which they would engage in academic misconduct, to which 7% responded that there are, while 25% didn't know.

Students provided a number of reasons as to why they would cheat. These included normalised use of AI tools; lack of knowledge or understanding of what is required for the assessment; lack of guidance and/or support from faculty; time pressure; perception that others are cheating; fear of failure; online assessment modes; stress and/or pressure; and unfair assessment or assessment conditions.

Fewer students responded that there are circumstances in which they would assist another student to cheat (5%) or that they don't know (22%). Programme stage and discipline, and in this instance, student category, had a bearing on student responses with more than double the number (11%) of Stage 3 and 4 students reporting that they would assist another student to cheat. International and visiting students were more than 2.5 times as likely to report willingness to assist another student to cheat, while Engineering students expressed significantly higher levels of uncertainty in this regard (39%).

Reasons cited for willingness to assist another student to cheat include altruism; a view that getting caught is unlikely; a transactional attitude to cheating; a belief that the exam or exam setting is unfair; and the difficulty of the assessment.

Finally, students were asked for their suggestions on what resources, guidance or information UCD could provide to reduce academic misconduct. Responses highlighted a need for: improved assessment design and delivery; better/more/repeated academic integrity guidance and training; better guidance on assessment requirements and how to address them; mainstreaming of use of AI tools; a better spread of assignments and reduced assessment load; greater clarity and consistency around academic integrity rules and regulations; improved faculty performance; improved assessment feedback; and improved course design.

CONCLUSIONS AND IMPLICATIONS

The literature review indicated that learners engage in academic misconduct for a variety of reasons, with influencing factors likely to include a combination of personal, psychological and situational elements. Low levels of knowledge and skills relevant to academic integrity and low confidence in personal ability to succeed in assessment (self-efficacy), combined with the culture in the 'classroom' (a culture in which cheating is perceived as common or that one is unlikely to be caught or sanctioned for academic misconduct is positively associated with increased rates of academic misconduct), have been identified as negative influencing factors on student behaviour.

This research indicates that, as per international findings, online assessment (particularly in the form of exams and quizzes) is *more likely* to be an occasion for academic misconduct than in-person assessment modes. This is especially the case where assessment is unsupervised. This is reflected in the perspectives shared by both faculty and students. It is highly likely from faculty and student feedback that much misconduct in online assessment is easy to conceal and hard to detect and may

not appear in the disciplinary record. As a result of these findings, UCD is developing new approaches to online assessment and exploring various platforms that can support different types of online assessment. Student feedback indicates that many of the reasons cited by students for engaging in academic misconduct conform closely with the reasons articulated in the international literature. Unlike the international literature, however, most UCD student responses centred on situational factors such as time pressure, over-assessment, spacing of assessment and assessment difficulty, and a perception that others are cheating, online assessment modes, and relevance of course material.

Mitigating and addressing academic misconduct is possible through modification of assessment design and delivery (as part of a wider reflection on overall course design and content), including assessment spacing and timing and direct and continuous student-facing messaging about all aspects of assessment, academic integrity and related processes in the university. UCD is planning to review its current curriculum, and assessment approaches will feature prominently in this review.

Student responses indicate that collusion, sharing and/or selling past work and unauthorised use of AI tools are areas where students lack both knowledge and understanding and, simultaneously, hold more ambiguous or positive perspectives regarding the ethics of such practices. Greater clarity on assessment requirements, as well as institutional expectations (particularly in relation to use of AI tools) was requested. The UCD Academic Integrity Policy approved by Academic Council in March 2024 provided clear guidance for faculty and students in relation to these issues.



ESERCIZI DEL TRE COMPOSTO

Esempio:
macchina, versando 40 kg. di grano in un contenitore
+ riempie in mezz'ora. Quanto inghiottirebbe per riempire
60 kg. 90kg 20%
fanno a vedere i legami esistenti fra le grandezze con-

LA VARIATA — **LEGGE INVERSA**
— **LEGGE DIRETTA**
DI TEMPO — **TEMPO INVERSO**

le coppie appartenenti alla prima relazione:
40 kg. $\leftrightarrow$ 30m
60 kg. $\leftrightarrow$ 20m
di una proporzionalità inversa scriviamo:
40 : 30 = x : 20
x = 26,67
60 : 20 = x : 30
x = 90
vale nell'ipotesi che 1 60 kg. versano versati in
mezz'ora alla seconda relazione e consideriamo le
4m $\leftrightarrow$ 20m
3m $\leftrightarrow$ 20m
2 : 4 = x : 20
x = 10
x = 20 : 2 = 10
la domanda è dunque: 10m.

2. EXPERA: EXTERNAL PEER REVIEW OF ASSESSMENT

Lead researchers: Dr Sinead O’Sullivan

Institution: University of Limerick

Full project report: [ExPeRA: External Peer Review of Assessment](#)

OBJECTIVES OF THE PROJECT

The higher education landscape has changed significantly with the introduction of a broadening range of programmes and award types and multiple forms and settings for assessment. The ExPeRA project examined the alignment between the purpose of external examining of taught programmes as set out in quality assurance policies and procedures and the actual experience of external examiners and academic staff. The project

- Examined the role of external examining and external examiners across the participating universities
- Evaluated the alignment of the role of external examiner with the intended purpose of the examiner role, as outlined in institutional policies.
- Explored ways to develop further the role of external examinations to achieve a greater focus on quality enhancement while preserving the integrity of assessment and academic standards.

RESEARCH TEAM

This is a collaboration between the IUA Quality Officers Group representing Dublin City University, Maynooth University, Trinity College Dublin, UCC, UCD, University of Galway, University of Limerick (UL), TU Dublin, NUI

The research was co-ordinated by Dr Sinéad O’Sullivan, University of Limerick, supported by Muhammad Irfan, Research Assistant. The final report ExPeRA: A Reflection on External Examining Roles and Practices in Irish Universities was authored by Dr Sinéad O’Sullivan and Dr Sorchá Ní Chonnachtaigh, National University of Ireland.

CONTEXT

This research was undertaken among external examiners for taught programmes and academic leads appointed by or working in eight universities in the Republic of Ireland. Academic leads are defined as module leaders, programme directors or programme

chairs who are tasked with engaging with the external examiner at pre- and post-assessment stages.

PROJECT METHODOLOGY

The project comprised

- A desk-based assessment of current literature on academic standards, external peer review of assessment and external examining which was undertaken in February – June 2023 and supplemented throughout the project
- A desk-based assessment of each institution's policies on external examining of participating institutions, conducted in July – October 2023
- A survey of external examiners and academic leads in participating institutions that addressed the four key questions and which was carried out in July – September 2023

The survey was designed collaboratively with the participating institutions, adhering to institutional data protection requirements. It sought to ascertain how well institutional policies on external examining were understood and implemented. The survey design also sought to answer the research questions regarding influence that external examiners bring to bear when working with an institution. Ethical approval was granted by the Faculty of Arts, Humanities & Social Sciences Ethics Committee of the University of Limerick, Social Research Ethics Subcommittee (SRESC) of Maynooth University and by proxy the relevant ethics committees/ other committees of the remaining participating institutions.

The questionnaire was sent to the following populations:

- Those appointed as external examiners in each of the participating institutions
- Those identified as being the academic lead for taught programmes in the participating institutions. The 'academic lead' categorisation is used for course/ programme directors, module convenors, module co-ordinators and similar academic roles that liaise with external examiners

The invitation to participate was sent to 1,375 external examiners across eight institutions and 1,596 academic leads in seven of the eight institutions. Recognising that there may be duplication of appointments across the eight institutions, respondents were asked to complete the survey once only. Over 1,034 respondents commenced the survey with 773 respondents completing it or responding to the structured mandatory questions on the role and effectiveness of external examining.

PROJECT FINDINGS/OUTPUTS

Results suggest that there is a consistent understanding of the overall purpose of external examining with some variation in the perception of the importance of certain tasks within the duties and responsibilities of the role between external examiners and academic leads. There is universal agreement that the assurance of academic standards is the most important role of the external examiner, followed by the determination that assessment procedures are fair and consistent.

Disciplinary standards, professional experience and knowledge of the appointing institution's requirements inform external examiners assessment of academic standards. Professional experience is deemed to be important by academic leads, but they are also conscious that the process can be subjective, and influences from other jurisdictions or institutions may not always be positive or appropriate to the context of the host institution.

External examining brings several positive aspects to the institution. The opportunity to avail of external and objective expertise and to benchmark programmes and modules to similar national and international programmes is seen as a benefit and serves to assure students and other stakeholders of the quality of the programmes offered. While challenges to the current practice of external examining are highlighted, when done well external examining is seen to be effective in the assurance of standards.

The challenges cited relate to the sustainability of the process in a growing sector where numbers of programmes, assessment types and student enrolments are increasing. Sourcing and recruiting external examiners are impacted by the time now required to assess materials and the scheduling of external examining activities which may clash with academic staff's obligations to their own institutions. While the introduction of remote external examining and attendance at online examination boards can mitigate this, some external examiners are of the view that the process is more effective when undertaken face to face. Remuneration of external examiners and the sustainability of recruiting appropriately qualified external examiners is also a concern.

CONCLUSIONS AND IMPLICATIONS

Institutions are invited to consider questions arising from this project, which have been categorised into actionable topics. These are presented to allow institutions to further enhance the process and practice associated with external examining. As designated awarding bodies, the participating institutions are responsible for the assurance of their academic standards. The policy documents examined in this research suggest that many of the answers to these questions are already contained in those policies. They will, however, serve as a benchmark against which to evaluate the effectiveness of current policies and practices and to enhance induction and orientation processes for external examiners. There is an opportunity to explore further how opportunities for academic staff to discuss academic standards either at an institutional or inter-institutional level will serve to continue both internal and interinstitutional dialogue and reflection on standards.



3. INTERACTIVE ORAL ASSESSMENT: A MODEL FOR ROBUST AND AUTHENTIC ASSESSMENT DESIGN

Lead researchers: Dr Monica Ward and Dr Fiona O’Riordan

Institution: Dublin City University

Full project report: [Interactive oral assessment: a model for robust and authentic assessment design](#)

OBJECTIVES OF THE PROJECT

The project evaluated a model being used in Dublin City University to support a robust and evidence-based assessment method to promote academic integrity – Interactive Oral (IO) assessment. IOs are a fair, reliable and viable alternative to traditional assessment. In collaboration with Griffith University, DCU have successfully adapted the framework designed and tested by Griffith University to successfully roll out IO across DCU.

Desk-based research in the form of literature review and insights gathered from academics and students involved in using IO in DCU were used to develop a model which can be used in other innovative assessment methods to promote academic integrity and is being considered by higher education institutions (HEIs). The project aimed to develop and disseminate DCU IO resources and share the expertise with other Irish universities and internationally.

RESEARCH TEAM

The project was led by Dr Monica Ward, Dean of Teaching and Learning at Dublin City University (DCU), and Dr Fiona O’Riordan, currently Dean of Teaching and Learning in CCT College, Dublin. The project team included Jagadeeswaran Thangaraj, research assistant, and Prajakta Girme (Lily), Academic Development Officer in the Teaching Enhancement Unit, DCU. Dr Martina Crehan, Head of the Teaching Enhancement Unit, was also involved in the project. The DCU Interactive Oral Community of Practice (IO CoP) with over 40+ members also actively contributed to the project progress, feedback and development of resources.

Griffith University, Australia, was a project partner via Danielle Logan-Fleming who was for the duration of the project a Learning and Teaching Consultant (Design) in Griffith University. She pioneered IO and has over seven years of evidence-based practice and processes in place.

CONTEXT

DCU has promoted and implemented IOs since September 2020. The Teaching Enhancement Unit (TEU), DCU, has set up and hosts weekly IO CoP meetings every Wednesday during semester. The IO CoP expands each semester, with over 40+ members as of October 2024. IOs are being used in DCU across various disciplines, for example, Psychology, Aviation, Business, Humanities and Social Sciences. Currently IO assessment is used in DCU across 21 different courses, with 33 different cohorts. In total, over 3,400 DCU students have experienced interactive oral assessment. With GenAI concerns, IO can act as a safeguard for academic integrity in a way that empowers students by developing transversal skills.

PROJECT METHODOLOGY

After seeking approval from REC (DCUREC/2020/204), existing data and resources were analysed and shared with relevant DCU CoP members for their own use and dissemination.

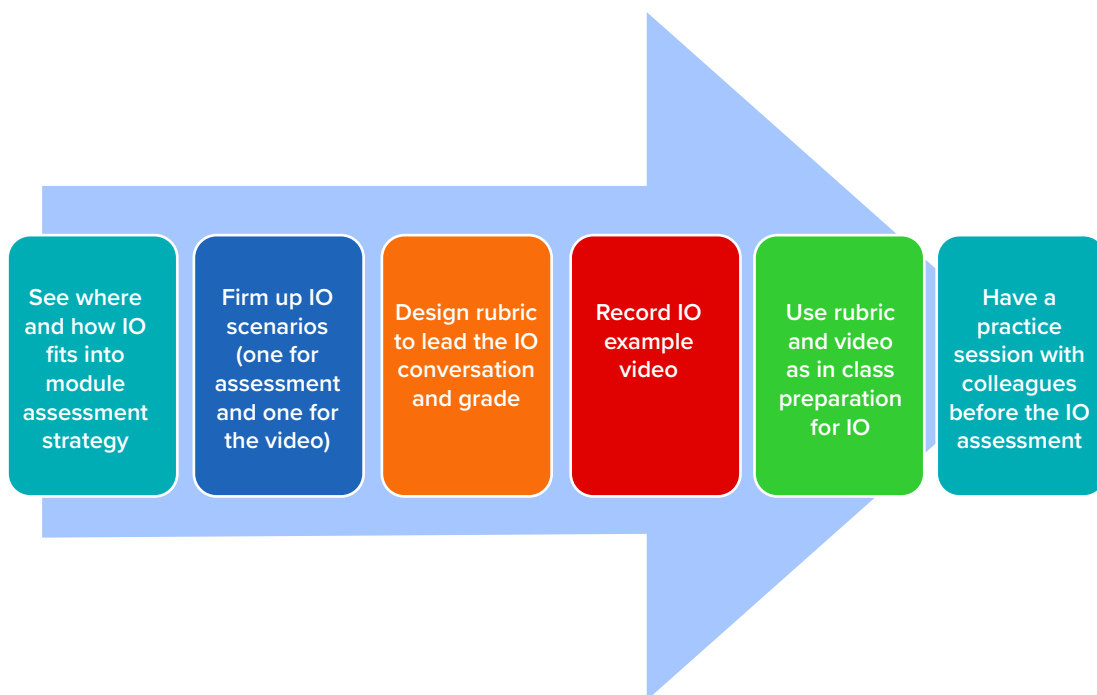


Figure 1: Interactive Oral Design Process

The weekly IO CoP meeting facilitated DCU academics to learn and share examples of designing a scaffolded assessment strategy, where IO forms one core component, or in one case the only component (100% weighted). They aligned their assessment strategy to the module learning outcomes with the support of the CoP. In addition, the CoP helped academics develop a recorded example of an IO, and a corresponding analytical rubric. The CoP has developed an Interactive Oral User guide with examples, student feedback surveys, process diagrams, assessment design template and FAQs which are regularly updated as the CoP evolves.

A comprehensive scoping literature review was conducted prior to data collection and analysis of academic and student experiences. The student experiences were gathered via Google Form while academics were interviewed, between May to June 2023, to gather insights into IO implementation. Development of IO CoP resources and processes were informed by the input and feedback from staff and students. This led to further development of IO CoP resources over a period of three years and collation into one open source space.

Along with the user guide, the open source space in the form of the [Interactive Oral Assessment](#) website was created to make all IO resources, tools, examples, templates available. The website is also updated regularly to showcase recent examples from different courses. Website design and development was carried out in the later stages of the project and has been positively received by different stakeholders both nationally and internationally.

PROJECT FINDINGS/OUTPUTS

The project findings align with current literature on interactive oral assessments, from the benefit to students of seeing the value of the assessment approach to reassuring staff and promoting academic integrity. With GenAI, the appetite to explore authentic assessments has grown, and academics are more open to branching out and implementing non-traditional assessments. Interactive Orals have also provided staff and students with a personal opportunity to engage with the benefits of the assessment ranging from developing transversal skills, increased assessment literacy amongst the student body and a higher level of engagement.

IO usage in DCU has increased over the last four years, with staff from all faculties actively engaging with the CoP and the IO workshops organised by the Teaching Enhancement Unit. The resources have grown over the years with contributions from staff and students engaging with IOs. Academics have conducted individual, pair and group IOs in a variety of undergraduate and post-graduate modules and found the approach to be scalable.

The early cohort of academics cited the Covid-19 pandemic as a motivating factor for looking into authentic, academic-integrity-ensuring assessments. More recently, the motivation for using IOs related to the current GenAI climate and academics' interest in finding a reliable, rigorous assessment approach. The development of employability skills, particularly oral communication skills, was another aspect of interest across many disciplines. Academics were keen on exploring innovative assessment approaches or were encouraged to implement IOs after they were recommended by a colleague in the faculty/university.

Academics mentioned several advantages from implementing the approach, with academic integrity and reassurance of student learning being two of the most important. Other benefits included the effect of well-designed rubrics and efficient marking across a panel of assessors. The consistency and transparency of the

assessment is maintained as academics follow the steps outlined in the IO design and implementation process.

Students appreciated the opportunity to showcase their knowledge and application of learning. They could also see the value of the approach as a chance to envision and explore their future professional roles and, depending on the assessment design, to consider possibilities and areas of interest. The scaffolded nature of the assessment provided an opportunity for them to develop and demonstrate their ideas further.

IO assessments were pioneered by Danielle Logan-Fleming and Popi Sotiriadou in Griffith University. Griffith University shared their expertise and resources with DCU to form and support their Community of Practice (CoP). As the project progressed and as the DCU CoP grew, the support from the CoP and the accompanying resources were key in implementing IOs throughout DCU. DCU has supported the development of IO resources and CoPs nationally via the academic development network between the universities and through other dissemination activities. DCU has also actively shared resources and guided other institutions and individual academics and academic developers interested in the approach. Griffith University's SWAY portal, which has examples of international IO implementations, was a key resource which DCU contributed to with examples from within the DCU CoP.

The Interactive Oral Assessment website covers fundamental elements of IOs, how it differs from traditional oral exams, and the benefits of using IOs along with the IO User Guide. There is a fireside chat with Danielle Logan-Fleming and Dr Monica Ward that offers a brief overview of IOs and discusses some of the frequently asked questions (FAQs). There is a separate section for FAQs as well as a variety of resources across different disciplines. There are some recorded examples and sample rubrics provided along with video tutorials for a Moodle-based scheduler tool.

In November 2023, Danielle Logan-Fleming was invited to conduct several workshops in Ireland as part of the 'Interactive Oral Assessment Roadshow'. The roadshow involved a series of workshops in universities across Ireland including DCU, CCT, University of Galway and University of Limerick. DCU were also invited to conduct introductory IO workshops in Trinity College Dublin and Royal College of Surgeons Ireland. Further dissemination and collaboration is planned, particularly in the form of a CoP for Academic Developers who work with and support faculty in the design and implementation of Interactive Oral Assessment.

The project team has written an academic paper entitled "Interactive Oral Assessment: A model for robust and authentic assessment design" which has been published in *Innovations in Education and Teaching International*. The paper provides an overview of findings into academics' experience using IOs, and presents relevant literature. It looks at the application and value of IOs, and IO planning and implementation. It also covers academics' perceptions of the benefits of using IOs, their motivations along with the challenges, and the supports required to ensure a successful IO practice.

CONCLUSIONS AND IMPLICATIONS

There has been an increasing interest in IOs as an innovative, pedagogically sound assessment approach, nationally and internationally. IOs have been well-received as a robust assessment approach to promote academic integrity and to allow students to develop transversal skills. There has also been some significant university-wide engagement over the past few years, in terms of regular workshops, presentations and available resources. The IO CoP has fostered collaboration and sharing across disciplines. There are academics co-designing and co-assessing with their peers as cross-faculty support. The members of the CoP provide feedback and input on rubrics to colleagues from different disciplines. In that sense, the CoP provides an opportunity for academics to learn, provide feedback and collaborate with their colleagues from across the university.

On an individual level, the academics engage with and reflect on Universal Design for Learning and how it plays into IO themes. The flexibility to conduct IOs either in person or online, synchronously or asynchronously, is another added motivation for implementing the approach. IOs are a way for academics to reassure themselves of student learning and an opportunity to provide instantaneous feedback. The IO recordings, when shared later with students, also provides opportunities for further feedback, closing the feedback loop.

The approach allows for different modes of engagement via the online/in person scenario-based assessment format. The IO scenario sets the scene as an unscripted conversation, the scenario itself is an opportunity for academics and students to engage authentically on a personal level. In fact, the students have found the personal touch that IOs offer to be significant in terms of engagement and feedback. They can see the value of the assessment approach for future employability and to develop their transversal skills. The guidance and support on the process via the Teaching Enhancement Unit has also led DCU academics to view IO implementation as an opportunity to upskill.



4. MEASURING ATTITUDES TOWARDS ACADEMIC INTEGRITY IN IRISH HIGHER EDUCATION

Lead researcher: Dr Andrew G. Gibson

Institution: Trinity College Dublin

Full project report: [Measuring attitudes towards academic integrity in Irish Higher Education](#)

OBJECTIVES OF THE PROJECT

Ensuring academic integrity in higher education has been an increasing focus for higher education stakeholders in recent years. International interest only intensified with the pivot to emergency remote teaching and assessment during COVID-19, as well as the advent of generative AI in the form of ChatGPT in November 2022. To understand how best to respond to these developments, there is a need to deepen our understanding of attitudes toward academic integrity among staff and students in Irish higher education.

This project examined the McCabe-ICAI¹ academic integrity surveys, which have been used in other countries to research students' and academic staff's behaviours, attitudes, and beliefs about academic integrity, with the goal of assessing the feasibility of using or adapting these surveys for use in higher education in Ireland.

RESEARCH TEAM

The research team was based in the Cultures, Academic Values in Education (CAVE) research centre in the School of Education, Trinity College Dublin. The lead for the project was Dr Andrew Gibson (Assistant Professor in Philosophy of Education), along with co-investigator Dr John Walsh (Ussher Assistant Professor in Higher Education), post-doctoral researcher Dr Angeliki Lima, and doctoral research assistant Ms Nina Sen Singh.

The former Senior Lecturer of Trinity College Dublin, Prof David Shepherd, was also closely involved in the project from the outset. From the International Centre for Academic Integrity (ICAI), Dr David Rettinger (University of Tulsa and President Emeritus ICAI) and Dr Greer Murphy (University of California Santa Cruz and ICAI Secretary) were also of great assistance at various points throughout the project. The research team is thankful for all their input and assistance.

¹ <https://academicintegrity.org/programs/mccabe-icai-academic-integrity-survey>

CONTEXT

While the project as a whole wanted to avoid reducing ‘costs’ and ‘benefits’ to exclusively quantitative or monetary notions, cost remains relevant to any attempt to understand the implementation of the McCabe-ICAI surveys in Ireland. The cost per higher education institution for implementing these surveys is the price of annual membership of the International Centre for Academic Integrity, namely \$650 per annum for ‘institutional membership’.²

In terms of implementation in an Irish context, one aspect to be considered is the lead-in time for institutional ethical approval, which would be required for the generation of data for the McCabe-ICAI surveys. The reason for this is that unlike the Irish Survey of Student Engagement and similar surveys, the data generated by these surveys is used not just by institutions but also by international academic integrity researchers, and so ethical approval will be required, in line with GDPR.³

Another cost consideration would be incentivising student participation (e.g. in the form of prize draws). Our interview participant suggested, however, that overall the cost of the surveys in terms of implementation and running the surveys online was lower than expected – with more time being dedicated to interpreting the results in order to generate findings.

PROJECT METHODOLOGY

This project had a four-part, linked structure through which data was generated: (i) surveys; (ii) a literature review; (iii) qualitative, semi-structured interviews; and (iv) focus groups. A summary of the structure is as follows:

- I. A survey of past and current users of the McCabe-ICAI surveys to elicit the views of the relevant institutional actors (faculty and students) at institutions where the surveys has been used in other countries. This addressed not only the financial but also wider costs and benefits. Some feedback here on the value of the surveys constituted a useful evidence base for subsequent research stages.
- II. The literature review synthesised scholarly and practitioner views of efforts to measure attitudes towards academic integrity, as well as the impact of these efforts, to understand the factors that may affect implementing the McCabe-ICAI surveys. Literature detailing piloting or implementing the surveys was specifically addressed. This stage addressed the existing scholarly knowledge base and findings from the community of practice as it relates to the surveys. This informed the design of the interview schedule, as well as an initial analysis framework.
- III. The semi-structured interviews with institutional and national stakeholders investigated potential ‘costs and benefits’ (understood in the broadest sense) of

2 [https://associationdatabase.com/aws/ICAI/input_form/display_form_01_show?contact_id=\\$Contact%20ID&form_no=5&host=retain&contact_id=\\$Contact%20ID](https://associationdatabase.com/aws/ICAI/input_form/display_form_01_show?contact_id=$Contact%20ID&form_no=5&host=retain&contact_id=$Contact%20ID)

3 <https://www.tcd.ie/dataprotection/GDPR/>

using and/or adapting the McCabe-ICAI surveys for Ireland's higher education sector. The interview schedule design drew on both the surveys and literature review. This stage focused on the Irish context and also helped to identify participants for the next stage of data generation.

- IV. Focus groups, as the final data generation stage, engaged with actors from within Irish higher education, both academics and students. One focus group engaged academic staff to discuss the McCabe-ICAI Faculty Survey and McCabe-ICAI Student Survey, and a second student focus group considered just the McCabe-ICAI Student Survey. An aim here was to explore disciplinary differences in attitudes to academic integrity and the capacity of both surveys to assess these. The focus groups were a targeted discussion to assess the feasibility of the use of the McCabe-ICAI surveys and/or the need for their adaptation to an Irish setting.

Full ethical approval in line with institutional requirements was obtained from the Trinity College Dublin School of Education Ethics Committee for all stages. A broad and purposive sample of staff and students across Irish higher education was taken for the interviews and focus groups. Interviews and focus groups took place primarily online to suit participants.

The analysis required interviews and focus groups to be transcribed, with notes being taken in both as aides to future analysis. Qualitative data analysis software (*NVivo*) served both as a repository and tool of analysis for data for the entire research team, and allowed for discussion of the analysis and findings on an ongoing basis. The analytic framework was informed by the intentionally open approach taken to the topic, aimed at eliciting a diversity of understandings rather than simply identifying themes.

PROJECT FINDINGS/OUTPUTS

Findings from the initial 'cost benefit analysis' showed that the actual implementation of the surveys – after some necessary 'localisation' – was relatively straightforward. It was suggested, however, that the real challenge for an institution would be to find the resources to implement changes, and to follow up on these to ensure their effectiveness or sustainability.

In the interviews, the McCabe-ICAI surveys were considered useful and beneficial by a majority of participants. Where reservations were expressed, these sometimes related to scepticism about surveys as a research tool generally rather than the McCabe-ICAI specifically. Yet some concerns also emerged about importing assumptions from North American contexts which may have distinctive perspectives on 'morality' or 'honour codes' in an academic setting and more generally about applying Western-centric standards uncritically or indiscriminately to international students from distinct cultural contexts. A common perception which emerged from the findings was the need to avoid reliance on a single approach, with the McCabe-ICAI surveys preferably being used in conjunction with other instruments and as part of a wider process.

The interviews revealed a perception that academic integrity is a community-wide concern within Irish higher education institutions, with several participants explicitly pointing out that it was not simply an issue for students. Participants pointed to the need for a broadly based, holistic understanding of academic integrity, emphasising how previously academic integrity had been narrowly conceptualised around plagiarism. The level of knowledge and familiarity with academic integrity policies at institutional level varied widely and was related to the role and grade of the interviewee.

Overall the interviewees indicated that they found the McCabe-ICAI survey a valuable resource in informing academic staff and students in relation to academic integrity and addressing the increasing challenges presented by technological change, while cautioning against over-reliance on a single instrument or indeed purely on surveys. The findings also indicated that participants were concerned to avoid an authoritarian approach to academic integrity at all levels, instead using the McCabe-ICAI survey in a wider academic context informed by research and evolving good practice.

In the focus groups, there was broad support among academic staff for using the survey on the basis that it would encourage more systematic engagement with academic integrity, and that it was perhaps most useful as an individual educational exercise in addition to providing institutions with greater information about academic and student practices. Due to the size of this focus group, and the fact that students were not a primary focus of this research project, the findings in this respect are limited. From this initial conversation, however, we can see that if there is to be further engagement with the McCabe-ICAI surveys, there is urgent need for significant engagement with the student perspective. Indeed, a key finding from the focus groups is the need to develop mechanisms for more significant engagement with the student perspective on academic integrity as policies continue to evolve.

A further point identified from the student perspective here is that the group had recourse to specific examples to tease out the implications of different approaches to academic integrity. That can be connected with some of the ‘pedagogical’ observations made in the semi-structured interviews, in that if the goal of work in the space of academic integrity is to generate understanding on the part of students, perhaps focus groups or facilitated group discussions might be a more appropriate route to take, instead of the individual and individualising completion of online surveys in isolation.

Finally, with respect to specific issues such as collaboration, both staff and students in the focus groups noted that collaboration needed to be carefully considered and discussed so that the implementation of academic integrity policies does not have an unintentionally restrictive or reductionist impact on creative pedagogical practice or peer feedback among students. This is a pedagogical concern for all those in higher education, and any discussion of such an issue needs to ensure the pedagogical framing is not eclipsed by a focus on negative aspects such as breaches of academic integrity.

CONCLUSIONS AND IMPLICATIONS

There is a need for a graduated, holistic approach to addressing challenges associated with academic integrity and to framing effective evidence-based policies rather than ‘knee jerk’ responses such as reverting to examinations across the board or adopting a narrowly punitive approach to students. Many of the research findings reflected issues and concerns raised in the increasingly extensive literature on academic integrity. Participants were in tune with a concern highlighted in the literature that ‘legalisms have overtaken forgiveness’, expressing wariness of one-sided or punitive approaches which associated misconduct primarily with students. The tensions identified in elements of the literature between individual academic and institutional responses to potential academic misconduct, with the latter being more likely to be more punitive or at least formalistic, was also notable in the findings. As such, policies on academic integrity in Ireland should continue to be holistic, broadly based, drawing on the experience and professional judgment of academics, in order to achieve educational aims rather than applying punishments or to institutionally ‘manage risks’.

Knowledge of academic integrity at a conceptual level, and particularly engagement with academic integrity policies, is variable within higher education. There is a need, then, to engage with those who are expected to implement academic integrity policies on their own terms, for instance with an eye to disciplinary and programme specifics. In addition, policy development in this area should continue to be evidence-based and maintain a focus on professional judgement by teaching staff.

The McCabe-ICAI surveys could be useful in an Irish context, although tailoring of questions and focus would be necessary. What is culturally specific to Irish higher education must be addressed – this goes for all aspects of academic integrity. If these surveys are to be used more widely, it should be in conjunction with other approaches (such as focus groups, workshops, pedagogical interventions etc.). In terms of how the surveys can be used, this does not just relate to understanding more about student and staff attitudes, or to students and staff developing their own self-understanding in this space. As well as this, in HEIs and for those involved in academic integrity, these surveys support the argument for resources to be made available on the basis of the data generated by the surveys. Extending this to the national level, having a sectorally mandated instrument, would also potentially help a group of institutions, such as Irish HEIs, to argue for a much-needed increase in resources, as well as signalling the quality of the teaching and research being undertaken in Irish higher education.

It is important to maintain a focus on the pedagogical and restorative dimensions of academic integrity. Academic integrity cannot be reduced to policies and processes. It is a key issue in teaching and learning and must be addressed in an open and systematic way, while avoiding the pitfalls of reverting to ‘one size fits all’ approaches, which may be tried and tested but may sideline valuable innovations in teaching and learning.

Further research on this important field should include a more systematic exploration of student and staff perspectives. Evolving policy development should incorporate staff and student voices as an integral part of policy formation and implementation, so as to facilitate a culture which values academic integrity and critical dialogue around policy and procedures in this area.



Jay DeFeo

MANUEL NERI

Maya Lin Boundaries

At World Paris to New York

5. PROF-ASSESS: A PROGRAMME-BASED APPROACH TO BUILDING AUTHENTICITY INTO ASSESSMENT AND FEEDBACK PROCESSES THROUGH CONSULTATION WITH PROFESSIONAL, STATUTORY AND REGULATORY BODIES

Lead researchers: Dr Derek Dodd, Dr Jen Harvey, Nicole O'Neill

Institution: Technological University Dublin

Full project report: [Prof-ASSESS: A programme-based approach to building authenticity into assessment and feedback processes through consultation with Professional, Statutory and Regulatory Bodies](#)

OBJECTIVES OF THE PROJECT

Working in consultation with Professional Statutory and Regulatory Bodies (PSRBs), academic teams, and students, the Prof-ASSESS project aimed to develop a sustainable approach to embedding authenticity in assessment practices, with a particular emphasis on programme-focused assessment. The project aims were:

- To build upon institutional collaborative relationships with PSRBs in the design of authentic assessments to increase validity, relevance and perceived usefulness of authentic assessment methods in different learning contexts
- To develop a programme-focused approach, aligned to TU Dublin's Quality Framework and Authentic Assessment Framework, to support individual/group design of coherent authentic assessment strategies designed to enable graduates to achieve desired programme learning outcomes
- To create a TU Dublin authentic assessment toolkit, aligned to a CPD framework for staff, and aligned to the development and recognition of graduate attributes for our students through the award of 'professional learning' badges.

RESEARCH TEAM

The Research team at TU Dublin was led by Dr Jen Harvey (Assistant Head of Academic Affairs – Learning, Teaching and Assessment) and supported by Nicole O'Neill (Education Innovation Manager), Dr Derek Dodd (Academic Developer) and Rachel Harding (Research Assistant, June – Dec 2023).

The team was supported by a Steering Group, chaired by Professor Brian Bowe (Head of Academic Affairs) comprising Professor Siobhan Daly (Head of School of Physics, Clinical and Optometric Sciences) Dr Pat O'Connor (Head of School of Social Sciences, Law and Education), Prof Sally Brown (Emeritus Professor at Leeds Beckett University) and James Lonergan (Director of Education & CPD, Society for Chartered Surveyors in Ireland).

CONTEXT

The project built upon earlier work conducted as part of the HEA-funded 'IMPACT' project: 'Operation Authentic Assessment Transformation'. This initiative adopted a twin-track approach to supporting lecturers to innovate and transform their assessment practices through the establishment of a 'Scholars and Supporters' bursary and mentorship scheme, and a university 'Authentic Assessment Community of Practice (CoP)'. Under the scheme, individual instructors ('scholars') and more experienced academic colleagues ('supporters') could apply for small bursaries to participate in a peer practice-exchange and mentorship programme aimed at developing more authentic assessments in their modules. This culminated in the development of eight assessment redesign case studies that would inform, alongside contributions from our CoP, a set of institutional guidelines, principles, and best practice recommendations for authentic assessment across the university (our 'Authentic Assessment Framework'). The initial idea for developing a suite of resources that might support programmed-focused approaches to assessment, co-created with PSRBs and learners, emerged from discussions between the stakeholders in this initiative.

Prof-ASSESS brought together TU Dublin programme teams in the disciplines of architecture, control engineering, optometry, and law with their respective PSRBs. Participating programmes and professional bodies included:

Programme Team	Programme Lead	PSRB
Bachelor of Architecture	Dr Emma Geoghegan	Royal Institute of the Architects of Ireland (RIAI) Ghinlon Wang
Bachelor of Science in Optometry	Declan Hovenden	CORU Marion Christiansen and Claire O'Cleary
Bachelor of Engineering Technology in Electrical and Control Engineering	Dr Catherine Deegan	Engineers Ireland Darren McCarty
Bachelor of Laws	Dr Deirdre McGowan	King's Inns Dr Eimear Browne and Marcella Higgins

PROJECT METHODOLOGY

The project adopted an ‘appreciative inquiry’ approach, with the team working collaboratively with participating programmes to identify and build on strengths in existing assessment practices and stakeholder engagement across TU Dublin. The objective was to develop a collection of resources and guiding principles for developing authentic assessment that reflected the diverse perspectives, pedagogical traditions, and innovative assessment practices of our institution’s constituent disciplinary communities. The three initial programme teams chosen for the project were identified as overseeing programmes with a strong practical, work-related, and innovatively authentic tradition of assessment. By focusing on these programmes, all of which are professionally accredited, it was hoped that the learnings from the staff experience of implementing innovative assessments could inform the development of a framework and resources that would support other academic teams to enhance the level of authenticity in their programmes. Latterly, a fourth programme, TU Dublin’s Bachelor of Laws (LLB), was included with the study as their programme team, together with their accreditation body and PSRB (King’s Inns), self-identified as having strong potential to enhance the authentic and innovative assessment practice in their degree.

Our inquiry focused on a series of interactive, face-to-face consultative workshops in which project participants came together to develop and ‘road-test’ resources that would eventually make up our authentic assessment ‘toolkit’. Preparation for these workshops was informed by a literature review undertaken by the project team, informed by seminal works and input from authentic assessment experts including Professors Sally Brown, Kay Sambell, and Lydia Arnold. A ‘literature lexicon’ which provides plain English explanations of ten key authentic assessment terms and links to key sources, and which offers a glossary for our four-dimensional authentic assessment framework, can be found [on our site here](#). This is not intended as an academic review, but as a supportive resource that can be easily understood by any member of our broader teaching and learning community.

The first workshop, which took place on April 20th, brought together our partners from QQI, TU Dublin Academic Affairs, Engineers Ireland, RIAI, CORU, and three participating TU Dublin programmes: the BEngTech in Electrical and Control Engineering, BArch Architecture, and BSc Optometry. Participants engaged in a lively morning of exploratory discussion about our understandings of ‘authenticity’ in assessment, graduate outputs and key competencies, existing assessment approaches on our participating programmes, and authentic assessment task design. This workshop provided professional bodies and academic programme teams with an invaluable opportunity to develop a shared understanding of “What Authenticity Means to Them” and how it can be used to support the development of professional competencies and graduate attributes. It also provided an opportunity for programme teams and PRSBs to develop a shared understanding of the language of assessment. This workshop informed the development of the TU Dublin Authentic Assessment Definition and Framework ([available here](#)) which can be used by programme teams to consider the indicators of authenticity in their programme.

A supporting Authentic Assessment Masterclass was held on May 11th, in which the project hosted Professors Sally Brown and Kay Sambell for a lively and well-attended

session by both members of the programme teams in the project, members of the Community of Practice and other academic staff with an interest in authentic assessment. This masterclass provided invaluable opportunities for staff to discuss examples of different forms of assessment and how their authenticity can be enhanced to improve student engagement and learning.

On Tuesday the 12th of September, the second workshop of the Prof-ASSESS Project at TU Dublin was held. This workshop was attended by the Heads of School/Discipline and faculty members from the Schools of Architecture, Building and Environment, Physics, Clinical and Optometric Sciences, and Electrical and Electronic Engineering. At this workshop attendees engaged with the draft Authentic Assessment Definition and Framework to enhance our shared understanding of authentic assessment, and to provide input to help the project team refine the next iteration of these resources. Participants also tested an Authentic ‘Radar Diagram’ activity as a means to quickly determine the level of authenticity of specific assessments within a programme and explore opportunities for their development.

After this workshop, the research team worked with the programme teams to consider the level of authenticity in assessments across their programmes, to consider where changes could be made to their programme assessment strategies to aid authenticity, and to gather further input on project resources aimed at supporting academic teams in evaluating and enhancing authenticity in their program-level approaches to assessment. These resources included an ‘Assessment Authenticity Checklist’, Authenticity ‘Rubrics’ and a Programme Mapping tool. The team also reached out to develop a broad selection of Authentic Assessment Exemplars to be included in our toolkit.

Resulting from this work, the project team developed a suite of collaborative workshops for teams to develop authenticity in their programme assessment strategies: a three hour or half/day ‘design sprint’ and a shorter, 90-minute ‘lightning decision jam’. Each of these resources, which have been added to the toolkit as reusable slide-decks but will also be offered as facilitated workshops for TU Dublin programme teams, is intended to provide opportunities for programme teams to engage in structured brainstorming and rapid problem-solving activities related to authenticity in programme-focused assessment. In December 2023, the longer ‘design sprint’ model was tested with a diverse audience of academic staff and teaching and learning experts, with the audience broken into year groups for a notional academic programme and charged with developing authentic assessment prototypes that aligned with identified core competencies and were appropriate for their respective stage. The outcome of this workshop was an open educational resource, in the form of a slide-deck and supporting materials, that can be used by any programme team to develop authenticity in their course offerings. This slide-deck, and the shorter ‘lightning decision jam’, are core components of our toolkit. The shorter ‘lightning decision jam’ model was tested on Friday, 04 November 2024 by teams involved in the revalidation of digital marketing programme in TU Dublin’s School of Business.

In January 2024, authenticity was a key theme in the ‘Showcase for Learning and Teaching’ supported by Prof-ASSESS, which featured the keynote presentation ‘Authentic

Assessment Unpacked’ in which Professor Lydia Arnold explored and challenged the concept of authentic assessment, identified key benefits and challenges, and offered a set of strategies for ‘nudging’ our assessment practices to ‘become more authentic’.

In February 2024, the Bachelor of Laws (LLB) programme team joined the research project, and workshops were provided for the programme team and their professional body using tasks and activities refined from earlier workshops.

In May 2024, semi-structured interviews were recorded with authentic assessment experts, academic programme leads, and PSRB representatives on the topics of understanding and operationalising authentic assessment and partnering on assessment strategy between programme teams and professional bodies. These recordings have been used to create a three-part podcast miniseries on authentic assessment that is included in our toolkit output.

PROJECT FINDINGS/OUTPUTS

The inquiry undertaken for this project highlighted the importance of dialogue between academics, employers and PSRBs to develop a shared understanding of the different ways professional competencies can be developed within a programme and validly assessed.

The study highlighted that a singular assessment cannot address all the professional competency and authenticity requirements of a programme and demonstrated the importance of taking a programmatic approach to assessment, so that skills and student self-efficacy can be scaffolded across a programme using a balanced and integrated assessment strategy.

Through a process of appreciative enquiry, it was demonstrated that a range of alternative and creative approaches to assessment, that enhance student learning, have already been adopted across our university’s programmes, but that there is a need for structured opportunities, and supportive resources, for academic teams to convene and collaborate on programme-focused approaches to authentic assessment, with input from their respective PSRBs.

The main outputs developed from this project are:

- An agreed TU Definition of Authentic Assessment
- An Authentic Assessment Framework
- An Authentic Assessment Toolkit
- The development of an Authentic Assessment Digital Badge

The Authentic Assessment Toolkit is both a printed booklet and a website resource and it includes:

- Tips on Why more authenticity could be introduced into assessment.
- Workshop tasks that can be used by individuals and programme teams to support increased authenticity of assessment as a continuum across programmes.
- Examples and exemplars of authentic assessment.
- An authentic assessment rubric.
- An authentic assessment checklist.
- Tips on how to take small steps to enhance authenticity.
- A podcast series, which includes a PSRB consultation guide.
- Taking a programmatic approach to developing a continuum of authenticity across a programme, including a programme mapping tool.

The Authentic Assessor Digital Badge utilises the resources developed for the Toolkit to support academic staff to develop their authentic assessment practices. On completion of this Badge, participants will be able to:

- Review a current module for assessment design against the Authentic Assessment Framework
- Discuss different ways to enhance authenticity in assessment processes
- Identify appropriate interventions to improve authenticity in different assessment tasks
- Critically explore strategies to enhance authenticity in their assessment practices
- Justify, through a process of reflection, proposed changes in the assessment of a current module to achieve appropriate authentic assessment.

Outputs from this research were reported at the International Technology, Education and Development Conference in March 2024, The AHE Network Conference, Manchester, (June 2024) and at the Advance HE Assessment and Feedback Symposium on 05 November 2024.

CONCLUSIONS AND IMPLICATIONS

There was shared agreement between academics and PSRBs in this study that it is important to develop professional and transversal skills and competencies, such as communication skills, problem solving, and critical thinking as well as core discipline specific skills. There was also a shared agreement that traditional, time-based written closed book examinations are not always the most appropriate method to develop these skills and that a range of authentic assessment practices needs to be included across a programme to develop these required skills.

There was a strong preference amongst the project's participants for a more holistic understanding of authenticity that is not restricted to preparing learners for specific professional contexts and employability but takes account of the need to ensure that assessments benefit learners individually by preparing them to become resilient, life-long learners who can achieve success in a range of different working and learning contexts in their lives (hence the adoption of the term 'lifewide learning' in our authentic assessment framework).

Whilst there was strong agreement that authentic assessment supports student engagement and development of the personal skills required to become proficient life-wide learners, there were several barriers to further adoption of authentic assessment practices which include:

- Time constraints and perceptions of increased workload when introducing new practices
- Concerns related to academic Integrity and the perception that invigilated examinations are the only way to ensure that the student is producing their own work without assistance
- Perceptions that PSRBs require a high focus on invigilated closed book examinations
- Perceptions that quality assurance processes do not facilitate the changing of assessment types
- The perception that there is an ease of administration around the traditional examination process as opposed to assessments, which need to be scheduled and spread out across a programme

Further work is required to dispel these perceptions and to provide further evidence of the positive impact of authentic assessment on student learning and engagement, thereby encouraging more programme teams to engage further in authentic assessment practices and share their experiences of its impact on student learning and achievement.

KEY REFERENCES

- Ajjawi, R., Tai, J. Dollinger, M., Dawson, P., Boud, D. & Bearman, M. (2024) From authentic assessment to authenticity in assessment: broadening perspectives, *Assessment & Evaluation in Higher Education*, 49:4, 499-510, DOI: 10.1080/02602938.2023.2271193
- Ashford-Rowe, K., Herrington, J., & Brown, C. 2014. "Establishing the critical elements that determine authentic assessment". *Assessment & Evaluation in Higher Education* 39 (2): 205-222. doi: 10.1080/02602938.2013.819566.
- Bosco, A., and S. Ferns. 2014. "Embedding of Authentic Assessment in Work-Integrated Learning Curriculum." *Asia Pacific Journal of Cooperative Education* 15 (4): 281–290.

- Brown, S. and Sambell, K. (2022) Designing Authentic Assessment. A Maynooth University 'Assess for Success' Guide. Maynooth: Maynooth University.
- Gulikers, J., Bastiaens, T. & Kirschner, P. 2004. "A five-dimensional framework for authentic assessment". Educational Technology Research and Development" 52 (3): 67-85. doi: 10.1007/BF02504676
- Herrington, J., T. C. Reeves, and R. Oliver. 2006. "Authentic Tasks Online: A Synergy among Learner, Task, and Technology." Distance Education 27 (2): 233–247. doi:10.1080/01587910600789639.
- National Forum for the Enhancement of Teaching and Learning in Higher Education (2017) Authentic Assessment in Irish Higher Education. Dublin: National Forum. Available at: <https://hub.teachingandlearning.ie/wp-content/uploads/2021/06/NF-2017-Authentic-Assessment-in-Irish-Higher-Education.pdf>
- Nieminen, J. H., M. Bearman, and R. Ajjaw. 2023. "Designing the Digital in Authentic Assessment: Is It Fit for Purpose?" Assessment & Evaluation in Higher Education 48 (4): 529–543. doi:10.1080/02602938.2022.2089627
- McArthur, J. 2023. "Rethinking Authentic Assessment: Work, Well-Being, and Society." Higher Education 85 (1): 85–101. doi:10.1007/s10734-022-00822-y.
- Mueller, J. (2011). Authentic assessment toolbox. North Central College, Naperville, IL. Available at: <https://jonfmueller.com/toolbox/>
- Swaffield, S. (2011) Getting to the heart of authentic Assessment for Learning, Assessment in Education: Principles, Policy & Practice, 18:4, 433-449.
- Villarroel, V., D. Boud, S. Bloxham, D. Bruna, and C. Bruna. 2019. "using Principles of Authentic Assessment to Redesign Written Examinations and Tests." Innovations in Education and Teaching International 57 (1): 1–12. doi:10.1080/14703297.2018.1564882.
- Wiggins, G. 1990. "The case for authentic assessment". Practical Assessment, Research & Evaluation 2 (2): 28-37.



6. TO INVESTIGATE THE USE OF TECHNOLOGY- ENHANCED SIMULATION AS AN INTEGRATIVE AUTHENTIC ASSESSMENT APPROACH ON A BLENDED LEARNING PROFESSIONAL PROGRAMME

Lead researchers: Dr Mary Kelly, Dr Elva Casey, Dr John Meegan

Institution: Hibernia College

Full project report: [To investigate the use of technology-enhanced simulation as an integrative authentic assessment approach on a blended learning professional programme](#)

OBJECTIVES OF THE PROJECT

The overall objective of this project was to design and develop an authentic integrative virtual scenario-based learning environment to support the assessment of programme learning outcomes on a Professional Master of Education Primary (PMEP) programme. More specifically the key objectives were to:

- Design an authentic integrative virtual scenario-based learning environment to support the assessment of programme learning outcomes.
- Implement and test an authentic virtual scenario-based learning environment.
- Explore students' experiences of using an authentic virtual scenario-based learning environment.
- Evaluate the coherence, validity, reliability and efficiency of a virtual scenario-based learning environment assessment tool to provide authentic assessment experiences.
- Specifically, and transparently, address the assessment of MIPLOs often confined to work placement experiences.

RESEARCH TEAM

- Dr Mary Kelly, Academic Dean, Hibernia College
- Patricia Nunan, Programme Director, Post-primary, Hibernia College
- Dr John Meegan, Froebel Department of Primary and Early Childhood Education, Maynooth University
- Dr Elva Casey, Froebel Department of Primary and Early Childhood Education, Maynooth University
- Fran McKeagney, Head of Digital Learning, Hibernia College

CONTEXT

Hibernia College was founded in 2000 to meet the growing demand for flexible, lifelong learning that would not be restricted by location or time. The College is driven by a passion to provide equal education opportunities to students who have been excluded from various programmes or professions previously. It does this by delivering technology-enhanced and flexible programmes that are built around an e-learning model and prepare students for today's complex professional roles. This research has been conducted in the context of the Professional Master of Education (PME) Primary programme and more specifically on the school placement modules.

School Placement is the mode of Work Integrated Learning in programmes of Initial Teacher Education (ITE). It addresses the basic need for student teachers (STs) to experience professional practice in the classroom context prior to graduating. It also provides STs with opportunities to apply the pedagogical knowledge and theoretical underpinnings gained during their period of study in practice. It functions as a strategy to bridge the gap between transitioning from the role of a student to that of a practising teacher. However, it is also fundamentally a mode of assessment, providing assurances that graduates have met the required professional standards to teach in Ireland. Such placements can be times of increased learner workload and stress, where wellbeing can be negatively impacted. Therefore, educators are turning to scenario-based learning (SBL) to provide safe, reproducible, and authentic work experiences to reduce adverse work-placement experiences.

The need to prepare STs for the challenges of complex modern classrooms prior to the assessed and high-pressure environment of School Placement (SP) was a motivating factor in this project. Focus groups conducted with PME STs revealed that assessment pressure hampers risk-taking and innovative performance on SP. Formative assessment helps to guide students in the learning process and can improve learning outcomes (Bennett, 2011). Timely feedback is integral to formative assessment (Hattie & Timperley, 2007). Although an authentic form of assessment, the fact that performance on SP significantly impacts academic achievement impedes its ability to function as a formative experience. While Shulman (1986) speaks to the challenges of developing knowledge for teaching and learning, the authors question the use of SP for this purpose. The authors propose virtual scenario-based learning (VSBL) as a facility for enabling authenticity by mirroring the classroom experience and the types of scenarios and decisions teachers can be faced with, prior to sending students into a real school environment, thus promoting self-efficacy.

PROJECT METHODOLOGY

A case study research methodology and design was chosen for its suitability to investigate a case in a real-life and contemporary setting based on the exploration of human experiences, dilemmas and the meanings ascribed to them (Creswell, 2015). This research was undertaken primarily from an 'insider' perspective (Merton, 1972) in

that the researchers had a clear and stated interest in developing the potential of Virtual Sites of Practice (VSoP) to enhance authentic and integrative assessment approaches.

Upon receipt of ethical approval from the host institution (Hibernia College) in March 2023, an Educational Design Research (EDR) methodology (McKenny & Reeves, 2019) was utilised for its suitability and applicability to this research project. In the last quarter century, there has been a growing recognition of the significance of Design-Based Research (DBR) and related practitioner-focused research methods, such as Educational Design Research (EDR) (Hall, 2020). These approaches have increasingly gained recognition as effective means of investigating how we can enhance the beneficial effects of digital technologies in the field of education. This EDR approach was used as it entails a collaboration between stakeholders (e.g., researchers, pre-service students, co-operating teachers, school placement tutors, and learning designers) to simultaneously develop both new theoretical insights and practical solutions to serious teaching and learning challenges (McKenney & Reeves, 2018). The research project comprised one iteration of the EDR process: analysis and exploration, design and construction, and evaluation and reflection. For data collection and analysis, an exploratory sequential mixed methods approach (Creswell & Creswell, 2018) was utilised, where the collection and analysis of qualitative data was followed by a development phase where qualitative findings were translated into a tool that was tested quantitatively. This meant that the tool was grounded in the views of participants and emphasised exploration before the design and construction phase. Non-probability convenience self-selection sampling was employed for selecting participants (n=22) with the onus on the P MEP Spring 2023 cohort. Participants were selected based on availability and willingness to take part. The data generation comprised a series of focus groups with STs (n=17) and semi-structured Interviews with School Placement Tutors (n=5).

As a further facilitator of validity, a STAR framework was utilised to frame the research process. This ensured a consistent but flexible approach to the research. The framework values were:

- **Scenario-based** to improve professional sense of self-efficacy.
- **Technology-enhanced** to improve engagement, authenticity/lifelikeness, and make it easy to access, use and scale.
- **Authentic** assessment of programme learning outcomes.
- **Reflective** practice to support teacher/professional identity.

In designing an effective VSBL simulation for STs, a key factor was to create opportunities for active participation in teaching activities, such as delivering aspects of a lesson, leading discussions with pupils, or facilitating group activities that simulate SP settings (Bandura, 1997). Other considerations included providing STs with realistic challenges which would require them to make complex decisions about classroom management and teaching and learning, mirroring those experienced on SP. Therefore, simulations were designed to be set in an overall school and class environment, where the ST was tasked with making a series of pedagogical, classroom management and Universal Design for Learning (UDL) - informed decisions, with a particular emphasis on

classroom management. The pilot lesson was built using Articulate Storyline and Vyond for video content, both of which facilitated interactive design. The development of the content included ensuring that the teacher avatars represented diversity in gender and ethnicity, that the pupils in the classroom also reflected diversity and that the classroom environment was representative of a modern primary classroom in the use of colour, space, displays and seating arrangements.

PROJECT FINDINGS/OUTPUTS

The project yielded several key findings:

1. **Enhanced Self-Efficacy:** Feedback from STs indicated that the tool significantly improved their sense of self-efficacy in handling classroom situations. The ability to practise in a low-stakes environment helped them feel more prepared for the pressures of school placement.
2. **Authentic Assessment:** The VSBL tool provided an innovative approach to authentic assessment by simulating real-world teaching environments. It allowed for formative feedback, which is often lacking in high-stakes summative assessments like SP. This aligns with the broader QQI Re-Thinking Assessment initiative, offering a scalable solution for professional programmes that require WIL.
3. **VSBL Simulation Tool:** The development of an interactive VSBL tool that allows STs to practise classroom management and pedagogical decision-making in a virtual environment. The tool includes branching scenarios that mirror real-life teaching challenges and offers feedback to guide student learning.
4. **Scalability and Adaptability:** The project demonstrated that VSBL tools can be adapted for use across different professional programmes. The branching decision-making structure allows for the assessment of programme learning outcomes (MIPOs) in a consistent manner, addressing common challenges in WIL settings.
5. **Stakeholder Involvement:** The involvement of STs and Supervised Practice Teachers (SPTs) in the design and evaluation process was a key strength of the project. Their feedback ensured that the tool was both realistic and pedagogically sound, enhancing its relevance and effectiveness.
6. **The pilot VSBL Math lesson** was shared with STs through a Focus Group and with Academic Faculty for reflection, evaluation and review. It was also disseminated through the wider academic community through presentations at international conferences (Eden in Graz (2024) and BERA in Manchester (2024)). Journal articles will follow as a final stage in the dissemination.
7. **Publications and Conferences:** The project's findings were disseminated through international conferences (EDEN, 2024, BERA, 2024 and EADTU, 2024) and will be further shared through journal publications, facilitating knowledge sharing within the higher education community.

CONCLUSIONS AND IMPLICATIONS

As a response to the growing demands for authentic and formative assessment in education, the VSBL project was recognised as reflecting a forward-thinking approach that integrates virtual technology to simulate real-world professional scenarios. The use of a low-stakes environment where STs could develop crucial skills before their first school-based experience was considered of significant benefit. The potential for this type of VSBL to counteract some of the overwhelming pressure of summative assessment in a real-world setting, which often impedes risk-taking and innovative teaching, was recognised as another benefit of the project.

The project's methodology, a Design-Based Research approach, was experienced as highly suitable for this type of exploratory work. The integration of the multi-ontological STAR framework—Scenario-based, Technology-enhanced, Authentic assessment, and Reflective practice—provided a solid pedagogical and theoretical foundation for the research. This framework ensured that the simulations were designed with pedagogical integrity while also being adaptable to various professional contexts.

One of the significant strengths of the project was the use of feedback from key stakeholders, including STs and School Placement Tutors (SPTs). By involving these groups in the design and evaluation of the VSBL tool, the research team was able to refine the scenarios and simulations to better meet the needs of pre-service teachers. For example, the inclusion of sound effects to mirror a busy classroom and the focus on classroom management issues were informed by feedback from focus groups. These adjustments enhanced the realism and relevance of the simulation, thereby improving its effectiveness as a formative assessment tool.

By simulating classroom environments where STs are required to make pedagogical and classroom management decisions, the VSBL tool directly addressed the areas where STs often struggle during SP. This simulation offered a low-cost, scalable solution that can be adapted for use in other professional education programmes. However, there are challenges inherent in the implementation of VSBLs, particularly in ensuring critical reflection and overcoming the limitations of virtual environments.

In conclusion, the project successfully demonstrates the potential of technology-enhanced simulations in providing authentic assessment experiences that are both formative and supportive. The use of VSBL has the potential to transform professional education by fostering self-efficacy, promoting deep learning, and ensuring consistency in the assessment of work-integrated learning experiences.



7. REAL INTELLIGENT ASSESSMENT TOOLKITS ACROSS NFQ LEVELS

Lead researchers: Dr Etain Kiely and Dr Cormac Quigley

Institution: Atlantic Technological University

Full project report: [REAL Intelligent assessment toolkits across NFQ levels](#)

OBJECTIVES OF THE PROJECT

Bridging the gap in educational assessment: The REAL Initiative

This report introduces the REAL initiative (Relevant, Embedded, Authentic, Learner-focused), an innovative assessment toolkit designed to enhance assessment practices in STEM education. The REAL toolkit is mapped to NFQ competencies and STEM-specific standards, helping educators design assessments that go beyond recall knowledge testing to support the development of skills crucial for today's society.

Why REAL matters for students and educators

The REAL initiative combines traditional and advanced assessment methods, using technology to make learning engaging and effective. It supports repeated practice, critical thinking, practical application, and long-term retention through active learning in real-world contexts. This study provides evidence from ATU (Atlantic Technological University) that demonstrates that such assessments not only deepen engagement and enhance skill mastery but also improve educator understanding of student behaviour and practises.

REAL assessment framework objectives:

- 1. Enhance assessment reliability to uphold academic integrity:** Strengthen assessment precision and reliability by integrating advanced technology and data analytics. REAL enriches Moodle with expanded quiz capabilities and an NFQ-aligned question repository. The user-friendly Question Design Wizard simplifies the creation of complex questions, allowing educators to save time and enhance assessment quality while ensuring academic integrity is upheld throughout the learning process.
- 2. Promote personalised learning:** Align assessments with NFQ complexity levels to cater to individual student competencies, fostering continuous growth across programmes and years. In lab environments, REAL captures authentic data and real-time user input, providing precise, error-specific feedback that encourages hands-on learning, builds confidence, and supports mastery through personalised, feedback-driven experiences that evolve over time.

- 3. Foster continuous learning:** Cultivate a culture of ongoing education and skill acquisition that extends throughout learners' academic journeys. REAL connects assessments to authentic STEM investigations, reinforcing academic integrity and originality while nurturing critical thinking and self-regulation skills. By embedding assessments across various programmes and NFQ levels, students are offered many opportunities for sustained personal and professional development.

RESEARCH TEAM

The REAL project brings together a multidisciplinary team of STEM education and computational experts at Atlantic Technological University Galway, led by Dr. Etain Kiely (Lecturer, Maths) and Dr. Cormac Quigley (Senior Lecturer, Chemistry). The team has been recognised nationally and internationally, winning the International Responsible AI Award from Dataiku (2022) and the National DELTA Award (2022). Otito Mbelu, a recent ATU graduate, applied his computational skills to create an advanced assessment generator while Esteban Moreno (ATU computing services) created the cloud-based architecture. Dr. Muhammad Irshad, a postdoctoral researcher, captured the project's documentation.

Collaborators include national experts Prof. Garrett Greene (UCD), Prof. Nuala Caffrey (UCD), and Prof. Stephen Power (DCU), contributing authentic STEM questions. Internationally, Prof. Dominique Bauer from Montreal's École de Technologie Supérieure contributed expertise in Moodle's Formula Question type.

CONTEXT

Context and application of toolkit

The developed toolkit has been used to engage approximately 350 students across all Atlantic Technological University (ATU) year one science and computing modules. It achieves this using Moodle as a platform for structured, formula-based questions for both formative and summative assessments, including authentic lab-based tasks that foster critical data analysis skills. The development of questions for years two and three was also undertaken in cooperation with other lecturers. The toolkit aligns with NFQ principles by promoting mastery and skill development through targeted assessments.

The question database and development wizard are open source, and available online, and allow for the development of new material for any required context. The database contains examples for all STEM disciplines and NFQ levels. The questions also integrate possibilities for learning analytics looking at different aspects of student behaviour. The toolkit allows educators to provide personalised feedback, emphasising learning from mistakes—a core NFQ competency. This method helps students build perseverance and analytical skills essential for real-world applications.

PROJECT METHODOLOGY

Purpose of the Framework: To provide a structured approach for assessing learners' competencies across various NFQ levels using intelligent assessment methods.

Importance of Competency-based Assessment: This project emphasizes the alignment of assessments with real-world skills and knowledge essential in various STEM and computing fields.

The assessment methodology employs a phased approach—Mapping & Consultation, Development, Evaluation, and Dissemination—guided by internationally recognised frameworks, including the Assessment Design Decisions Framework. Similar to the National Framework of Qualifications (NFQ), this method prioritises stakeholder input, iterative design, and transparent dissemination to enhance educational effectiveness.

By incorporating continuous feedback, the methodology supports accurate outcome measurement and helps learners develop self-assessment skills critical for long-term retention and growth. Using case studies in chemistry and mathematics, it evaluates the impact of advanced assessments on improving educational outcomes.

Phase 1: Mapping and consultation

The project team began by outlining NFQ competencies using the ATU-generated module manager tool. This phase involved mapping the competencies for two case studies - a chemistry module in a Year-1 common science program (approx. 230 students) and a Year-1 mathematics computing programme (approx. 120 students) at ATU. Collaborating with academic staff locally and internationally, the team identified essential competencies for students at each level, focusing on both theoretical and practical skills. In mathematics, these competencies included advanced problem-solving and statistical analysis while in chemistry, they covered laboratory skills and data interpretation.

Phase 2: Assessment Wizard Toolkit development

A key contribution to this project was the development by Orito Mbelu of a streamlined assessment wizard aligned with educational standards. This user-friendly tool allows educators to create structured, multi-step question templates with a guided interface built in Angular. The backend, implemented in Spring Boot, organises data by NFQ levels for easy retrieval.

Assessment Wizard Tool weblinks

[Moodle Question Wrapper](#)

[How to videos: Youtube link](#)

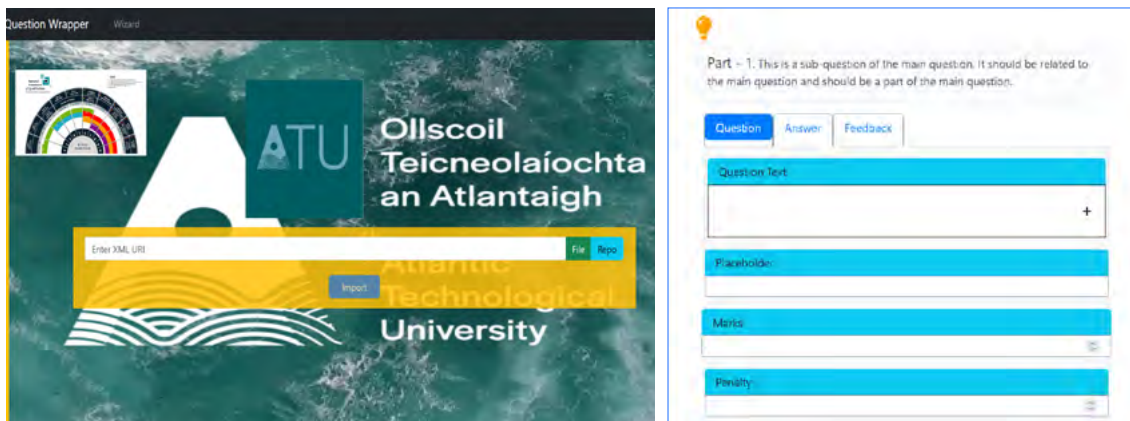


Figure 1 The landing page for the question database (left) and the question development wizard (right)

Phase 3: Evaluation

To analyse the effectiveness of STEM REAL (Relevant, Embedded, Authentic, Learner-focused) questions, the project examined how these questions relate to real-world applications and enhance student engagement. Key research questions include:

RQ1: How can student lab data from formula-based questions provide insights into learner behaviour and support skill development in lab settings?

RQ2: How do mathematics-mastery expectations, feedback, and advanced question types influence learner engagement, cognitive function, behaviour, and measures of academic success?

Phase 4: Dissemination

The project disseminates the findings and outputs through academic publications and a user-friendly cloud-based assessment toolkit designed to foster accessibility and collaboration within the learning community. The innovative wizard toolkit features an interactive, step-by-step process for crafting questions, complete with engaging instructional videos to guide users through each step. The question repository is filtered by STEM standards and aligned with the National Framework of Qualifications (NFQ), ensuring relevance and quality.

The REAL initiative goes beyond simply identifying challenges in assessment; it actively highlights opportunities for improvement. By leveraging insights from two compelling

case studies in chemistry and maths, the project aims to address critical issues surrounding academic integrity, relevance, and the need for practice with constructive feedback. The study seeks to provide evidence and illuminate key implications for advanced intelligent assessment strategies, ultimately empowering educators and enhancing student learning experiences.

PROJECT FINDINGS/OUTPUTS

Case Study: Chemistry

Phase-one of the REAL project explored how formula-based questions in chemistry could enhance assessment practices aligned with NFQ standards. This study focused on questions assessing outcomes relating to the NFQ's Know-How & Skill Range and Competence-Context strands, particularly appropriate for Year-1 science learners. Competence-Context at NFQ Level 6 requires evaluating students' abilities to follow documented procedures and process technical information. By integrating student lab work into their Virtual Learning Environment (VLE), this approach provides learners with authentic and valid assessment opportunities.

This method emphasises targeted assessment strategies that cultivate competencies across varying NFQ levels. The case study specifically addresses Research Question 1 (RQ1): How can student lab data from such questions provide insights into student behaviour, support lab skill development, and inform programme enhancement? As shown in Figure 2, students' grades generally decrease as lab experiments increase in complexity, likely due to the higher skill and knowledge demands. This trend suggests that quizzes could effectively help students learn from their mistakes and deepen their understanding of the material, identifying areas needing additional support and improving the lab curriculum.

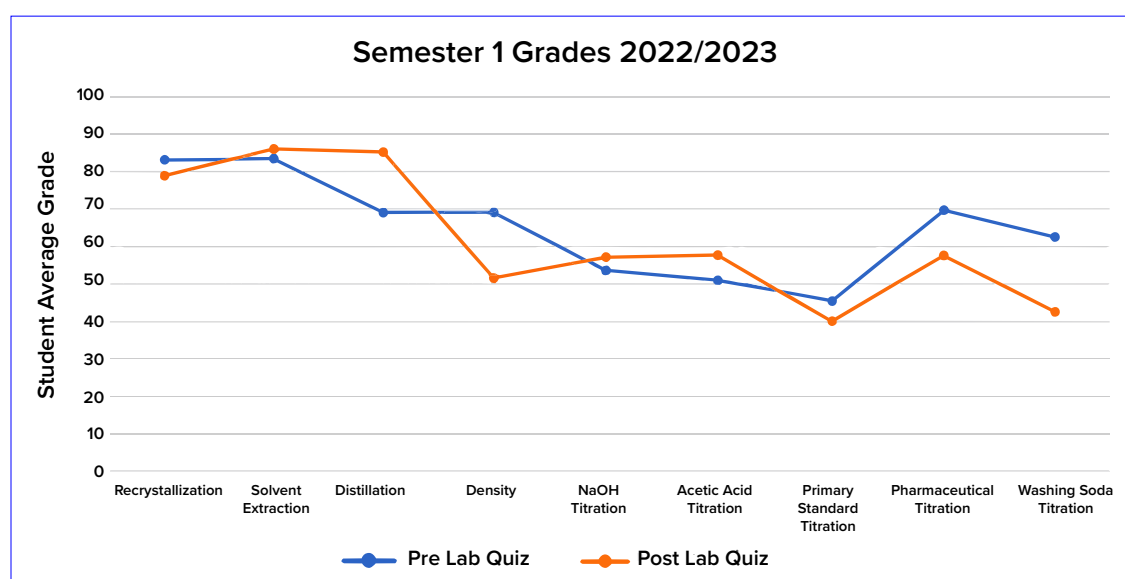


Figure 2. A graph of student grades in quizzes prior to the project

Question 1: NFQ 6, Knowledge Question Type

Basic Skill: Measurement accuracy and precision in the lab

The first question assesses students' basic glassware skills by measuring the accuracy and precision of pipette usage. Students input two calculated values from their lab measurements: one known and one unknown. The example below requires students to provide measurements leading to their calculations, enabling assessment of accuracy.

In another format, shown in Figure 4, students enter only the final value obtained from their practical work.

The screenshot shows a quiz question interface. On the left, a sidebar for 'Question 1' indicates it is 'Not yet answered', 'Marked out of 3.00', and provides links for 'Flag question' and 'Edit question'. The main area contains the following text and input fields:

For this questions you will need your lab book - we are going to check your calculations:

What was the mass of your empty beaker? g

What was the mass of your full beaker? g

What weight of water have you placed in the beaker? g

What was the volume of the water you dispensed using your **pipette**? mL (or cm³)

From above, what was the mass of this water? g

Therefore the density is g.cm⁻³

Remember your density should be to **four** significant figures.

Figure 3. A quiz question requiring data from a practical setting

In the second, shown in Figure 4 the student is simply asked to enter the final value they obtain.

The screenshot shows a quiz question interface for 'Question 2'. The sidebar indicates it is 'Not yet answered' and 'Marked out of 2.00', with links for 'Flag question' and 'Edit question'. The main area contains the following text and input field:

What was the density of the unknown liquid?

Input the value you have calculated based on your own values.

(Your answer is marked on a sliding scale based on how close to the true value your result was.)

g.cm⁻³

Figure 4. A quiz question which requires only a single value from student practical work

Grading Scheme:

Grading Scheme: Two skills-based grading schemes are employed.

- Precision:** The first question evaluates mathematical correctness by checking students' calculations against recorded measurements. Marks are awarded if values fall within the specified error range, with penalties for incorrect significant figures.
- Accuracy:** In the second question, students report an unknown value, graded solely on accuracy. Full marks are given for answers within 0.011 g.cm^{-3} of the correct value, as illustrated in Figure 5, which rewards accuracy, with higher grades given for measurements closer to the true value. A sliding scale is used for higher errors.

Feedback Scheme: Students receive the correct answers based on their input for any errors made, a feature developed during the project.

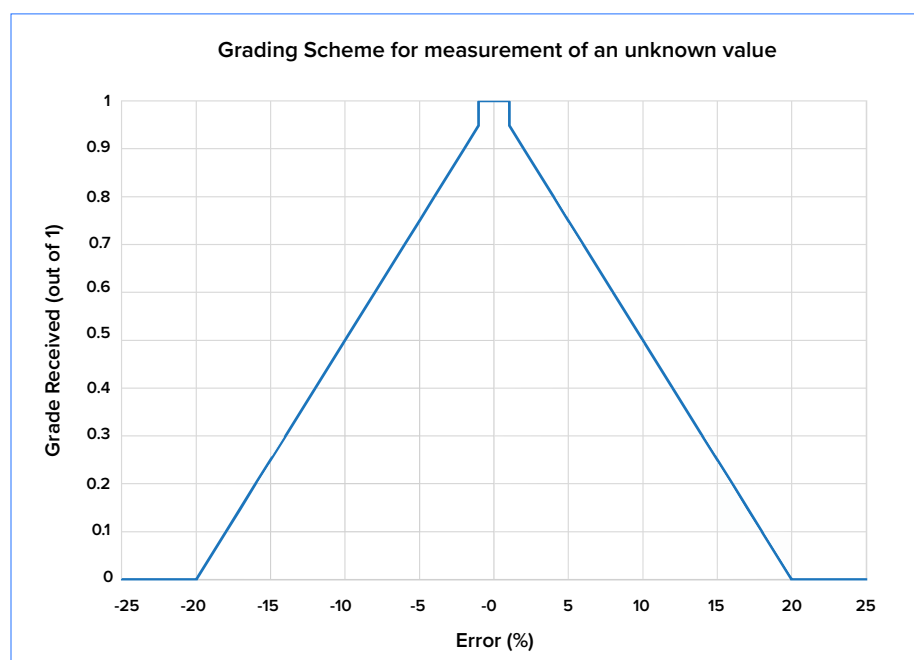


Figure 5. Grading Scheme for measurement of a known value

Analytics: Analysing 274 responses where students are measuring a known value (i.e. the density of water), 42 reported values fall far outside the range of expected values. By evaluating the input values we can see that approximately 20% of students make some error in the calculation or ignore it when inputting their value while 4% of students report the “expected” value of 1 g.cm^{-3} , ignoring their own data. (This obtains no marks based on the marking scheme.)

Practically, looking at the student weights measured, we can see that for correctly measured samples (i.e. those that fall within expected precision of the glassware used), the average value obtained is 0.9945 g.cm^{-3} (95% confidence interval $0.993818 - 0.995184$) which is below the expected 0.998 g.cm^{-3} . This suggests at an overview that

students are not using the glassware to its full precision and are losing material during transfer (perhaps to be expected at this stage).

Both of these insights suggested actionable changes to practice. In the first case, tutorial classes have been changed to allow greater examination of practical calculations (in our case involving a change of timetabling to run the tutorial and lab in sequence where previously they had been scheduled separately). In the second, a greater emphasis on complete transfer during the practical class was added to the instructor notes.

Question 2: NFQ 6, Know How & Skill Range:

Basic Skill: Assesses students' ability to analyse data, perform calculations, use laboratory equipment, and solve problems.

The screenshot shows a digital assessment question titled 'Question 1' with a status of 'Not complete' and a mark value of '5.00'. On the left, there are links for 'Flag question' and 'Edit question'. On the right, a 'Time left 1:1' indicator is visible. The question text is as follows:

What were your three precise titration values?
 mL mL mL

What is the average titre value? mL

Was the liquid you dispensed into the conical flask with the pipette the analyte or the standard?
 If it was the standard, what was its concentration? M

What volume of liquid did you dispense from the pipette? L

What number of moles of HNO_3 were contained in the liquid which you dispensed? mol
 (Remember $M = \text{molarity} = \text{moles per liter}$)

Examining the equation for the reaction of NaOH and HNO_3 , what is the ratio of the reaction between them? :1

Therefore, assuming that the endpoint is when enough Sodium Hydroxide (NaOH) has been added to use up all of the Nitric Acid (HNO_3) but no more, how many moles of NaOH have been added to the flask? mol

Going back to your earlier value for the average titre: mL, what is the average titre in liters? L

Therefore, what is the concentration of your Sodium Hydroxide Solution? M

Figure 6. A question based on input data and calculations

The question in Figure 6 assesses students' ability to analyse data, perform calculations, and use laboratory equipment. After completing a titration, students enter three lab-determined titre values for a post-practical assessment.

Grading Scheme: The grading checks that measured values are within the expected precision (0.1 cm^3) and that students correctly identify used glassware or solutions. A penalty is applied for incorrect significant figures.

Feedback Scheme: Each subpart includes individual feedback. Students receive precision data for inadequate measurements and correct values for calculation errors. Images of relevant lab equipment are shown to clarify the relationship between calculations and practical work.

Analytics: Data collection allows evaluation of precision achievement rates and identification of calculation errors. Notably, 22% of students initially failed to identify

the correct pipette, and 16% did not correctly identify the standard concentration from labels.

Case Study: Maths

RQ2: How do mathematics mastery expectations, feedback, and advanced question types influence learner engagement, cognitive function, behaviour, and measures of academic success?

The learning analytics research team used machine learning models (Ogbuchi, 2023) to explore Virtual Learning Environment (VLE) data, examining the connections between student engagement metrics and academic success. Qualitative data findings consistently reveal that learners value mastery quizzes highly, with these activities driving significant engagement online. High levels of interaction with quizzes are predictive of successful academic outcomes, as shown in Figure 7.

Key Insights:

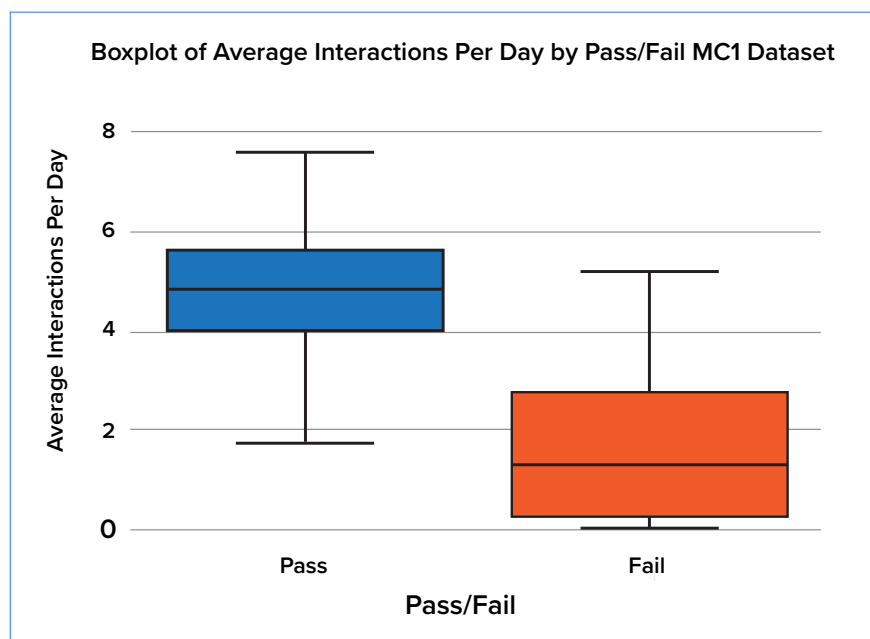


Figure 7. A boxplot showing the importance of online engagement

Engagement patterns: Figure 7 shows students' daily interactions. Those who passed the course interacted with the content between 1,000 and 2,000 times, demonstrating a strong link between consistent engagement and success. In contrast, students who did not pass typically engaged less, falling between 0 and 1,000 interactions.

Moreover, our model was able to predict, based on early data (weeks 5 and 7 of Semester 1), and accurately identify over 70% of students at risk of non-progression. Predictive accuracy continued to improve over time, supporting the use of early intervention quiz metrics to aid student learning. These findings highlight the role of interactive and thoughtfully designed question types in fostering an engaging and successful learning environment.

The research model employs the use of built-in assessment analytics using Moodle's VLE providing educators with valuable insights into question quality and student performance. By leveraging metrics like the *Facility Index* and *Discriminative Efficiency*, educators can evaluate how well individual questions meet educational standards and whether they are appropriately challenging. This functionality helps identify questions that may require revision or improvement, ensuring assessments are both fair and effective. Additionally, this level of analysis supports data-driven instructional decisions, allowing educators to refine question types that drive engagement and improve learning outcomes. By continuously monitoring and adjusting question quality, VLEs can foster a more adaptive learning environment tailored to student needs and aligned with NFQ standards implemented at programme and module level.

CONCLUSIONS AND IMPLICATIONS

The REAL Project exemplifies the transformative potential of innovative assessment practices in enhancing both student learning and curriculum development. By offering a sophisticated assessment standard for measuring student success, the REAL Project uses data to inform and drive the quality of learning experiences. Aligning assessments with the National Framework of Qualifications (NFQ) and integrating real-world scenarios, the REAL toolkit equips students with critical skills essential for thriving in academic and professional environments.

Key contributions

- **Elevated Assessment Experience:** The REAL Project maximizes Moodle's advanced functionality by expanding its quiz capabilities and establishing an open-source repository of NFQ-aligned questions. This enhancement aligns with our objective of **enhancing assessment reliability** providing educators with the resources needed to create engaging, relevant assessments that foster deeper learning.
- **Question Design Wizard:** Our user-friendly Question Design Wizard simplifies the development of sophisticated Moodle questions. This initiative supports our goal of **promoting personalised learning** by allowing educators to create tailored assessments efficiently, saving valuable time while improving assessment quality and relevance.
- **Strategies for Academic Integrity:** Recognizing the importance of academic integrity, the REAL Project links assessments to real-world data and unique scenarios. By promoting originality and authentic learning experiences, we address the challenge of academic dishonesty, thereby supporting the objective of **fostering continuous learning** through assessments that encourage critical thinking and reflection.

Transforming the learning experience

The REAL Project transcends traditional assessment creation; it enriches the entire educational journey. Our focus on relevant learning ensures that assessments align with NFQ competencies, enabling students to develop essential skills and knowledge that prepare them for career success. By empowering educators with data driven insights into effective question and course design, the project creates impactful assessments that resonate with learners. This comprehensive approach enhances the overall educational experience, ensuring that assessments are not only effective but also meaningful.

Future work and direction

As part of ATU's broader learning analytics research initiative, the REAL Project is committed to continuous improvement and innovation. Our future research directions will continue to expand our contributions by

- **Providing Diverse Assessment Formats:** to broaden the assessment offerings by creating a variety of question formats that cater to different learning and competencies, ensuring all students have the opportunity to succeed.
- **Developing AI-Powered Personalisation:** to leverage advanced artificial intelligence models within the REAL framework to design adaptive learning experiences that cater to individual student strengths and needs, promoting mastery through real-time feedback mechanisms. This will include expanding and ranking AI features for academic success. Beyond this the team are using NLP to explore large qualitative data sets to explore self-regulated learning in higher education.
- **Examining Longitudinal Impact:** to investigate the long-term effects of REAL assessments on student outcomes, focusing on developing complexity of knowledge and skills development, retention, and application as learners progress through NFQ levels. The DELTA Award (2022) winning team has undertaken this work to ensure skill development is captured across chemistry modules and years.

By embracing innovation and adaptability, the REAL Project is dedicated to shaping the future of educational assessment. Our commitment to reimagining assessment frameworks will empower the next generation of learners, ensuring they are equipped with the skills and knowledge necessary to thrive in an ever-evolving educational landscape.



8. UDL-DESIGNED AUTHENTIC ASSESSMENT AS A PREVENTATIVE MEASURE OF ACADEMIC MISCONDUCT

Lead researcher: Dr Susan Gottlöber

Institution: Maynooth University

Full Project Report: [UDL-designed authentic assessment as a preventative measure of Academic Misconduct](#)

OBJECTIVES OF THE PROJECT

The goal of this project was to explore how UDL-designed authentic assessment can play a role in preventing academic misconduct. The study was conducted with Bachelor of Arts (Honours) students from Maynooth University as the majority of case studies using authentic assessment have not been humanities focused. With this focus the study aim was to consider specifically the special needs of subjects which are text and writing focused. It was intended, however, that the outcomes of the case study would be transferable to other subjects.

By focusing on different students' perspectives (including students with experience of academic misconduct and groups identified in the literature (e.g., Davis 2022; Baird and Dooley 2014; Bretag et al. 2018; Beasley 2016; Miller 2023) to be more prone to reverting to academic misconduct or being overrepresented in academic misconduct cases), the project aimed at investigating, in particular, if the reasons why students may be tempted into academic misconduct (as identified in the literature) can be countered by using UDL principles in designing assessments.

RESEARCH TEAM

The project was conducted by the Principal Investigator, Dr Susan Gottlöber, and two research assistants who played a pivotal role in submitting a revised ethics application, survey design, conducting the literature review, setting up the interviews and focus groups, and analysing the data.

Partners who supported the researchers with advice in designing the survey, distributing it, and presenting the findings, included staff of the MAP office Maynooth University and the Centre for Teaching and Learning, and, especially, the MU Students' Union.

CONTEXT

The project faced several operational challenges related to the institutional context and available resources. A key issue was the short time between funding approval and project launch, leaving insufficient time to appoint a research assistant. At the time, HR procedures at MU caused additional delays in advertising the post, ultimately requiring a short-term contract solution. These delays affected the entire project timeline, including ethical approval. The ethics committee raised two valid concerns: first, the risk of unfairly targeting specific student groups for academic misconduct; second, the need to treat participants as vulnerable adults, necessitating a more detailed application. The summer break further delayed approval, as the committee did not meet during this period. Student recruitment was also challenging due to their competing commitments such as commuting and work. Despite initial sign-ups, few students participated in focus groups, and survey responses were limited. Having access to a cohort of students through my teaching role helped mitigate this somewhat, resulting in most participants being philosophy students. However, collaboration with the Centre for Teaching and Learning was a significant asset. Their support greatly enhanced dissemination efforts and facilitated broader engagement with the MU teaching and learning community, contributing to the project's overall success.

PROJECT METHODOLOGY

The project used a mixed methods approach, incorporating both quantitative and qualitative data analysis. It began with a comprehensive literature review, followed by the preparation and submission of the required ethics application. Upon receiving approval, a survey and supporting focus group materials were developed, including consent forms, ground rules, and a protocol. All documents were peer reviewed by experts in the Centre for Teaching and Learning (CTL).

Ethical approval was obtained from Maynooth University's Ethics Committee. Key ethical considerations included protecting student anonymity and addressing concerns about the potential targeting of particular student groups. The research approach was adjusted accordingly to mitigate these concerns.

Participation in the survey, focus groups, and individual interviews was entirely voluntary, and all contributions were anonymised. Notes from focus groups and interviews were shared with participants for review and approval prior to their inclusion in the final report.

Data collection methods

A student survey was conducted to gather information on students' demographic backgrounds (while demographic details were not collected from the focus group and individual participants), their knowledge of key concepts such as Universal Design for Learning (UDL), authentic assessment, and university policy on academic integrity and misconduct. It also explored their experiences with UDL-informed assessments,

incidents of academic misconduct, and contributing factors that may influence such behaviour.

Focus groups and individual interviews were conducted following the survey. Focus groups were held with small groups of three participants, and two individual interviews were also carried out. These sessions aimed to gather more in-depth, nuanced insights into students' lived experiences with assessment formats, workload, fairness, and academic pressures. They also allowed for further exploration of themes that emerged from the survey responses.

Quantitative survey data were analysed for patterns and reported challenges. Qualitative data from focus groups and open-ended survey responses were thematically coded to identify recurring themes, such as pressures leading to misconduct, proposed solutions, and the role of UDL-informed assessment in addressing academic integrity.

The findings for this study were triangulated across all data sources—including surveys, interviews, focus groups, and the literature review—to develop a holistic understanding of how UDL-informed assessment may impact academic integrity.

PROJECT FINDINGS/OUTPUTS

The survey indicated that most students participating had some level of familiarity with the university's academic integrity policies, with 70% stating they were "somewhat" or "moderately" familiar. However, only 3% reported being "extremely familiar," and 15% said they were "not at all" familiar. This suggests that while awareness exists, in-depth understanding may be lacking. Notably, focus group discussions and open-ended survey responses revealed that students often viewed academic integrity as relevant only in the context of formal assignments, and that integrity policies were not always communicated in a clear or engaging manner. Students cited confusion about what constitutes misconduct, indicating a need for clearer, more meaningful integration of academic integrity education throughout the curriculum.

Assessing perceptions of academic misconduct

When assessing perceptions of academic misconduct, "paying another student or third party" was seen as the most serious offence, with over 70% rating it as "very serious." Conversely, "collaborating on individual coursework" was considered the least serious, with 17.6% rating it as "not serious." Using AI tools to complete assignments also received mixed responses, reflecting uncertainty about the legitimacy of emerging technologies in academic work.

Regarding self-reported behaviour, 70.6% of students claimed they had never engaged in misconduct, while 20.6% admitted to rare instances, and 8.8% said they had done so occasionally. None reported frequent involvement. These numbers, though encouraging, may be influenced by underreporting due to the stigma attached to

academic dishonesty but also that it is the more engaged students who participated in the survey and focus groups.

Students were asked to identify what they believed were the main causes of academic misconduct. The most common responses included stress and mental health issues (58.8%), lack of time or poor time management (55.9%), and pressure to achieve high grades (44.1%). Other notable factors included a lack of motivation, easy access to online resources, and misunderstandings of academic integrity policies. Importantly, students cited academic pressures—including workload, assessment timing, high-grade expectations, and language barriers—as factors that increased the temptation to engage in dishonest behaviour.

Experiences with UDL and Authentic Assessment

Students shared their experiences with UDL principles in their courses. While 41.7% noted UDL was applied “often” and 33.3% “sometimes,” only 8.3% said it was used “very often.” A small number of students were unsure, and none reported that UDL was never used.

When asked about the potential effectiveness of UDL-designed authentic assessments in preventing misconduct, most students responded cautiously positive. Nearly half (48.5%) felt these assessments would be “somewhat effective,” and 22.9% believed they would be “very effective.” Only a small minority considered them ineffective or were unsure. This was confirmed in the focus group discussions and supports the conclusion that UDL design has a role to play but should not be overestimated in terms of impact. The value of authentic, UDL-aligned assessments was highlighted especially with regard to low-stakes, continuous assessments which were seen as effective in reducing stress and fostering ongoing engagement while playing to students’ strengths. Participants noted that such assignments alleviated the “fear” and “panic” associated with high-stakes exams and instead promoted consistent and honest academic participation (see also Tindall et al., 2021).

Thematic analysis of open-ended responses and focus group discussions generated six major themes: confidence/self-efficacy, motivation/engagement, morality, meaningfulness, flexibility, and academic pressure and solutions.

Interviews with the students suggested that those with strong academic self-efficacy—confidence in their ability to succeed—were less likely to cheat. One student mentioned they chose to complete work themselves rather than use AI, believing they could produce a better product. Others suggested that low self-confidence led them to consider dishonest strategies. Students proposed that incremental, low-stakes assignments could build self-efficacy and reduce the pressure that often triggers misconduct. These findings support research showing a link between self-efficacy, academic motivation, and reduced likelihood of cheating (e.g., Ogilvie and Stewart 2010; Vancouver, More and Yoder 2008; Salazar and Hayward 2018).

Self-confidence and intrinsic motivation were identified as key deterrents to misconduct. Authentic, UDL-aligned assessments were particularly effective in fostering intrinsic motivation by making tasks feel relevant, practical, and tied to real-world applications. When students viewed assessments as meaningful and skill-building rather than mere hurdles, they were more likely to engage honestly and deeply in their learning.

Some students cited moral values and a desire to “do the right thing” as reasons for avoiding misconduct. While literature is mixed on the influence of morality, many participants said personal ethics guided their academic choices. These findings suggest that moral development plays a supporting role alongside self-efficacy and motivation and also aligns with the interesting finding that collaborating and helping others to complete their assignments was seen as a less serious form of academic misconduct but rather as necessary support rather than cheating, particularly when facing unfamiliar academic norms or language limitations.

Flexibility in assessment design—such as options for deadlines or assignment types—was repeatedly mentioned as a practical solution to ease student burden. Students said rigid structures amplified pressure and did not account for the complexities of their academic, personal, and work lives. Increased flexibility, they argued, made assessments feel more manageable and less daunting.

A further recurring theme was the importance of meaningful learning. Students were more engaged with assignments that had real-world relevance, allowed for creativity, or contributed to skill development. In contrast, they described traditional assessments as “tick box” tasks, lacking relevance or personal connection. Meaningful assessments were seen to enhance self-confidence and intrinsic motivation—two factors shown to discourage misconduct.

Students across focus groups and surveys identified stress, time pressure, and high-stakes assessments as key drivers of misconduct. Mental health struggles and a sense of being “stuck” were common themes. Students felt these emotional pressures made them more vulnerable to dishonest behaviour. They proposed shifting to continuous, low-stakes assessment models to alleviate anxiety and reduce opportunities for misconduct. This aligns with research advocating for inclusive assessment design and better mental health support (Tindall & Curtis, 2020).

Language barriers added another layer of difficulty, especially for international students.

One of the most important findings was the importance of an increased focus on why not to engage in academic misconduct and on decreasing avoidable pressures such as clashing deadlines; this would support the creation of meaningful assignments, increasing self-efficacy and resilience, and the development of strong ethical norms.

CONCLUSIONS AND IMPLICATIONS

Student perceptions of academic integrity policies and their understanding of academic misconduct were cited as one of the key issues in unintentional academic misconduct: while many students reported some awareness of academic integrity policies, the study found that these policies were not always clear or effectively integrated into daily learning experiences and were not communicated in meaningful language.

In general, academic integrity and the meaning of integrity in more general terms were perceived to be only important in the context of assignments. Rather, students found using the term “trust” to be much more meaningful and relatable. In focus groups and interviews, especially, self-efficacy, self-confidence, and intrinsic motivations emerged as major factors in the avoidance of academic misconduct which is where authentic, UDL-designed assessments come in. These factors were found to foster intrinsic motivation, with students valuing assessments that felt relevant and applicable to real-world skills. This approach enhances the meaningfulness of tasks, increases self-efficacy, and self-confidence. These insights align with the importance of creating assignments that allow students to build confidence and self-efficacy incrementally.

Outputs:

Internal:

Presentations at two MU events where practice was shared with colleagues and students:

- Workshop presentation at the workshop *GenAI, Writing, and Assessment* 24th April 2024
- Poster presentation at the MU Teaching and Learning Showcase and Round Table discussion 15th May 2024

National:

- Oral Presentation “Enhancing Academic Integrity Through Meaningfulness and Building Confidence and Self-Efficacy”, *Enhancing Academic Integrity: From ideas to action* conference 4th September

International:

- Oral Presentation “Enhancing Academic Integrity through UDL Designed Authentic Assessment”, *7th International Conference on Advanced Research in Education* (EDUCATIONCONF), Cambridge, UK 7th-9th June 2024
- Oral Presentation “Empowering Confidence: Authentic Assessment Strategies with UDL Design”, *International Conference on Education and New Developments 2024* (END 2024) in Porto, 15th -17th June
- “The Potential of UDL Designed Authentic Assessment for Promoting Academic Integrity”, *The Future of Education – 14th Edition in Florence*, 20th -21st June

Invited keynote address “Transformative assessment: Strategies for boosting self-efficacy and meaningful learning across subjects”, *9th International Conference on Research in Teaching and Education*, 22-24 November 2024, University College London

A number of publications are in progress and in various stages of submission but have not been concluded yet.

The findings indicate that that authentic assessment designs based on UDL principles can help alleviate academic pressure, foster accessible learning, and thus help prevent academic misconduct. However, most importantly, academic integrity issues should be approached as an adaptive problem. While UDL-designed authentic assessment cannot address all factors that may lead to committing academic misconduct, UDL-designed authentic assessments appear to effectively address some of the major triggers for academic misconduct when they address the lack of motivation and stress by promoting self-confidence, self-efficacy, and meaningful learning.

REFERENCES

- Baird, C., Dooey, P. 2014. “Ensuring Effective Student Support in Higher Education Alleged Plagiarism Cases”, *Innov High Educ* 39, 387-400.
- Beasley, E. M. 2016. ‘Comparing the demographics of students reported for academic dishonesty to those of the overall student population’, *Ethics & Behavior*, 26(1), 45–62.
- Bretag, T. et al. 2018. “Contract cheating and assessment design: exploring the relationship”, *Assessment & Evaluation in Higher Education*, 44, 1-16.
- Davis, M. 2022. “Examining and improving inclusive practice in institutional academic integrity policies, procedures, teaching and support”, *Int J Educ Integr* 18(14)
- Miller, B. 2023. “Determinants of Successful Assessment”, *Assessment Update* 35(1), 6-11.
- Ogilvie, J., Stewart Griffith, A. 2010. “The Integration of Rational Choice and Self-Efficacy Theories: A Situational Analysis of Student Misconduct”, *Australian & New Zealand Journal of Criminology*, 43(1), 130-155.
- Ramos Salazar, L., Hayward, S.L. 2018. “An Examination of College Students’ Problem-Solving Self-Efficacy, Academic Self-Efficacy, Motivation, Test Performance, and Expected Grade in Introductory-Level Economics Courses”, *Decision Sciences Journal of Innovative Education*, 16(3), 217-240.
- Vancouver, J., More, K., Yoder, R. 2008. “Self-Efficacy and Resource Allocation: Support for a Nonmonotonic, Discontinuous Model”, *Journal of Applied Psychology*, 93, 35-47.



**Dearbhú Cáilíochta
agus Cáilíochtaí Éireann**
Quality and
Qualifications Ireland

www.QQI.ie