



Promoting Excellence in Teaching & Learning



Fellowships in Teaching &
Academic Development 2007-2011,
President's Teaching Awards 2010-2012

Foreword



Professor Mark Rodgers

‘A great University
has a dual function:
to teach and to think’

Sir William Osler

Excellence and innovation in teaching and learning in UCD are fundamental to the delivery of a relevant and contemporary education which is globally focussed and distinctively Irish. As a research-intensive University, the provision of an engaging student learning experience founded on scholarly approaches to teaching and learning allows for on-going strategic academic development and enhancement of the learning experience. The University’s strategic commitment to excellence in teaching and learning innovation is embodied in its Fellowships in Teaching and Academic Development and the President’s Teaching Awards. Details of the outcomes of these initiatives are described in this report.

I am delighted to see the growing strength and depth of the Fellowships in Teaching & Academic Development, since their establishment in 2007 under the HEA Strategic Funding Initiative. This funding has allowed the University to recognise and reward outstanding leaders in teaching and learning and helped to build institutional expertise on the enhancement of student learning, particularly on the theme of First-Year.

To date, the University has appointed 18 Fellows through competitive selection. The disciplinary backgrounds of the Fellows have included: applied social science, computer science; diagnostic imaging; education; engineering; history; geography; languages; linguistics; nursing; psychology and sociology. This academic breadth has ensured that the research of the Fellows has a multi-disciplinary richness, which in turn has fostered the development of a strong community of scholars who share a common goal to develop better strategic understanding of student learning within UCD and to contribute more broadly in the Dublin region through the Dublin Regional Higher Education Alliance.

As part of UCD’s strategic commitment to the enhancement of the First-Year student experience the work of the Fellows, both past and present, makes an important contribution. I am grateful for their contributions to date, and I will look forward to the outcomes of the newly appointed 2011-13 Fellows whose outline projects are detailed in this report.

The President’s Teaching Awards provide recognition for staff with a strong record in teaching, learning and leadership in curriculum design. As part of the University’s approach to teaching excellence, awardees undertake significant projects focussed on innovative curricular developments to enhance student learning in targeted areas consistent with the overall aims of the University’s educational priorities. The 2010 award winners have focussed on developing students writing skills at undergraduate level and the development of teaching skills for doctoral students.

Together, the Fellowships in Teaching & Academic Development along with the President’s Teaching Awards are central to the University’s development of teaching excellence. Both demonstrate an active approach to thinking about, investigating and promoting innovation and new approaches to teaching and learning for the benefits of current and future students at UCD.

Professor Mark Rodgers,
Registrar & Deputy President
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Introduction

Promoting Teaching Excellence - Progress to Date

Over the last number of years significant steps forward have been made to develop and promote teaching excellence within the University. The curricular changes and the enhancements to student learning which have been implemented across the University have been achieved as a result of the energy, commitment and professionalism of academic staff across the institution. Our current Strategic Plan "Forming Global Minds" sets out the University's commitment to developing graduates who are academically excellent; intellectually literate and culturally literate, and globally engaged. Developing these attributes in our graduates will require leadership and excellence in teaching and a research informed perspective to implement new forms of learning innovation and curricular enhancement.

The University has a strong and growing community of excellent teachers, exemplified by the expertise of recognised excellent teachers such as College Teaching Award winners (25), Fellows in Teaching and Academic Development (18), President's Teaching Award Winners (2) as well as a National Teaching Award winner who continue to contribute to the enhancement of the student learning experience.

This report focuses on the progression of teaching excellence at a strategic level through the Fellowships in Teaching & Academic Development and the recently re-instituted President's Teaching Awards. Both initiatives promote and develop qualities of teaching leadership, a capacity for innovation on contemporary higher education issues and the capability to influence academic practice and the enhancement of learning across the University. They allow teaching excellence to be celebrated and disseminated within the University and more widely at national and international level through publications and conference dissemination.

The achievements of the Fellowships in Teaching and Academic Development are set out with reports of the most recent round of Fellowship projects 2009-2011, the achievements and publications of the 2007-2009 Fellows and a preview of the work which the 2011-2013 Fellows will undertake. More recently the President's Teaching Awards have led to the development of significant projects located within the awardees' disciplinary areas.

The Fellowships in Teaching and Academic Development were established in 2007, as a result of a successful funding proposal to the Higher Education Authority Strategic Innovation Fund One. The Fellowships are part of an institutional development structure to encourage a greater number of academic staff to focus on advancing university-wide enhancement in teaching and learning. Fellows are appointed, following a competitive selection process, for a period of two years.

With a strong emphasis on developing strong scholarly approaches to teaching, learning, assessment and curricular structures, the Fellowships are structured across two main areas of activity:

- Research on strategic teaching and learning themes through multi-disciplinary project teams;
- Individual disciplinary research on a topic related to the main strategic theme.

This hybrid structure of the Fellowships allows the University to stimulate institution-wide understanding and actions to enhance the quality of student learning and pedagogic innovation. In combination with localised disciplinary projects, the emphasis of the Fellowships has been focused on identifying necessary structural, policy and practice changes informed by robust research.

The first phase of the Fellowships (2007-2009) centred on the First-Year Experience, in particular the implications arising from students' expectations and experiences of university learning generally, and particularly in relation to electives. This allowed a better understanding of students' learning orientations and motivations, in particular: how ready and confident students were about engaging in the first year of university, as well as the pedagogic considerations for teaching mixed groups of students effectively through the UCD New Horizons elective system.

For example, analysis of students' expectations of their academic workload was lower than the weekly student workload published through curricular information such as module descriptors. This disparity indicated student engagement as an issue which required development in terms of the teaching and learning approaches and structures in the first year. In 2009/2010 two Senior Fellows were appointed for a period of one year to work on the development of a number of curricular projects in relation to First-Year engagement. Concurrently, with the work of the Senior Fellows, the UCD Education Strategy (2009-2014) prioritised 'early and lasting student engagement' and implementation of this strategy is on-going through a series of First-Year projects to enhance orientation, peer support, students' induction to their academic discipline and semester one structures.

The second phase of the Fellowships (2009-2011) has built upon the First-Year Experience theme and the concept of engagement more widely. The work of this cohort included:

- Critical thinking skills in the undergraduate curriculum;
- Strategic development of electives.

Critical Thinking Skills are identified as an important aspect of student engagement in learning and a valuable graduate attribute. This research examined critical thinking skills from both teacher and learner perspectives. It addressed the way in which critical thinking skills are conceptualised and articulated by staff in the development of modules, through interviews with staff at all levels and across 16 disciplinary areas, and examined how they are manifested in students' assessed work. This work, which is described in Section I identified that concepts of critical thinking skills are context-dependent and have a strong disciplinary focus. It was also discovered that the description of an assessment task can have an important function in prompting students to engage and respond more critically to the tasks set.

Strategic Development of Electives was identified as an important curricular aspect of the student learning experience. Building on the work of the 2007 Fellows who examined the pedagogic implications of teaching electives to diverse classes, the 2009 Fellows have addressed questions of how electives might be developed strategically to enhance programmes and student learning. This work has examined the historical origins of electives and their value in supporting liberal education; it has also encompassed international benchmarking of the development of electives with a view to identifying the appropriate configurations of electives to support curricular breadth and depth. The scope and outcomes of this work are described in Section II.

The third phase of the Fellowships (2011-2013) outlined in Section VI, will integrate and build upon the work carried out to date on student learning and engagement and the First-Year Experience. Key goals for this phase are to deepen understanding of specific aspects of student learning in the first year which are highly transferable across cognate and related disciplinary learning contexts, as well as modes of teaching (in particular, large group teaching).

The President's Teaching Awards 2010/2011 have allowed the initiation of strategic projects within a disciplinary context with an emphasis on innovation and new approaches to enhance student learning. The current initiatives are reported here: the piloting of a Writing Centre and the development of Doctoral students' teaching skills. The focussed nature of these projects is complementary to the breadth of the Fellowships activities.

As can be seen from four years' experience of the Fellowships in Teaching and Academic Development, and the more recent initiation of the President's Teaching Awards a breadth of scholarly institutional expertise has been developed on strategically important issues of learning in higher education. The strength of both schemes lies in the contribution of the individual academics who are active and innovative within their own disciplinary areas. Through their commitment to advancing a scholarly knowledge and development of teaching and learning, they have allowed UCD's understanding and response to the needs of learners to be translated into new strategic approaches and responses. Of equal importance is their influence and contribution locally within their disciplines and Schools, as emerging leaders in the development of teaching and learning excellence.



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How do we find what we're looking for? Critical thinking in the university curriculum

Project Team: Dr Aoife Ahern, Dr Gerry MacRuaric,
Dr Martin McNamara and Mr Tom O'Connor

Context

Despite the controversy within the discourse relating to graduate attributes, critical thinking retains a high level of traction among academics with respect to its desirability as an outcome of student learning.



Introduction

Third-level educators are increasingly called on to clarify the nature of the education they provide and to ensure that their graduates are well placed to contribute to overall economic growth and development. There is, therefore, a growing interest in explicating the range of graduates' attributes in order to meet the increasing demand for educational institutions to demonstrate the quality of their graduates in ways that are meaningful to a wide range of stakeholders, including employers, professional groups and policy makers (Barrie 2006, Jones 2009). The development of critical thinking ability is considered to be one of the most fundamental and useful attributes in university graduates. Despite the controversy within the discourse relating to graduate attributes, critical thinking retains a high level of traction among academics with respect to its desirability as an outcome of student learning. In this regard it is variously claimed to be a defining characteristic of university education (Phillips & Bond 2004) and 'one of the most highly esteemed goals in all sectors of education' (Candy 1991:328).

Notwithstanding this, Scott (2000) points to problems for academics in conceptualizing the notion of critical thinking and defining what it encapsulates. The fact that as a construct it carries a number of different meanings and a range of synonymous terms which cluster around it, serves often to encode a particular mode of enquiry which academics struggle to explicate and students sometimes fail to decode. This foregrounds the notion that, as an ability, competency or attribute, critical thinking cannot be abstracted from the context in which it is made manifest through a process that is both intuitive and conscious (Scott 2000). This may serve to explain why critical thinking is viewed by some as a private black box activity that is difficult to affect or assess (Parker 1999). In addition to this, disciplinary understandings and definitions of critical thinking differ quite significantly and, consequently, there is considerable debate about whether critical thinking can be seen as a generic or discipline-specific skill (Jones 2007a; Barrie 2006). Many researchers point out that critical thinking is best taught as part of a discipline and should not be taught separately to the discipline curriculum (Bowden et al. 2000. Barrie (2006) points out that this might be contrary to the opinion that critical thinking is a generic attribute that should be common across all disciplines, while Davies (2008) considers that the debate between specifics and generalists commits a fallacy of false alternatives and he argues for a combined infusion approach.

There is an increasing body of scholarship exploring how university pedagogy contributes to the development of students' critical thinking ability. However, there has been relatively little investigation into the relationship between disciplines or subject areas and the concept of critical thinking (Jones 2005; 2007b; 2009) and how it is realised and recognised through curriculum pedagogy and assessment (Jones 2009; Maton 2009a; 2009b). This study seeks to contribute to an increased understanding of these three interlinked dimensions of critical thinking in higher education.

Aims and Objectives

The main aim of this project was:

- To explore the understandings and realisation of critical thinking in the university curriculum

To fulfil this aim, a number of objectives were set:

- To elicit and explore academics' understanding of critical thinking as a generic graduate attribute,
- To elicit and explore academics' understandings of critical thinking within the context of their discipline or subject area, and
- To examine how academics' understandings of critical thinking are realised in curriculum design and assessment.

Methodology

The study was carried out using a multi-method qualitative framework, involving in-depth, semi-structured interviewing (Fontana & Frey 2003) and documentary analysis (Prior 2003). Analysis and interpretation was informed by the work of Silverman (2004) on interview, narrative and content analysis, Prior (2003) on documentary analysis, and Attride-Stirling (2001) on thematic network analysis.

The first stage of the project involved a series of semi-structural interviews with academics regarding their perspectives of critical thinking. The objective of this part of the study was to find out:

- The definitions of critical thinking held by academics from different disciplines,
- The value placed by different disciplines on critical thinking as a graduate attribute for students,
- The pedagogical approaches that can result in critical thinking.

The interviews were held with academics from a variety of disciplines. The disciplines were selected to reflect both professional and non-professional disciplines and also to ensure a range of science-based and arts-based disciplines.

The interviewees were academics who were identified by the Heads of School as having a particular expertise in teaching and education at third-level. In many cases, the interviewees were Heads of Teaching and Learning in their Schools and had a particular role in defining educational and teaching strategies in their departments.

Interviews were in-depth and semi-structured. The interviews lasted approximately one hour and academics were asked about how they defined critical thinking, in particular in relation to their own discipline. In addition, the participants were asked to set out how their views tied in with the views of others in their discipline and if they thought others in their discipline were aware of definitions and concepts surrounding critical thinking. Interviewees were then asked about whether they felt that critical thinking was important for their graduates and how it ranked when compared to the other skills that they might require to be competent graduates. Interviewees were asked to consider if they felt students became critical thinkers when in the University and how they ensured that happened in their courses. They were asked to consider if critical thinking was addressed explicitly in the curriculum and if module learning outcomes really addressed the issue of critical thinking. They were also asked how they assessed and measured critical thinking, and if they felt that it was possible to assess and measure critical thinking

realistically. Finally, interviewees were asked about the students on their course and whether they felt those students were aware of what critical thinking was; were students made aware of definitions of critical thinking and did the students, in their view, hold it to be an important attribute?.

At the end of each interview, interviewees were asked to nominate two modules where they felt that critical thinking was required of students. In total, 20 modules were nominated. For each of these modules, interviewees presented the research team with the module descriptors, handbooks and any other manuals provided to students. The research team was also provided with examples of assessment tasks that it was felt by the interviewees required some element of critical thinking and could be used to measure or identify critical thinking in students. The objective of this part of the study was to examine how critical thinking was being described or taught to students (from documentary evidence), what pedagogical approaches were being used and also to examine what kinds of tasks could be used to measure critical thinking.

In the final stage of the projects, 60 examples of student work from the different assessment tasks were obtained, with the consent of the students. The objective was to see if critical thinking was being displayed in the different tasks and to identify which tasks and which pedagogical approaches provided the best pathway to realisation of critical thinking in students.

Findings

Academics offered a range of interpretations of critical thinking ranging from generic interpretations to subject-specific definitions. Generic definitions stressed the importance of students being able to generally question, think independently, analyse, be sceptical, use evidence, problem solve and have an ability to tolerate ambiguity. Subject-specific definition echoed many of these sentiments but stressed the need to be able to do this within the context of the discipline and indeed that it was only possible to learn how to critically think within the bounds of specific disciplinary knowledge. The analysis of the interviews identified some broad similarities between how disciplines define critical thinking (but with some differences in how the disciplines have reached those definitions) and in how firmly those definitions are rooted in literature and knowledge of educational and pedagogical approaches. For example, interviewees in the humanities demonstrated a very solid awareness of critical thinking that was informed by research, by reading of educational literature and by discussions with colleagues. It is perhaps understandable that these non-technical disciplines have clearer awareness of critical thinking and of pedagogical research in general.

For the more technical disciplines, critical thinking was felt to be important and featured in module descriptors and learning objectives but when asked what critical thinking was, the definitions held by those disciplines were not very clearly articulated.

There were some important similarities between how critical thinking was defined in the technical and non-technical disciplines. All felt that it was something intransient and elusive that was

important for graduates in helping them to become problem-solvers who could think in a more abstract way than those who did not have this skill. There was some debate amongst academics about when critical thinking became important for students, with some feeling this was something that needed to be engendered in students from the first day in college; while others did not feel this was possible or necessary and felt that some level of cognitive maturity was required before it was possible to engender critical thinking in university students. All felt that the ability to think critically increases as students mature. This was for a number of reasons: as students get older they are more able to be critical thinkers and academics identified that mature students are usually able to become critical thinkers at a very early stage, even in First-Year, as they are more cognitively mature than their younger counterparts. In addition, it was felt that exposure to the university system and to other researchers meant that those who were in the university for longer became more adept at critical thinking. This exposure to the university community of critical thinkers was identified by academics as one of the most important facilitators in enabling and engendering critical thinking.

A model of critical thinking

Arising from the analysis of the interviews, and from the literature reviewed, a model for critical thinking was developed to help with the analysis of the module descriptors and the student work. This model draws upon both the work of Maton (2007; 2009b) and how academics seemed to view critical thinking. While there were differences between academics in our interviews, it was apparent that there were also broad similarities in how they defined critical thinking. The differences lay mainly in how developed or informed that definition was: with disciplines in the humanities having very firm definitions that were informed by the literature; while technical and scientific disciplines had definitions that had arisen from experience and empirical data, rather than from research or literature. Both groups, however, saw critical thinking as something more abstract, less context-dependent and requiring some form of judgment or analysis on the side of the student. This links closely to Maton's concepts of semantic gravity and semantic density (Maton 2009a), where semantic gravity refers to the degree to which curriculum content is viewed as context dependent and empirical or more abstract and where semantic density refers to content that is complex and dense or that draws more fundamentally on evidence and example.

We see semantic gravity (SG) and semantic density (SD) as inversely proportional – that is, that they move in opposite directions along a continuum. While strong semantic density is more likely to be associated with critical thinking, it is not desirable to always have strong SG and weak SD, or vice versa. Instead, it is important to have movement along the continuum and to recognize that critical thinking is dynamic. It is a movement backwards and forwards between the real and the abstract, the narrow context and the broader generalities.

Documentary analysis of module descriptors and student work

Each module descriptor, module handbook and assessment task was coded to identify words, phrases or assigned activities or tasks that would direct students towards critical thinking. In the learning objectives, the analysis looked at whether the objectives were task orientated or directed more towards abstraction and reflection.

Assessment tasks were examined in conjunction with the accompanying course work to examine what types of tasks were most successful in bringing about a display of critical thinking in the students' work and what language or terminology in assessment tasks was successful in bringing about critical thinking.

This led to the following coding:

- What language, terminology and tasks indicated learning of tasks and practical knowledge?
- What language, terminology and tasks indicated abstraction and reflection?
- What language, terminology and tasks could be used to encourage movement between the practical and the abstract, from knowing to reflection and back again?

Critical thinking is the ability to perform a task, to reflect and question and to ground abstraction and reflection in the reality. Throughout the module descriptors and assessment tasks, evidence was found of movement from the contextual and empirical knowledge to reflection and abstraction, and back again. Directions were given to students about how particular tasks should be structured, to concrete examples that had been looked at in class, and students were asked to use this information to examine and question theories and ideas. They were then asked to relate these theories and ideas back to new examples and to analyse empirical evidence, using the abstract concepts they had discovered.

Academics offered a range of interpretations of critical thinking ranging from generic interpretations to subject-specific definitions.

Discussion

A key finding of this project is that critical thinking, rather than being a static attribute which is at the pinnacle of student attainment, is a dynamic concept which requires educators to guide their students through cycles of engagement with context-bound knowledge and description, on the one hand, and knowledge which is abstract and symbolically dense, on the other.

From the analysis of the interviews with academics from different disciplines and the analysis of students' work, a key finding of this project is that critical thinking is important to most disciplines, but that the clarity of understanding of the term 'critical thinking' varies quite significantly, with disciplines in the humanities having very clear and precise definitions of critical thinking while professional and scientific disciplines are less clear on what they mean when they ask students to be critical thinkers. However, even in those disciplines where definitions are less well-informed and less clearly expressed, investigation and close analysis of what academics said show that many of the ideas and perceptions academics from a range of disciplines have of critical thinking are similar. All seem to agree that it involves students being more questioning, less accepting of facts as given to them, and that generally it is a skill that students attain as they move from lower years to higher years.

There are differences in approach to teaching critical thinking across disciplines. The greatest difference is that in technical disciplines, where academics are less sure of their own definitions of critical thinking, there is less explanation of the term to students and students are not told quite so explicitly what is expected of them. Within disciplines in the humanities, students are given guidance of how to become critical thinkers and of what is expected from them as they move through the university system. In our opinion, if universities claim to produce critical thinkers, we need to be more explicit about what it is and how it is realized and how it can be recognized. It is with this in mind that we have developed a model that outlines what we feel critical thinking is: a movement from the concrete, from the factual to the abstract and back again – an ability to use knowledge and facts to create ideas, concepts and to solve problems, but also to use these developed concepts and ideas in the real world.

Dissemination

International

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Employers' Perspectives on Critical Thinking

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Background

As with the other projects conducted by the critical thinking group, this individual project focused on the attitudes and perceptions of employers regarding critical thinking. In this individual project, those employers in technical disciplines (engineering, science, technology) were targeted.

The objectives of this project were:

- To elicit and explore employers' understanding of critical thinking as a generic graduate attribute,
- To elicit and explore the importance placed by employers on critical thinking, and
- To examine how well universities are meeting the needs of employers and if the definitions of critical thinking held by universities and by employers are the same.

It is very important to look at how employers view graduate attributes and, in particular, if they feel critical thinking is important for graduates. In particular, this project aimed to look at how employers define critical thinking and whether their definitions are the same as those of academics, in particular in the disciplines that relate to the employer.

While this project is not yet concluded, it is expected that its findings examining the thoughts of employers in technical disciplines regarding critical thinking, together with the projects examining employers in the health sector and education sector, will allow comparisons between disciplines and sectors and will also allow for identification of differences between academics and employers in terms of what they feel are important attributes for graduates.

Methodology

A number of employers in technology were contacted and asked to agree to be interviewed about graduate attributes and, most particularly, critical thinking.

Arising from this, a number of semi-structured in-depth interviews were conducted (and are still taking place) with engineering and technical employers. This study is on-going and the interviews commenced in September 2011. The findings were not yet available at the time of printing.

Initial Findings

Initial findings indicate the technical employers do value attributes such as critical thinking. However, definitions of critical thinking need to be clarified for employers because of ambiguity and lack of understanding regarding the term. There are difficulties in articulating what the term actually means for some technical employers. However, those attributes they associate with critical thinking (problem-solving, questioning accepted knowledge and ideas, and creative thinking) are highly valued by employers in the technical disciplines.

Closer collaboration between employers and academics is urged in order to ensure that the attributes with which we are providing students with are the same as those required by employers. This is of particular importance in scientific and technical disciplines, where the Irish government envisages employment growth taking place and where it is intended many of our graduates will find employment in the future.

Those attributes they associate with critical thinking (problem-solving, questioning accepted knowledge and ideas, and creative thinking) are highly valued by employers in the technical disciplines.



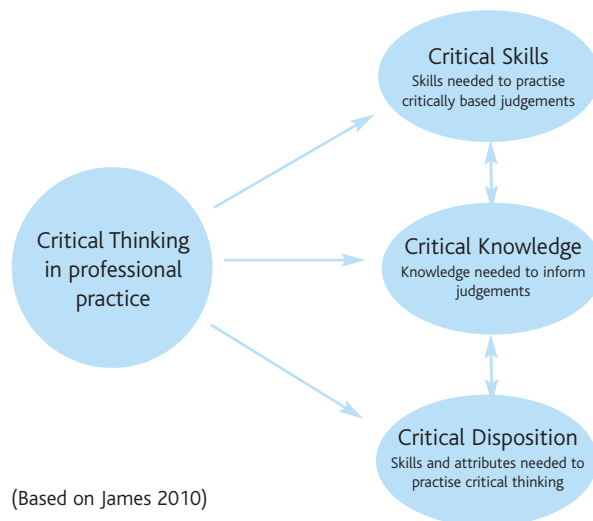
Critical Thinking in Professional Practice - School Leadership

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Background

The manner in which critical thinking is considered to be a desirable graduate attribute in candidates occupying school leadership positions will be the focus of the individual dimension to this study in the School of Education. In an era where school autonomy is becoming more established as the preferred model of school governance (Pont et al. 2008), school leaders are increasingly required to interpret Government education policy by formulating individual school-based policies and models practice that take account of particular contextual and situational variables.

It would be expected that in order to ensure that this outcome is achieved, competencies relating to the three components of the critical thinking model illustrated (James 2010) would be an essential in the criteria used to fill leadership positions. A sample of key partners who are involved in the appointment of school leaders and who subsequently deal with school principals in an advisory or regulatory role will generate the sample for this interview-based study.



(Based on James 2010)

Participants will include:

- Primary and Second level administration personnel - Department of Education and Skills
- Joint Managerial Body (Second level)
- Chief executive Officer/ Education Officer- Vocational Education Committee (Primary and Second level)
- Local school manager (Primary)
- Parent Representative (NPC)
- Educate Together management (Education Officer)
- School Inspectorate (Primary and Second level)
- Community-based services representative.

In addition to examining the view of the sample with respect to critical thinking, it will also generate useful data in relation to the broader range of skills and competences that are viewed as important in the work of school leaders. This in turn will inform curriculum development at masters/graduate diploma-level in the School of Education.

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Critical Thinking in nursing, midwifery and related fields: the employer's perspective

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Background

In our Fellowship group project we aimed to determine academics' understanding of critical thinking and to identify evidence of critical thinking in module documentation and in student work. My aim in this project was to gain an insight into how employers and education stakeholders, in nursing, midwifery and health related fields, view and consider critical thinking as a graduate attribute.

Rationale

Critical thinking is much discussed and debated in the academy. Central to this discourse and debate is the convergence and divergence of ideas of different constituents in the graduate attribute debate. As authors such as Barrie (2006, 2007) and Jones (2009) point out, the defining of graduate attributes is, or at least should be, a tripartite process involving policy makers (government), academics in the third-level sector and employers. In reality, however, there is little in the way of research which backs up the idea that these constituents have common ideas or understandings of critical thinking. Indeed a popular media debate in Ireland presents a picture of disconnect between these constituents with regard to graduate attributes. On the other hand anecdotal evidence and my own experience of employers suggest that this may not be the case and that the diversity in thinking on graduate attributes may not be as polarised as has been portrayed. It may be more related to somewhat underdeveloped descriptions and discussion of graduate attributes in this country.

How employers and stakeholders regard critical thinking, as perhaps the primary graduate attribute, is therefore of importance. The evidence from the group project suggests that, while it is open to a number of varying interpretations, critical thinking is valued by academics. Previous research with regard to critical thinking in nursing and midwifery reveals that it is a valued concept, but that it suffers from the same lack of definition as in other areas. It is often linked directly to clinical situations and algorithmic interpretations, and at times it has been linked to other disciplinary-specific concepts such as competence, patient safety and fitness to practice (Adam 1999, May et al. 1999, Scheffer et al. 2000, Simpson & Courtney 2002, Fero et al. 2009, McMullen et al. 2009).

This project aimed to assess whether this is a view shared by employers in the health field and also if there is a common understanding of critical thinking between academics and employers.

How Evaluation was done

For the purposes this project a number of semi-structured interviews were carried out with a range of stakeholders and employers in the nursing, midwifery and related health fields. This included individuals from professional organisations, trade unions, directors of nursing/midwifery in hospitals, executive officers and representatives of companies employing graduates in the health field. Critical thinking as a concept and the value placed on it as a graduate attribute were the main focus during the interviews. Initial results indicate that critical thinking is indeed valued by employers. The interpretation of the concept, however, is related to concrete work activities. In this regard employers are therefore more likely to have a clearer understanding of what critical thinking means for their organisations, as opposed to more generic conceptualizations expressed by academics in the group project.

Implications for teaching and learning

If graduate attributes are indeed to be formed and shaped in a tripartite fashion, as suggested by Barrie (2006, 2007) and Jones (2009), the views of employers are of huge importance to academics in designing and delivering curricula aimed at developing these attributes. Critical thinking, suffering as it does from difficulties in interpretation and conceptualization, presents a challenge to all stakeholders to imbue as a graduate attribute. It is clear that while the concept is valued by both employers/stakeholders in nursing, midwifery and health education, there is a divergence in terms of interpretation. This can broadly be characterised as a generic conceptualization by academics and a specific, task-orientated conceptualization by employers. Closer liaison between the academy and the various stakeholders is necessary therefore in order to find a mutually satisfying conceptualization which can then be translated into curriculum design and delivery.

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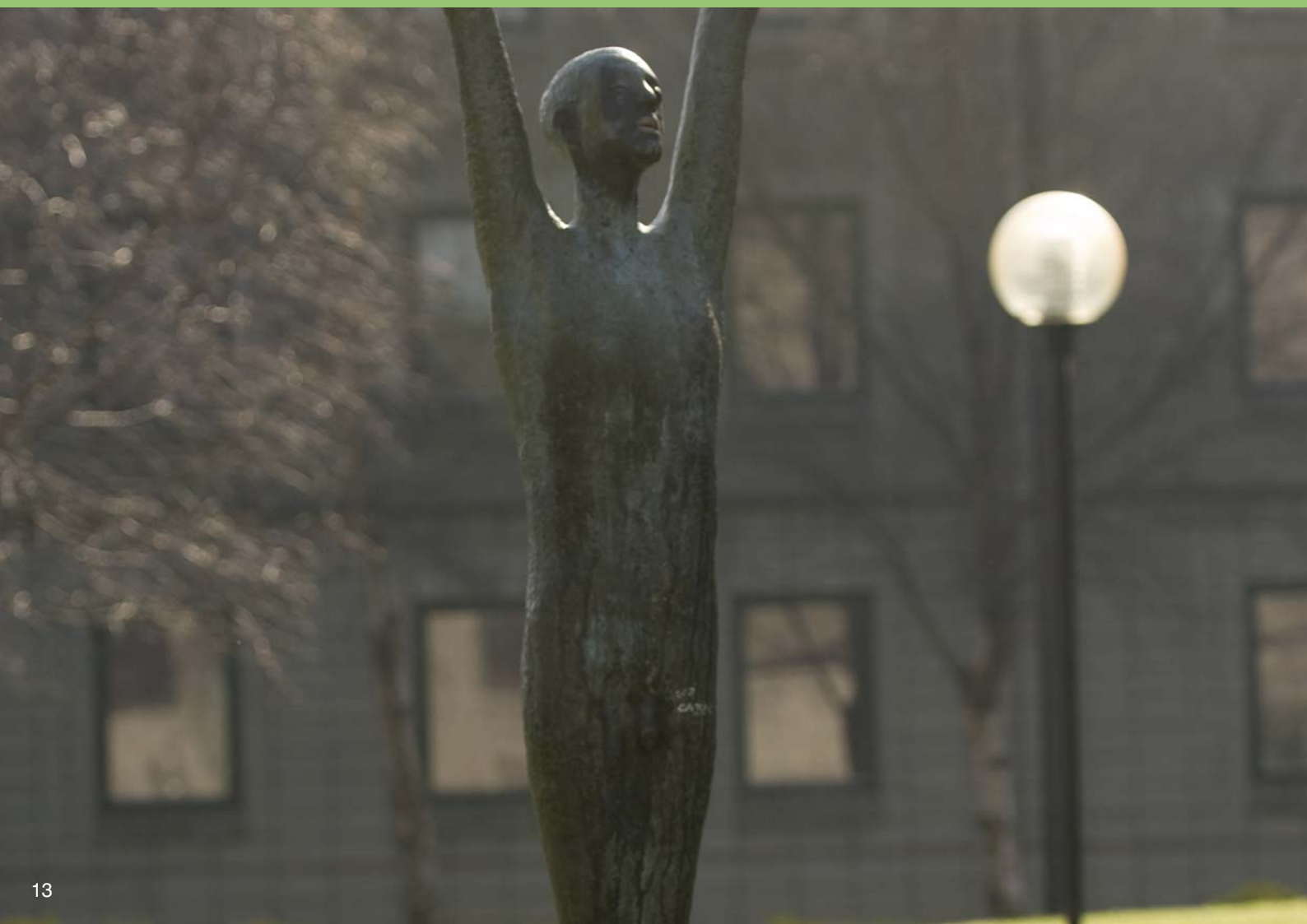
A Collaborative Approach to the Design and Delivery of a School-based Module to Support Graduate Teaching Assistants (GTA)



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Context

The principal aim of the project was to design a framework and set of resources to support the design, development and delivery of school-based, discipline-specific modules to prepare Graduate Teaching Assistants (GTAs) for their roles as tutors or demonstrators, and to evaluate the first presentation of the modules.



Background

This individual project for the UCD Fellowship in Teaching and Academic Development was undertaken in collaboration with the UCD Centre for Teaching and Learning (UCD CTL) and academic staff from six UCD Schools. UCD, as in many international universities, has had a long history of engaging demonstrators and tutors to support in the delivery of undergraduate programmes. In the more science-based subjects these support staff are often PhD students who support undergraduate students by demonstrating laboratory experiments. This group, as they are also graduate students, can sometimes be called 'Graduate Teaching Assistants'. In contrast, tutors in the Arts and Humanities are less likely to be PhD students. Their role is to support student learning through group tutorials. This latter group can often be more experienced part-time staff.

This layer of support staff (both tutors and demonstrators) have a vital role in engaging students in their learning and are often the first point of contact when students have difficulties in their learning:

'Feedback from First-Year students shows that they often find the GTAs, who are usually relatively close to them in age, more approachable and less intimidating than the academic staff and so they are more prepared to ask questions' (Scott & Maw 2009).

In UCD, this group of demonstrators/tutors have been traditionally supported locally in the Schools and through generic one-day workshops delivered by UCD Teaching and Learning. The feedback from demonstrators/tutors on the generic workshops delivered to a range of disciplines has been very mixed; in particular students have been critical of its lack of relevance to the disciplinary context (CTL 2004).

The recent introduction of a structured PhD has offered the opportunity for those graduate students undertaking a PhD to incorporate teaching development activity into an accredited module. Together with a team of educational developers from UCD CTL and interested academic staff, I participated in a project with Dr Geraldine O'Neill and Aine Galvin (UCD CTL). The majority of the modules developed, based on local demand, were for GTA students in a demonstrating role in the Life Sciences, with the exception of one module in the School of Psychology. The module design, however, is intended to be transferrable to other disciplines.

Resource Document

A resource document was compiled to assist academic staff within the Schools to provide a 5-ECTS-credit discipline-specific module, owned and managed at School level. The document comprised the following elements:

- An online GTA support resource in UCD Connect Groups. This provided an opportunity for discussion around development, as well as access to a range of general and module-specific resources. Resources related to general teaching and learning literature and techniques;
- A generic module descriptor template, depicting sample learning outcomes, teaching and learning methods and assessment strategies. Four core activities underpinned the module descriptor: fundamentals of teaching and learning, reflecting on and in

practice (based on feedback), the teaching context and teaching practice;

- Suggestions for material to be included in module sessions;
- Key concepts for reflection;
- Guidelines for using portfolios as an approach to teaching and assessment;
- A set of appendices including tailored resources for demonstrators and for tutors; additional material on teaching and learning principles, planning sessions, peer observation and reflective writing; templates and forms for lesson plans, pre- and post-peer observation meetings, self-assessment and action plans; useful UCD contacts and guidance for students on assessment criteria.

Evaluation

The evaluation phase comprised a short survey instrument and was exempted from the need for full ethical review (UCD REERN: LS-E-10-McNamara). Module participants were asked to rate 13 items on a 5-point Likert scale (strongly agree to strongly disagree). Items were of the form 'Because of this module...', for example, 'I am more confident as a teacher', 'I have identified my strengths as a teacher' and 'I am better prepared to plan my teaching and learning activities.' In addition, respondents were asked to rate the module on a scale of 1 to 10 and then to elaborate on their reasons for awarding this score. Two further open-ended items asked 'What did you not like about this module?' and 'Suggestions for improvement (most important first).'

The first phase of evaluation yielded 56 responses from the six Schools. The common modal score for the 13 items was 'agree'. Where 10 was the most positive ranking, the mean score was 6.9 and the median 7. The results from the quantitative suggest that the module made a positive difference to participants' confidence, skills and preparedness. The open-ended items yielded much positive commentary and highlighted areas for improvement.

Conclusion

This collaborative project aimed to devise a sustainable model to support GTAs by enabling academic colleagues to design, develop and deliver a School-based, discipline-specific module. The model has proved successful insofar as it has resulted in six School-specific modules, managed and delivered by School staff to enhance the knowledge and skills of tutors and demonstrators in the areas of teaching, learning and assessment. Evaluation data to date indicate that the module has been well-received by those undertaking it and have provided useful information to inform the subsequent extension and development of the model.

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Developing Electives Strategically: The development of elective provision in the UCD undergraduate curriculum

Project Team: Mr John Dunnion, Dr Hilda Loughran and
Dr DJ Purcell

Context

In the reorganisation of UCD's undergraduate curriculum in 2004, elective modules were introduced, integral with the core curriculum, with the objective of broadening students' horizons. The modular system has been fully embedded in each undergraduate programme for a number of years, a substantial amount of data on the operation of the system has been collected and there are student and staff experiences on which to draw.



Introduction

During the early years of the 20th century, undergraduate curricula at leading universities worldwide gradually evolved in a direction which is a compromise between the broad undergraduate education espoused by Newman and von Humboldt's opposing educational philosophy of undergraduate specialisation into disciplines (Albritton 2006). The idea of a curriculum underpinned by the twin notions of distribution ('breadth') and concentration ('depth') gradually evolved. Distribution demanded that the curriculum should ensure a broad education for the student, while concentration demanded that the curriculum should encourage a student to study one particular subject in depth. These twin notions of distribution and concentration still underpin the undergraduate curricula at the major American universities (e.g. Yale) today.

Traditionally, undergraduate programmes in University College Dublin have tended to follow Newman's philosophy of providing a general education (Newman 1907). Other than a few specific programmes leading to a professional qualification (e.g. Medicine, Nursing, Veterinary Medicine), most programmes had a common first year (e.g. BE degree) or even a common first two years (e.g. BComm degree), before students selected a particular branch of the subject (e.g. Civil Engineering, Mechanical Engineering, etc). In other programmes, students took a number of subjects in First-Year, narrowing their studies to concentrate on one or two subjects for their degree. In the BA Programme, for example, students typically took three subjects in First-Year, of which they took two in Second Year and Third Year, doing a Major in one and Minor in the other or doing a Joint Major in both for their degree. In some cases, it was possible to concentrate on one subject and do a Single Subject Major in it.

In the reorganisation of UCD's undergraduate curriculum in 2004, elective modules were introduced, integral with the core curriculum, with the objective of broadening students' horizons. The modular system has been fully embedded in each undergraduate programme for a number of years, a substantial amount of data on the operation of the system has been collected and there are student and staff experiences on which to draw. The University is now critically examining the modular system to determine what changes, if any, should be considered. This examination has formed a significant component of the research carried out as part of our University Fellowships. Our research has primarily focused on the place of elective modules in the UCD undergraduate curriculum and this is the subject of this paper.

This paper:

- (i) Reviews the educational policy context in which electives at UCD have been developed;
- (ii) Compares the UCD elective model with that of other leading international universities;
- (iii) Examines the experience of electives in UCD since their introduction;
- (iv) Suggests recommendations for consideration by Senior Management to improve the provision of elective modules in UCD.

Education Policy Context

The Bologna Declaration of 1999 (European Commission 1999) set in motion a process to develop a European Higher Education Area by 2010. One of the aims was to facilitate student mobility across European institutions of higher education by creating a transparent and agreed recognition of equivalences which would support a credit transfer system. UCD engaged with the Bologna process and embarked on a strategic plan to implement a modularized and semesterized curriculum. Its main aim was to drive curricular reform at programme and module level. The new modularized structure at UCD formed the basis of the Horizons undergraduate programme (University College Dublin 2009).

The transformation in 2005 of the undergraduate programmes presented Schools and Programme Boards with the opportunity to restructure their programmes into a modular, credit-based structure. All programmes had to provide for 60 credits of electives over the first three years of study. This can be seen as the application of Newman's philosophy in a modular system, in that it gives students the opportunity to introduce 'breadth' into their individual programmes by taking modules from outside of their programmes. At the same time, a student may choose to get extra 'depth' in their programme by taking extra modules in their chosen subject.

The Horizons system provided students with the opportunity to design at least some aspects of their own curriculum though the provision of elective modules. The introduction of the system was certainly a marketing success and coincided with an increase in student applications for UCD. Laurillard (2002) was critical that similar changes in higher education had been taken with little evidential support and little evaluation of the consequences. With this in mind, UCD launched a research initiative focusing on teaching and learning: the Teaching and Learning Fellowships.

Definitions and Key Research Questions

Prior to setting out the key research questions below, it is important to define terms commonly used in discussing module provision:

Core Modules: A student must take these modules (often referred to as 'compulsory modules').

Option Modules: A student must take at least the required number of these modules from an approved list, in accordance with an approved scheme, subject to the general provisions of the programme specification framework.

Elective Modules: A student has free choice of such modules provided the timetable permits and there are places available.

Structured electives: A student takes their elective credit in a structured manner, as proposed and recommended by a School or Programme Board and approved by the relevant University Programme Board, to form a small but coherent block amounting to a minimum of 15 ECTS credits.

General Electives: A module designed by a School/Programme for delivery primarily to non-programme students and intended to be of general interest to those students.

The principal areas of research pursued in this project are the following:

- (a) Research into the place of electives in a university curriculum and a comparison of the elective component of the UCD modular system to systems in other universities.

- (b) An analysis of registration records to determine the effect of elective choice on module enrolment, in particular to ascertain the 'movement' of students among disciplines, Programmes and Colleges.
- (c) Research to ascertain what Heads of School knew about student elective choice and to identify the policies, if any, that Schools had on elective provision and on elective choice by their students.
- (d) An examination of the 'general' electives funded by the University, starting in 2009-2010, to determine the content, mode of delivery, mode of assessment and take-up of each of the modules.
- (e) Research into 'structured electives', to find out which structured electives were being offered and to ascertain whether there was any interest among Schools in providing such electives.
- (f) An overall critique of the UCD Horizons system, specifically in the area of elective choice by students and elective provision by Schools, with a view to making recommendations for a future revision of the system.

Methodology

The first phase of this research involved an exploration of the literature on the place of electives in a university curriculum. The aim was to contextualize the development of elective provision within a pedagogical and also an educational policy perspective. It was anticipated that the literature review would also furnish some evidence of the effectiveness of offering this flexibility and diversity of experience to students. General academic databases and specialist educational databases were employed, as well as searches within each of the disciplines representing the team's areas of interest; Social Science, Computer Science and Engineering. The initial results were disappointing as much of the literature was US-based and often referred to second-level education rather than third-level. However, as Hart (2003) noted, literature review is an ongoing process in research. Over time, material on curriculum design and teaching and learning policy development did provide some basis for discussion. Interestingly, as the researchers began to meet with others engaged in this area of research, it was discovered that there is indeed limited material published addressing the specific issues around elective provision. Another aspect of the literature review involved an investigation of the actual policies and procedures of various universities for offering electives, including cataloguing the various models, setting out their requirements and restrictions.

The next phase of the research involved setting up a collaborative relationship with the University Registry in order to conduct an analysis of student registration records. Details of enrolment numbers for modules over a two-year period were interrogated. These data facilitated the tracking of student movement, within and outside their disciplines, in search of elective modules. The process allowed the researchers to develop a profile of student choice of electives and to see the movement of students around the university.

Having established the pattern of student selection of modules for their electives, it was then decided to survey each of the Schools within the University to find out what information each had on the movement of their own students and which, if any, policy decisions were being made about elective provision. A survey was sent to each Head of School to collect some basic information about the elective

choices of the students in their School and also to ascertain what strategies each School had in place to provide and/or encourage the development of elective modules. The survey was followed up with a one-to-one interview. The interview allowed for more open-ended questions and discussion with Heads of School and the data from these interviews was recorded and analysed in addition to the survey results. In all, 36 Heads of School and two Heads of Teaching and Learning participated in both the survey and the interviews.

Concurrently, the researchers examined the development of special general electives. Five general electives had been designed and funded as a response to the growing demand for elective places in modules. The researchers attended a number of lectures in each of the modules and interviewed the lecturers responsible for the electives. The data gathered formed the basis for discussion on the place of specially-designed general elective modules.

Given the challenges related to limited availability of literature, an important aspect of the research proved to be the interaction with others interested in the field of third-level educational policy, teaching and learning. The researchers attended a number of conferences and presented their developing ideas about models of elective provision. Feedback and discussion on these presentations added to the depth of understanding of the issues to be addressed at UCD.

Discussion

A key objective of requiring students to take electives is to broaden their undergraduate educational experience. While there might be a certain intuition around what constitutes 'breadth' and 'depth', there is actually no precise definition of either concept and this has been the topic of many discussions by this group of Fellows. One of the areas of confusion is around whether 'breadth' and 'depth' are at Subject level, Programme level or University level. For example, if a student in Nursing were to take their elective modules in other subjects in Health Sciences, should this be considered 'breadth' (in the general Health Sciences area) or 'depth' (in subjects cognate to Nursing)? Similarly, were a student in Civil Engineering to take all their elective modules in Engineering (but not in Civil Engineering), should this be considered 'depth' in Engineering or 'breadth' from their Programme? In large, highly varied Programmes such as the BA or the BSc Programmes, this issue becomes even more complex. A BA student in one subject (Art History, for example) could take their electives from another subject from the same Programme (Economics or Mathematical Studies, for example) that could hardly be considered to give them greater 'depth'.

The notion of 'depth' can cause further problems. How many credits in a subject constitute 'depth'? Certainly 30 would, but would 15? Even if the notion of 'maximum depth' were to be defined to be taking all 30 credits in a single subject, what about the case where most, or all, of these credits are taken at levels 0 or 1? These questions demand further study and decisions are required to be made on the definition of these core concepts.

On the spectrum of university elective models, the UCD model is one of the most liberal in terms of the degree of choice offered to students. Undergraduate students at UCD have virtually unrestricted choice, other than the limitations imposed by timetable and

prerequisites. Other institutions generally impose some restriction on student choice; for example, specifying areas of study within which students must choose their elective modules or the level at which the module must be taken relative to the stage the student is at.

A spectrum of possibilities:

- **Model 1: Retain the current system (free choice across University).**



- **Model 2: Modify the current system to encourage students to pursue a greater depth in electives.**

The goal of this model is to facilitate both breadth and depth through enabling (or requiring) students to select a combination of electives at levels 1, 2 and 3 and with at least 15 credits from approved modules in one area forming a structured elective.



- **Model 3: Change the current system in light of provision at other universities.**

Specify sets of modules (areas of study) from which some electives must be taken (e.g. the Yale System).



Changes to the current system would have a number of academic, logistical and resource implications. For example, were the University to suggest, or insist, that students take structured electives involving modules at a level higher than level 1, it would have to ensure that such elective modules were available and that there were sufficient places available to satisfy demand. The University would also have to ensure that, if such electives had prerequisites, students had sufficient opportunities to satisfy those prerequisites. This may mean, for example, that a level one module is delivered in semester one of a given year and that associated level two modules are delivered in semester two. It might also mean that a level one module that was prerequisite for more than one level module might have to be given more than once per academic year; this would have potential resource implications, in terms of academic staff, tutors/demonstrators, venues, etc. Finally, were a student to take a structured elective, it should also be recognised by the University in some formal way, for example by inclusion on the student's official transcript, etc.

Recommendations

1. In the current elective structure, it is possible for a student to choose all six electives at level one. One criticism of this elective model is that it encourages students to choose a random selection of electives at an elementary level, in many cases chosen with the

objective of maximizing GPA. A relatively small change in the current regulations that would require students to take one or two electives beyond level one may encourage students to think more strategically in their choice of electives at an early stage and pursue greater depth throughout the course of their studies. A similar policy is in place in the University of Swansea, where student elective choice is restricted to a level not lower than the current level of study, minus 1.

Recommendation 1: Require students to take at least one elective above Level One.

2. At present, there are only five 'general' electives specifically designed for non-programme students across the University. Schools/Programmes should be encouraged/required to increase the number of such electives for students outside their programme areas and mechanisms such as RAM could be utilised as an incentive. A number of the current general electives are timetabled during lunchtime slots, possibly to facilitate as great an uptake as possible across the University. Ideally, a number of timetable slots for general electives should be provided to enable greater access to these electives by students throughout the University.

Recommendation 2: Develop a broader range of 'general' electives.

3. 'Structured' electives provide an opportunity for students to pursue their studies to a greater depth in a chosen area. At present, there are a number of elective 'packages' negotiated on a bilateral basis between Schools/Programmes (e.g. Business modules for Engineering students, Computer Science modules for Radiography students). Given the current timetabling arrangements, it is difficult to envisage how structured electives can be made more widely available, except on a School-to-School negotiated basis. However, the possibility of developing 'general' electives in a more structured way (at level one and level two, at least) should be examined, if the timetabling issues discussed above can be overcome.

Recommendation 3: Examine the feasibility of developing 'general' electives beyond Level One in a structured format.

4. Our analysis of registration data has shown that the student 'traffic', in terms of elective choice, is predominantly in the direction of the Arts/Humanities, while Arts/Humanities students tend to choose electives within their Programme areas. If the concept of breadth of learning (as understood at Yale University, for example), was espoused at UCD, then all UCD students would be required to choose elective modules in specified areas across the University (Humanities, Sciences, Languages, etc). It is probably unrealistic in the current UCD structure to expect that such a change would be feasible. It could be argued that Arts/Humanities students in UCD probably achieve elective breadth of choice within their Programme because of its size and diversity of disciplines. Monitoring the elective provision and uptake should be undertaken on a regular basis to ensure that the current breadth of choice enjoyed by UCD students is not diminished, as resources become scarcer in the current economic climate.

Recommendation 4: Monitor the provision and uptake of electives on a regular basis.

5. Previous reports on the subject of elective provision have recommended that serious consideration be given to providing timetable slots that are suitable for students across the University to take general electives. Since the lack of such uniformity in timetabling is a significant barrier to students accessing such electives and to their development beyond their current level, this issue should be re-visited.

Recommendation 5: Review the central timetabling of general electives with a view to providing common 'slots' across the University.

Dissemination

International

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Research on developing a system for structured electives within social sciences

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Introduction

In 2005 UCD introduced the Horizons programme. This was a modularised, semesterised, credit-based system which incorporated the principle of offering electives as part of programme choice. All students can choose ten credits per year from a 60-credit programme. The group project focused on the pedagogical values pertaining to the elective credits system and the patterns of registration to electives; this individual project was concerned with exploring ways to optimise opportunities for students through the elective system. The aim was:

- to provide an elective module in a social science area that would appeal to a wide range of students across the university, and
- to investigate the feasibility of developing a set of structured electives based on participation in this module.

In order to achieve these aims the following methodology was employed:

- a module entitled Exploring Alcohol and Drug Policy SPOL10170 was designed and was offered as a general elective to all students across the campus,
- registration information was interrogated to ascertain what students were participating in the module, i.e. what schools or programmes were represented in the module,
- ethical approval was obtained to conduct a student survey in the lecture to find out 1) why students selected the module, and 2) if they were interested in continuing study in a related topic,
- discussion and consultation were conducted with a number of faculty in related areas to establish a set of structured electives.

Phase One: SPOL10170 Alcohol and drug policy

A five-credit module exploring alcohol and drug policy was designed and was provided as a two-hour lecture once a week. It was thought that this might facilitate students in terms of minimizing the competing demand on their timetable. One hundred and fifty places were offered. Due to demand numbers were expanded, so that a total of 159 students registered for the module in 2009 and it was further expanded in 2010 to accommodate 179 students. Registration data confirmed that students from across a range of programme areas were selecting this module (Table 1: Students who attended SPOL10170 Alcohol and drug policy in 2009-2010). However the majority of students were from within the Arts and Humanities. This is consistent with registration data in general. Although students are free to select from a wide range of elective modules from across all the colleges in the university, registration data suggest that the flow of students is generally from the sciences into Arts and Humanities. Hence social science and arts students are more likely to remain within Arts and Humanities when choosing electives. What the data demonstrate is that students from a range of programmes were able to attend the module and overcome timetabling issues. Timetabling issues have been discussed as a barrier to student movement in selecting electives.

Table 1: Students registered for SPOL10170 Alcohol and drug policy in 2009-2010

Arts	55
Social Science	30
Higher Diploma in Social Policy	30
Commerce	8
Science	4
BA Psychology	3
Engineering	3
Social Science International	1
B. Sc. Sports and Exercise	2
B. Commerce International	5
B. Sc. Health and Performance Science	1
Agricultural Science	5
B.A. Computer Science	2
Economics and Finance	1
B. Sc. Nursing	2
B.Sc. Veterinarian Nursing	1
Medicine	1
Structural Engineering and Architecture	1
Total	156

Interest in continued study: A set of structured electives

Seventy nine students who sat this elective in the academic year 2009/2010 completed this survey. Of this group there were 18 male and 49 female students, along with 12 who did not indicate their gender. When asked if they would be interested in taking another module related to the alcohol and drugs policy module, 92.4% of the 2009-2010 sample reported interest in taking a related module, while only 6% reported no level of interest in further modules.

One hundred and forty two students who sat this elective in the academic year 2010/2011 completed the survey. Of this group there were 33 male and 102 female students, along with 7 who did not indicate their gender.

When asked if they would be interested in taking another module related to this module, 89% (n = 127) of the 2010-2011 sample expressed an interest in a related module, while 8% (n = 12) reported a lack of interest in further modules.

The topics that were of interest to students are recorded below, in Table 2. While there was a sustained level of interest in participating in a follow-on module in each of the two years, what was interesting was the consistency in response about the type of area students wanted to pursue. Both years put a module on crime at the top of the list with the social aspects of alcohol and drugs and alcohol and drugs in the media coming second and third.

Table 2: Topics of interest for further related modules

Module topic	2009-2010	2010-2011
Crime, the law and alcohol and drugs	1st (n = 58)	2nd (n = 51)
Social aspects of alcohol and drug use	3rd (n = 50)	4th (n = 46)
Alcohol and drugs in film and TV	5th (n = 29)	6th (n = 21)
Treatment of AOD problems	7th (n = 17)	8th (n = 10)
Medical aspects of AOD	1st (n = 58)	2nd (n = 51)
Intern comp about the place of alcohol and drug use	3rd (n = 50)	4th (n = 46)
Intern comp of policy on alcohol and drugs	5th (n = 29)	6th (n = 21)
Economics and AOD	7th (n = 17)	8th (n = 10)

There is clearly an interest in the topic and clearly a potential audience if a number of modules were packaged together to form a set of structured electives. The problem is that there are few or no modules currently on offer that would fit with or build on the module. This would ideally create an opportunity to develop follow-on modules which could meet the interest of the students while expanding their knowledge of the field. The second aim of the individual project was to explore the feasibility of developing a set of structured electives around the topic of alcohol and drugs.

Phase Two: Developing structured electives which offer students a set of modules connected to this area of interest

Provision of such 'structured' electives would ideally incorporate modules from other colleges within the University. This will provide students with a more in-depth understanding of alcohol and drug issues and would also establish interdisciplinary collaboration between a number of schools and colleges. Modules on alcohol and drugs in the media and the treatment and medical aspects of alcohol and drug problems clearly demonstrate the interest in this interdisciplinary approach.

As already mentioned, there were few modules that immediately appeared to fit with the original alcohol and drug module. Ideally students selecting a set of structured electives should be in a position to develop some in-depth knowledge in the field that might be recognised as a special interest in their final transcript. There were a number of schools interested in developing a related interdisciplinary module. Some Schools envisaged that the providers of the original module would develop and provide the follow-on module. Barriers appeared to be the resource implication of developing new electives at a time when continued provision of core modules is a priority. Although there was some evidence that timetabling continues to be a concern, many students appeared to have resolved that in the case of SPOL10170.

In light of the challenges of developing the ideal of an interdisciplinary module, it was decided to attempt to progress the notion of a structured set of electives by identifying modules already in existence. This proved difficult since some modules had elements of the content that would be suitable for a non-programme student, but not full modules that would be deemed to be suitable. It is clearly much easier to create sets of electives within one school (as has been achieved with for example the School of Commerce). This undermines the intent of creating the interdisciplinary set of electives envisaged, but it does facilitate negotiation and management of electives. The exploration of the feasibility of developing a set of structured electives built on the area of alcohol and drugs appears to have identified some serious barriers to progress, in particular, on developing a set of three electives with an interdisciplinary context. The work on this will continue, because demand for such a set of electives is likely to grow. In the meanwhile it is suggested that, rather than focusing on sets of structured electives, Schools should at least consider working towards 'pairing' electives. This would allow students to take at least two modules that are related and would be easier to implement and support, while beginning to draw attention to the interconnectedness of modules. With this objective in mind, the short-term plan is to establish a 'pairing' of electives within the School of Social Policy. Given that the survey identified the main focus of interest among the participating students as the connection between crime and alcohol and drugs it seemed opportune to start this process by 'pairing' Alcohol and drug policy with SPOL 30020 Crime, social services and the justice system. Students can be alerted to the connection between the modules and encouraged to consider taking both modules. Since SPOL30020 Crime, social services and social justice is a stage-two module it is also envisaged that this might address some of the concerns that students are not moving beyond level-one modules in their selection of electives. The 'paired' modules will be monitored to assess both the uptake and the outcome for students who participate in both modules.



Elective provision in Civil Engineering

Dr PJ Purcell

School of Civil, Structural and Environmental Engineering

Introduction

There have been numerous calls to broaden the education of engineers and thus prepare them to serve society with an awareness of and sensitivity to the cultural, political, economic and social dimensions of their work. In 2005, UCD introduced the Horizons initiative that resulted in the development of fully modularized, semesterized and credit-based degree programmes. One of the key features of the initiative was the introduction of an element of choice for students in the first three years of their undergraduate studies, with the key objective of 'broadening horizons'. In each year, students can select ten credits as elective modules from a total of 60 credits from any programme across the University. This individual research project dovetails with the group Fellowship project which examined elective provision across the university, with a specific focus on the Civil Engineering discipline.

Aims of the project

In respect of the Civil Engineering discipline, the objectives of this research were:

- (a) To analyse student registration data to determine the effect of elective choice on module enrolment, in particular, to ascertain the 'movement' of students into and out of the discipline;
- (b) To undertake a survey of the undergraduate students to ascertain their experience of the elective system since their admission to the Programme;
- (c) To compare the elective experience of Civil Engineering students with those in other areas of the University such as the Humanities and Sciences;
- (d) To recommend for refinements for the elective provision for the discipline.

Civil Engineering Programme Structure

The UCD Civil Engineering bachelor's degree has traditionally been a four-year 240-credit degree programme, although, in line with Engineers Ireland and the Bologna requirements, it is moving gradually to a two-cycle five-year degree structure. Table 1 outlines the number of core, option and elective modules that students of the current four-year Civil Engineering programme take in each stage of their studies.

Table 1: Modular structure of the 4-year Civil Engineering degree programme

	Core	Option	Elective
stage one	10	0	2
stage two	10	0	2
stage three	10	0	2
stage four	8	4	0

In respect of the elective choice, students can choose either:

- (a) two in-programme electives which enable students to deepen their engineering knowledge,
- (b) two non-programme (general) electives which allow students to widen their knowledge in modules of general interest to the student or
- (c) one in-programme elective combined with one general elective.

In-programme electives are provided in stages two and three. For example, for Second-Year Civil Engineering in the academic year 2008-2009, the following in-programme electives were offered:

CVEN20100 Applied Mechanics
 MEEN20030 Applied Dynamics
 MEEN10020 Materials Science
 EEME10010 Energy Challenges

One of the key features of the initiative was the introduction of an element of choice for students in the first three years of their undergraduate studies, with the key objective of 'broadening horizons'.

Figure 1 shows the type of electives chosen by stage two Civil Engineering students in the 2008-2009 academic years. Examination of Fig.1 shows that less than one-third of the students (28%) chose electives from within the programme, while more than two-thirds (72%) of the students chose from 60 modules from other disciplines across the University (outside the Civil Engineering programme). Of the 60 general electives chosen, the number of civil engineering students per module typically varied from a minimum of one student to a maximum of four students, with the exception of a biosystems engineering module which attracted ten civil engineering students. It is also interesting to examine the popularity of engineering electives vis-à-vis students from outside the Civil Engineering programme. In respect of the four in-programme electives listed above, only 19 in number of the 378 students (5%) taking these four electives were non-engineering students. Fig. 2 shows the distribution of electives selected by stage three Civil Engineering students, in terms of the level the electives the students chose were at. Examination of the figure shows that the majority of the electives chosen by Civil Engineering students were at level one, with progressively smaller numbers of electives chosen at levels two and three.

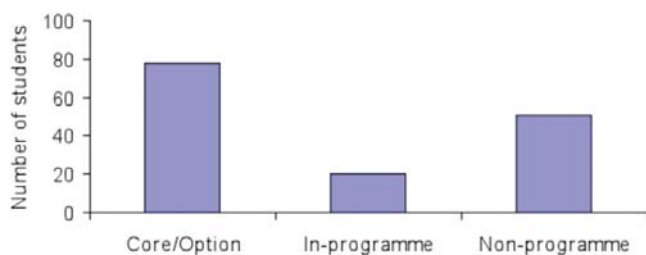


Fig. 1: Popularity of elective modules (in-programme and non-programme) for stage two Civil Engineering in 2008-2009

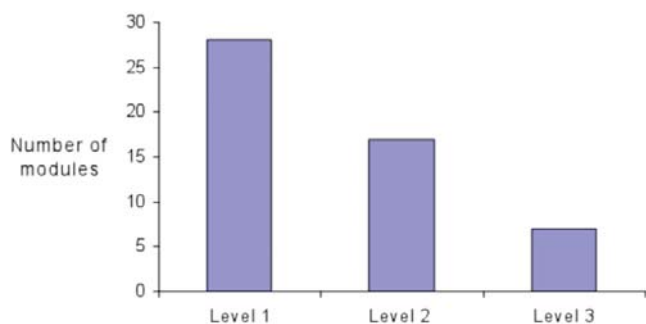


Fig. 2: Level of General Electives chosen by stage three Civil Engineering students 2008 - 2009

A survey/questionnaire was issued to stage four Civil Engineering students to ascertain the student experience of the elective system since its introduction to the undergraduate curriculum. Student experience was found to be broadly positive; student's welcoming the element of choice to study modules of interest to them. The key findings of the questionnaire were that students would welcome:

- (a) more advice on elective selection;
- (b) the opportunity to pursue a set of 'structured' electives, as illustrated in Fig. 3.

Rather than selecting a series of 'random' electives, a 'structured' elective would allow a student to undertake their elective credit in a structured manner to form a small but coherent block, amounting to a minimum of 15 ECTS credits.

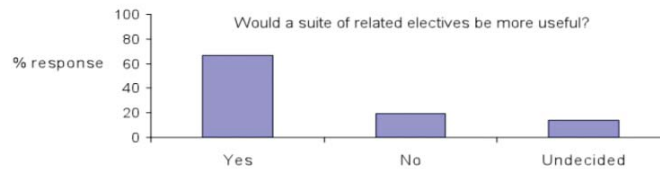


Fig. 3: Survey of Fourth-year Civil Engineering on General Elective Experience (March 2010)

Conclusions

Examination of student registration data shows that a majority of Civil Engineering students avail of the opportunity to study modules outside their core programme areas of study, in the spirit of the Horizons initiative, to broaden their education. Few non-Civil Engineering students (5%) avail of electives offered by the Civil Engineering programme, probably due to the level of mathematics generally underpinning engineering modules. A survey of Civil Engineering students indicated that these students would welcome more advice and 'structure' to their elective module selection. Structured electives are likely to be constrained by:

- (a) the availability of elective modules beyond level one;
- (b) students being able to satisfy the necessary pre-requisites;
- (c) timetabling issues.

Dissemination

Dunnion, J., Loughran, H., Purcell, P., 'General electives in Civil Engineering and Computer Science', Third International Symposium for Engineering Education (ISEE 2010), Educating Engineers for a changing world. Cork, June-July 2010.

Dunnion, J., Loughran, H., Purcell, P., 'General Electives in Civil Engineering, Computer Science and Social Science', International Conference on Engineering Education 2011 (ICEE 2011), Engineering Sustainability for a Global Economy. Belfast, August.

Purcell, P. 'The impact of the introduction of electives in the Civil Engineering Curriculum', Seminar on Innovative Practices in Engineering Teaching and Learning. UCD. December 2009.

Achievements to Date

Fellowships in Teaching & Academic Development
Publications and Presentations from 2007-2009

Context

The inaugural cohort of Fellows in Teaching & Academic Development, 2007-2009 of which there were eight, focused their research on two strategic themes:

- The First-Year Experience
- Student Engagement



The result of this work has been published in peer-reviewed journals and has been disseminated through international and national conferences. In addition, the outcomes of the strategic projects and individual disciplinary projects have been influential in informing the development of UCD's Education Strategy development and implementation for the enhancement of student learning. Detailed information on these projects are available at: <http://www.ucd.ie/t4cms/ucd%20fellowships%20report%202007-09.pdf>

Journal Publications

Hennessy, E., Hernández, R., Kieran, P. & McLoughlin, H. (2010) 'Translating teaching and learning across disciplines in a modular system', *Teaching in Higher Education*, **15** (6): 675-689.

Abstract

Within modular degrees it is sometimes possible for students to broaden their education by taking modules from outside their main programme of study. This is one significant aspect of modular degrees which has not been studied. In an effort to better understand this issue, the research reported in this paper explored the experiences: (1) of students taking modules from outside their programme of study, and, (2) of staff teaching modules with significant numbers of students from other programmes. In total, 820 undergraduate students responded to an online survey; 12 academic staff members participated in interviews. The survey focused on students' reasons for choosing the module, their experiences of assessment and their perceptions of workload. Interviews with academic staff focused on the influence of non-programme students on teaching and assessment practices. The discussion addresses the implications of student choice and classroom diversity for teaching and assessment in modular systems.

Kieran, P.M. & O'Neill, G. (2009) 'Peer-assisted tutoring in a chemical engineering curriculum: Tutee and tutor Experiences'. *Australasian Journal of Peer Learning*, **2** (1): 40-67. Available online: <http://ro.uow.edu.au/ajpl/vol2/iss1/4>

Abstract

Peer-Assisted Tutorials (PATs), a form of Peer-Assisted Learning (PAL), were introduced to a conventional 4-year honours degree programme in Chemical Engineering. PATs were designed to support students in becoming more self-directed in their learning, to develop student confidence in tackling Chemical Engineering problems and to promote effective group-work. They were implemented as part of a core undergraduate module (Unit Operations). For each PAT, 3rd Year students (Tutees) worked together in groups of 5-6, led by a trained Peer Tutor, a 4th Year student who had previously taken and passed the Unit Operations modules. PATs were well-structured, with each session involving two parts: (i) review of a previously assigned homework problem and (ii) introduction and group discussion of a new homework problem. PATs were evaluated on the basis of feedback from both Tutees and Tutors. PATs attracted high participation rates and yielded high levels of Tutee and Tutor satisfaction, in terms of student perceptions of their understanding of relevant material and enhancement of professionally relevant transferable skills. Although developed for Chemical Engineering, PATs are an effective teaching and learning tool which could be adapted for any cognate discipline.

Moore, N. & Gilmartin, M. (2010) 'Teaching for better learning: A blended learning pilot project with First-Year geography undergraduates', *Journal of Geography in Higher Education*, **34** (3): 327-344.

Abstract

Internationally, recognition is growing that the transition between post-primary and higher education is raising a number of challenges for both students and educators. Simultaneously with growing class sizes, resources have become more constrained and there is a new set of expectations from the 'net generation' (Mohanna 2007, 211). Within this transforming context, modes of instruction that cater for different paces of learning and learning styles by combining traditional and electronic media have become increasingly important. This paper discusses the transformation of an introductory human geography module at University College Dublin using a blended learning approach that extends beyond the media used to incorporate all aspects of, and inputs into, the learning process. Our experience highlights how blended learning can aid the achievement of a range of objectives in relation to student engagement and the promotion of deeper learning. However, blended learning is not a quick-fix solution to all issues relating to new university students and our analysis draws out a more complex relationship than anticipated between blended learning and student retention that will require further examination.

Mohanna, K. (2007) 'The use of e-learning in medical education', *Postgraduate Medical Journal*, **83**: 211.

O'Sullivan, S., Gibney, A. Moore, N. & Murphy, F. (2011) 'The first semester of university life; will I be able to manage it at all?', *Higher Education*, **62** (3): 351-366.

Abstract

This paper reports on an Irish study examining First-Year students' recollections of their concerns, motivations, level of preparedness and perceived skills on entry to university. The study aims to investigate and understand the implications of the attitudes of First-Year students as they make the transition to university. It also explores students' behaviour during their initial weeks at university. It is important to understand the anxieties of new students, their views on their abilities and their confidence in managing their new role as these factors will have consequences for their experience as First-Year university students. These findings are explored with a view to enhancing the quality of support for students during this key transition.

O'Sullivan, S. (2011) 'Using the scholarship of teaching and learning to enhance large introductory sociology classes: Mission impossible?', *Teaching Sociology*, **39** (3): 303-319.

Abstract

This article reports on an Irish study that examined the teaching of large, introductory-level sociology courses at a research-intensive

university. The study's aim was to ameliorate some of the problems associated with large classes by applying key lessons from the US literature to an Irish setting. Overall, the initiative was successful; attendance improved, student evaluations were positive, and the numbers of students continuing with sociology increased. The study illustrates that these lessons can be applied successfully in countries with a broadly similar sociology curriculum and suggests that there is scope to extend what Howard (2010) calls 'the teaching and learning movement in sociology' beyond the United States. The results indicate that simple changes lead to gains in student learning. There is therefore a value in sociologists exploring the transferability of other techniques that may be applicable to the Irish classroom.

Howard, Jay R. 2010. '2009 Hans O. Mauksch Address: Where Are We and How Did We Get Here? A Brief Examination of the Past, Present, and Future of the Teaching and Learning Movement in Sociology.' *Teaching Sociology* 38(2):81-92.

Book Chapters

Hernández, R. (2007) 'The Impact of Innovative Assessment Practices on Students' Learning'. In: Frankland, S ed. *Enhancing Teaching and Learning through Assessment: Deriving an Appropriate Model*. The Netherlands: Springer.

Hernández, R. (2007) 'Using Peer and Self-assessment Practices to Assess Written Tasks' In: O' Neill, G., Huntley-Moore, S., & Race, P. eds. *Case Studies of Good Practices in Assessment of Student Learning in Higher Education*. Dublin: AISHE

Conference Proceedings

Hennessey, E., Hernández, R., Kieran, P. & McLoughlin, H. (2008) 'Translating teaching and learning across disciplines in a modular system', Univeritas 21 Teaching and Learning Conference, February 2008. 1-13.

Hennessey, E., Hernández, R., Kieran, P. & McLoughlin, H. (2008) 'Students' motivation for module choices in an Irish University', Society for Research into Higher Education Annual Conference. Liverpool UK.

Hernández, R. (2008) 'Student engagement in assessment for learning'. In O'Riordan, F., Smyth, R., McGing G. and Toolan, F. eds. Irish Conference on Engagement Pedagogy, Sept 2008. 129-141.

Hernández, R. (2007) 'Learning-oriented assessment: Beyond a marriage of convenience'. In Carey, L., Huntley-Moore, S., Jordan, A., Magennis, S. and McMullin, B. eds. AISHE International Conference: Teaching and Learning in the Changing World of Higher Education. August 2007. <http://www.aishe.org/events/2006-2007/conf2007/proceedings/>.

Presentations of Teaching Fellow's Work

International Presentations

Gibney A. (2009) 'Are engineering graduates adequately prepared for employment? Curriculum design to encourage creativity in engineering education', Univeritas 21 Teaching & Learning Conference, Teaching and Learning for Employability in a Global Economy. Ningbo, China. November 2009.

Gibney, A. (2008) 'Encouraging creativity within an engineering curriculum', An International Symposium in Engineering Education: Student-centred learning in small groups. Loughborough University, UK. January 2008.

Hernández, R. (2011) 'Engaging students in assessment for learning in a modularised environment', Paper presented at the 2011 Assessment in Higher Education Conference. University of Cumbria, UK. July 2011.

Hernández, R. (2010) 'Integrating self-directed learning into the curriculum [National Refereed Conference Paper]', First International Language Conference. Galway. December 2010.

Hernández, R. (2008) 'The challenges of engaging students with feedback', Paper presented at the 4th Biennial EARLI/Northumbria Assessment Conference. Potsdam, Berlin. 27-29 August.

Kieran, P.M., Malone, D.M. & O'Neill, G. (2010) 'Peer-assisted tutoring in chemical engineering: Development of a tutor-oriented module', International Society for Engineering Education Conference (ISEE 2010). University College Cork. 30 June-2 July, 2010. Available online: <http://www.ucc.ie/academic/processeng/isee2010/pdfs/Papers/Kieran%20et%20al.pdf> Awarded 'Runner-Up Best Paper'

Kieran, P.M. & O'Neill, G. (2009) 'Introducing Peer-Assisted Learning to a Chemical Engineering Curriculum', Students learning from students - from theory to practice. KU Leuven, Belgium. April 2009.

Kieran, P.M. (2008) 'Introducing problem-based learning to the chemical engineering curriculum', International Symposium in Engineering Education: Student-Centred Learning in Small Groups. Loughborough University, UK. 11 January 2008.

Moore, N. & Gilmartin, M. (2010) 'Moving beyond the individual in technological space', Innovative Spaces of Teaching and Learning Organised Session at the AAG Annual Conference. Washington DC. April 2010.

Moore, N. & Gilmartin, M. (2009) 'How about we figure a time and get this thing rolling?', Renegotiating the teaching-learning nexus with First-Year Geography students, Keynote address at University of Glasgow, Second Annual Learning and Teaching Conference: Promoting Student Success through the Curriculum. April 2009.

Moore, N., Gibney A., O'Sullivan, S. and Murphy, F. (2008) 'Channeling innovation: The scholarship of teaching and learning and academic policy formulation', 30th Annual EAIR (The European Association for Institutional Research) Forum, Polishing the silver: Are we really improving higher education?. Copenhagen. August 2008.

Noonan, E. & Redmond, B. (2009) 'Engaging academic staff in the strategic enhancement of teaching, learning and assessment activities at University College Dublin', QAA Scotland Enhancement Themes Annual Conference. March 2009.

- Noonan, E. & Redmond, B.** (2008) 'Using a Fellowship programme to support academic development in a University undergoing strategic change', SRHE (Society for Research in Higher Education) Academic Practice Network. University of Chester. May 2008.
- Noonan, E. & Redmond, B.** (2007) 'Using a Fellowship programme to support academic development in a University undergoing strategic change', EAIR (European Association for Institutional Research) 29th Annual Conference. August 2007.
- O'Sullivan, S.** (2010) 'Teaching and learning solutions to problems impacting on student learning in large First-Year classes'. Paper presented at SoTL Commons Conference. Georgia Southern University. March 2010.
- O'Sullivan S., Gibney A., Moore N. & Murphy F.** (2010) 'The First-Year experience at University College Dublin', 29th Annual Conference of the First-Year Experience. Denver, Colorado. February 2010.
- O'Sullivan, S.** (2009) 'Designing, implementing and revising a learning outcomes-based curriculum: The experience of the UCD School of Sociology'. Paper presented at Primer Seminario del Bologna Expert Team (Spain), 'Resultados de aprendizaje: Descripción, desarrollo y evaluación', Universidad de Castilla-La Mancha Toledo. 10th December 2009.

Universitas 21 Inaugural Teaching & Learning Conference, Glasgow, February 2008

(<http://www.universitas21.com/TandL/OldTandLpages/Programme.html>) the following presentations were made:

- Gibney, A., Moore, N., Murohy, F. & O'Sullivan, S. 'Won't someone tell me all I need to know? First-Year expectations of university life'
- Gilmartin, M. & Moore, N. 'Making it different: a blended learning pilot project with First-Year geography Undergraduates'
- Hennessy, E., Hernández, R., Kieran, P. & McLoughlin, H. 'Translating teaching and learning across disciplines in a modular system'
- Redmond, B. 'Teaching as academic housework: exploring the nature of perceived inequities between teaching and research'

National Presentations

- Gibney, A.** (2011) 'Developing creative potential using an active-learning experience', NAIRTL 5th Annual Conference & Galway Symposium on Higher Education. NUI Galway. 9-10 June 2011.
- Gibney, A.** (2010) 'Curriculum design in engineering education', Invited Presentation. DCAD Practice Exchange: Celebrating Excellence in Teaching and Learning in the DRHEA. UCD Dublin. 10 May 2010.
- Hennessy, E.** (2009) 'Developing writing skills among graduate students', Presentation at the 2009 Annual Conference of the Psychological Society of Ireland. Wexford. 5-8 November 2009.
- Kieran, P., Malone, D. & O'Neill, G.** (2011) 'Embedding peer-assisted tutoring in a Chemical Engineering curriculum: Tutor and Tutee experiences', NAIRTL 5th Annual Conference. Galway. 9-10 June 2011.
- Kieran, P.M., Malone, D.M., O'Neill, G.M.** (2010) 'Introduction of peer-assisted tutoring to the chemical engineering curriculum', Invited presentation Teaching & Learning Committee, Dundalk Institute of Technology. 7 May 2010.
- O'Sullivan, S.** (2010) 'Using the scholarship of teaching and learning to enhance the First-Year experience in sociology: Mission impossible?', Paper presented at Sociological Association of Ireland Conference. Queen's University Belfast. 7-9 May 2010.
- O'Sullivan, S.** (2009) 'Enhancing the First-Year experience in sociology', Poster presentation Irish Universities Quality Board Conference November 'Striving to Enhance the Student Experience: Implementing a Student Centred Approach to Learning- The European Standards and Guidelines (Part 1) in Action'. November 2009.

Internal Workshops at UCD

- Presentation of strategic projects to UCD Senior Management Academic Plenary June 2008;
- Internal UCD seminars for Vice-Principals for Teaching & Learning, School Heads of Teaching & Learning, ongoing two per annum 2008-2010 to disseminate the outcomes of Fellowships projects;
- Presentations of project findings at College and School level committees throughout the project

Hennessy, E., Hernández, R., Kieran, P.M. & McLoughlin, H. (2009) Seminar for UCD Graduate Diploma in University Teaching & Learning students (Module: 'Designing and Developing Curricula for Higher Education'). UCD Centre for Teaching & Learning. April 2009.

Hernández, R. (2010) 'When assessment of learning becomes assessment for learning', Research seminar paper presented to the School of Languages and Literatures. April 2010.

Hernández, R. et al. (2009) 'Student elective choices across UCD', Presentation to UCD College of Arts and Celtic Studies Council Meeting. January 2009.

Hernández, R. et al. (2009) 'Student elective choices and their implications for assessment', Presentation to UCD School of Geography, Planning and Environmental Policy. January 2009.

Hernández, R. et al. (2008) 'Module choice and student experience in Horizons 2007-08' Presentation to UCD School Heads of Teaching and Learning. November 2008.

Hernández, R. et al. (2008) 'Translating teaching and learning across the disciplines in a modular system', Presentation to UCD Senior Management Team. June 2008.

Hernández, R. et al. (2008) 'Choosing non-programme elective modules', Presentation to UCD Registration Information Outreach Group, June 2008.

Hernández, R. (2008) 'Evaluating the student experience', Workshop facilitated to the School of Languages and Literatures. May 2008.

Hernández, R. (2008) 'Principles and practices of student assessment in a modular curriculum', Workshop facilitated to the School of Geography Policy and Environmental Policy. February 2008.

Kieran, P.M., Malone, D. M. & O'Neill, G. (2010) 'Student peer-tutoring: An educationally beneficial module', UCD Centre for Teaching & Learning. 10 February 2010.

Moore, N. (2008) 'Innovation in teaching and learning: opportunities and challenges for enhanced learning', Presentation to Inaugural School of Geography, Planning and Environmental Policy, Teaching and Learning Day, January 2008

Looking to the Future

Fellowships in Teaching & Academic Development 2011-2013 Project Outlines

The 2011-2013 Fellows, will continue to build on the foundational research of previous Fellows on the First-Year experience. Three Fellows have been appointed:

- Dr Suzanne Guerin, School of Psychology;
- Jonathan McNulty, School of Medicine & Medical Science;
- Dr Michael Staunton, School of History & Archives.

Currently Suzanne, Jonathan and Michael are developing a strategic multi-disciplinary project which will address the Transition period for students in the first year of higher education. This project, once complete, will provide strategic advice to the University about the structures and pedagogic practices required to support effective student transition into higher education and academic success.

Further details for the Strategic Project will be available at the end of September 2011 at:
<http://www.ucd.ie/teaching/fellows/> .

In addition each Fellow will also conduct a disciplinary-based project on an aspect of First-Year student learning. The disciplinary projects proposed are as follows:



Suzanne's work will focus on engagement and assessment in large class settings with a particular emphasis on evaluating the use of in-class workshops to develop students' critical thinking and essay writing. She hopes that the outcomes of her work may help refine models of large group teaching which colleagues will find relevant and useful to their discipline.



Jonathan's work will evaluate the First-Year experience and engagement across a number of Health Science programmes. It will focus on examining how students are introduced to their professions in their core modules in their first year at university, and it will also examine students' expectations of their first year and the professions. Jonathan anticipates that this evaluation will generate new approaches to the structure and approach for engaging students in the exploration of professional issues and identity at the start of their programme.



Michael's work will focus on the development of writing skills and its assessment as an explicit activity within First-Year modules. Writing is a skill essential to the progress of students in many disciplines from History, across the Arts and Social Sciences to Law and Business, however unlike practice in many North American universities, writing currently has a limited explicit role in the curriculum. Michael's project will examine national and international best practice and investigate how the teaching of writing may be effectively aligned with assessment strategies.

The individual projects of the three Teaching Fellows have strong synergies in terms of the focus on the First-Year experience and the attention to the development of particular learning skills which will equip students to be effective graduates.

President's Teaching Awards (2010-2012)

This prestigious biennial award recognises the abilities of a recipient who will have a track record in teaching and learning including the adoption of leadership role in curriculum design, programme development and peer mentoring in Teaching and Learning. The recipients are awarded a sum of money to undertake a Teaching and Learning project which is consistent with the University's Education Strategy.





Enhancing Students' Writing Skills; Determining the need for a University-based Writing Centre

Dr Fionnula Dillane

School of English, Drama and Film, College of Arts and Celtic Studies

Overview

This is a pilot project support service for undergraduate students that responds to the following facts:

- Being an undergraduate means being a writer
- Writing is a skill
- High standard of literacy is both a fundamental and a key graduate attribute
- Committed students are under-performing because of poor execution of written work
- There is a need for a clearly identifiable and accessible support system for this significant number of students.

Undergraduate students taking subjects in the College of Arts and Celtic Studies were targeted in the first phase of this project. Students were sent a general email alerting them to the availability of free half-hour clinics that offered exercises, strategies and advice to address recurring difficulties in written work. It was made clear that the clinics were not linked to individual Schools and were not to be taken for credit.

The first set of clinics took place in group study rooms in the James Joyce Library, the most suitable environment available at this initial phase of the project (the group rooms are set up to facilitate the particular dynamic of one-to-one sessions in a neutral non-School based space). The project, a student support service, is defined by the fact that it is not tied to specific assessments or to the content of individual modules or programmes. Each half-hour clinic focuses on writing as a transferable skill. It operates on a policy of self-referral although tutors/staff can recommend the service to students.

There are obvious precedents for the project: Writing Centres or Writing Laboratories are a standard feature of the North American university system since the 1970s and a cornerstone of undergraduate programmes. Examples of leading universities that offer non-credit based writing clinics for undergraduates through central Writing Centres or Writing Labs include:

- Harvard University (THE QS World University Ranking: 1). See <http://isites.harvard.edu/icb/icb.do?keyword=k33202&pageid=icb.page143936>
- Yale University (Ranking 3). See <http://www.yale.edu/bass/AbouttheWritingCenter.html>
- Australian National University (Ranking 17). See <https://academicskills.anu.edu.au/what-we-do/working-students>
- University of Toronto (Ranking 29). See <http://www.writing.utoronto.ca/writing-centres/centres>.

The Purdue University Writing Lab, founded in 1976, is a model for this current project. That operation started off in one room with three tutors helping writers of all skill levels in one-to-one, half-hour tutorials. The Writing Lab is now based in a three-room complex with 26 tutors and 13 support staff (see <http://owl.english.purdue.edu/writinglab/factsheet>).

The Regional Writing Centre, University of Limerick is a national leader in this field (see http://www2.ul.ie/web/WWW/Services/Centre_for_Teaching_&_Learning/The_Writing_Centre/ABOUT_THE_WRITING_CENTRE).

This trial support service also responds to key features of University College Dublin's Strategic Plan, 2010-2014, 'Forming Global Minds,' which identifies advanced levels of literacy and communication skills as key graduate attributes and which strives to 'foster early and lasting student engagement' through a range of support services (4.4.1, pp. 14-15, available at http://www.ucd.ie/t4cms/plan_FINAL.pdf).

These pilot clinics are a point of intervention to help students not reaching such goals and to provide support for undergraduates who identify the need for more sustained one-to-one guidance.

The immediate aim of the project then is to offer a non-credit based support service to undergraduate students in the College of Arts and Celtic Studies who want to develop their writing skills. In the longer term, the project hopes to measure the effectiveness of writing clinics as a critical intervention contributing to the following:

- Elimination/reduction of mechanical errors in written work,
- Increased confidence in completing the form of assessment that dominates our curriculum: the written submission,
- Improved match between a student's efforts and a student's rewards in final results,
- More literate, confident, articulate graduates.

More generally, it is hoped to demonstrate that this student-oriented service will help with retention rates; an improvement in grade profiles; and a reduction in fail rates in within the college.

An important feature of the service is that it is entirely student-oriented: students refer themselves to the clinics and dictate the content of the half-hour sessions by bringing a piece of already assessed, marked-up work to their session. An experienced tutor works with individual students to identify recurring problems in the piece of written work, while providing guidelines on the writing process in general.

Clinic facilitators are experienced teachers-post-graduate and post-doctoral scholars drawn from across the College of Arts and Celtic Studies. At the end of each session, students are asked to complete a confidential feedback form. This feedback provides key information about the value and effectiveness of the service from the students' perspectives and is part of the ongoing monitoring of the project.

The project will also monitor:

1. Take-up of clinic slots
2. Number of return visits
3. Participating students' grades.

Progress to Date

In all, seven tutors from six different Schools worked one-to-one with over 80 undergraduate students from weeks 6-10 of semester two, 2010-11. The feedback has been overwhelmingly positive, with 100% of those surveyed testifying to the value of the sessions and asserting that they would recommend the clinics to other students.

Feedback from the first group of clinics (semester two, 2010-11) suggested that students understood the purpose and the parameters of the service; participants offered both general and specific reasons for attending, but the focus was on writing as a process rather than on essay content. Responses to the question 'Why did you choose to come to this writing clinic?' included the following:

- 'I wanted to ask questions about 'pre-writing' and planning'
- 'I need to improve my writing skills'
- 'To achieve better essay grades'
- 'I wanted some advice on how to approach writing an essay'
- 'Because I have trouble addressing the question in my essays/assignments and structuring my essays'
- 'To address small but important problems with my writing'
- 'I wanted a hand with my downfalls in essays'
- 'To clear my ideas about essay writing and revise [my] writing techniques'
- 'I struggle with essay plans/beginning an essay'.

Responses to the question 'What aspects of this clinic did you find most useful?' included the following:

- 'Analysis of errors in previous essays'
- 'Being shown step-by-step methods for organizing my writing'
- 'The one-to-one advice'
- 'Information on structure, arguments and footnotes'
- 'The explanation of thesis statements'
- 'The focus on eliminating errors and improving quality as well as content of written work'
- 'The no-nonsense pragmatic approach'
- 'Being able to discuss my concerns and getting feedback that they were quite common'
- 'Planning an essay'.

Future Developments

Another set of clinics will run from weeks 6-10, semesters one and two, 2011-12. We hope to offer 120 half-hour slots in each semester. Data from the clinics will be processed (student feedback; feedback from tutors; follow-up emails to participating students post results; analysis of student performance based on examination data) to measure the need for and effectiveness of these pilot clinics. Colleagues who have embedded the teaching of writing skills as a key objective of individual modules within specific programmes in the College of Arts and Celtic Studies will be approached for comparative feedback. This raw data will be measured alongside current research on national and international best practice in the well-established area of Writing Support Services for undergraduate students. If indicated that a permanent centralised Writing Centre to support all students in the University is indeed needed, the next step will be to secure a permanent space, specialised instructors, an administrator and ongoing funding for what the practice in leading third-level institutions suggests is a basic student service.



Learning to Teach; Teaching to learn, Developing Effective Practices in Third Level Education

Dr Crystal Fulton

UCD School of Information & Library Studies (SILS)

Overview

One anticipated outcome of a doctorate is teaching. While doctoral students are sometimes called upon to participate in teaching, they often do not receive formal instruction in third-level teaching (e.g., see Smith et al, 2010). In 2010-2011, the President's Teaching Award facilitated the creation of a new module in University College Dublin, Learning to Teach; Teaching to Learn, to provide doctoral students with the opportunity to explore effective means of creating curricula, presenting content, engaging students in learning and integrating e-learning tools in teaching and learning. The doctoral students had opportunities to apply this knowledge in the context of an ongoing undergraduate module on the topic of social media. Thus, Learning to Teach; Teaching to Learn facilitated the doctoral student in the transition to instructor through a positive early teaching experience. A longer-term goal is to promote consistent and high quality teaching in the University and in the wider community by developing an international community of best practice and sharing in support of doctoral training as effective educators.

This report documents outcomes of this project, including the implementation of the new doctoral module, Learning to Teach; Teaching to Learn, and offering recommendations for ongoing sustainability and development of this key component of doctoral education.

Problem and Background

A need for formal teaching support for development of doctoral student teaching was observed in the behaviour of doctoral students in the UCD School of Information & Library Studies (SILS). Doctoral students often expressed a desire to participate in teaching in the school, but lacked training and skills to teach effectively. Teaching is an activity that many doctoral students will undertake throughout their academic careers; however, doctoral students typically lack a clear understanding of the challenges associated with teaching and of the equivalent significance of teaching in third-level education in comparison with research activities. Recognizing and addressing the need to support doctoral teaching is of mutual benefit to development of doctoral education and to teaching in the University. Providing teaching support for doctoral students is not unique to a particular subject, school, or institution. Across disciplines and institutions worldwide, doctoral students may find themselves teaching (e.g., Mycock 2007) and there seems to be general agreement that although formal teaching preparation of doctoral students is needed, formal teaching support is often lacking. For example, Brightman (2009) observed that renewed interest in teaching in business schools had not transferred to formal, systemic preparation of doctoral students to teach. Similarly, Watson et al. (2010) noted that engineering, mathematics, science and technology graduate programs often provide little or no formal training for doctoral students to teach, raising concerns on the transition from doctoral student to faculty and the quality of course delivery. Harland and Plangger (2004) and Hopwood and Stocks (2008)

observed conflict between the goals of research (knowledge generation) and teaching (knowledge transfer) which highlighted the additional learning needs of doctoral students to accommodate both research and teaching expectations.

A challenge applicable to students across disciplines became clear: How can we best prepare and mentor our doctoral students to become effective teachers?

Project focus

This project provided an exploration of the means of providing formal teaching support to doctoral students across UCD. The development of a new module, IS50060: Learning to Teach; Teaching to Learn. Developing Effective Practices in Third-Level Education, offered a learning opportunity for doctoral students to explore effective means of

- creating syllabi
- presenting content
- engaging students in learning
- integrating e-learning tools in teaching and learning
- practising skills in an undergraduate class environment
- learning from other doctoral students.

A Positive Early Teaching Experience for Doctoral Students

The module was rolled out in semester two, 2010-2011. Module seminars provided a space for doctoral students to discuss teaching theory and methods, explore the teaching process, and develop a repertoire of best teaching practices. This work formed the foundation for their participation as instructors in classroom, lab, and small group session environments in the undergraduate module, IS20090: Web 2.0 & Social Media. This undergraduate module provided an ideal context for teaching and learning development, since it included exploration, evaluation and use of a wide range of social media tools in conjunction with e-learning. The nearly 90 undergraduate students taking this module in SILS also came from across the university, reflecting again the interdisciplinary nature of our work together.

Doctoral students' experience culminated in their creation of a teaching e-portfolio, in which they gathered examples of good practice from the literature and reflected on their teaching experiences. Doctoral students drew from their learning about social media during their participation in IS20090: Web 2.0 & Social Media, in addition to their exploration of tools such as Word Press, to create an effective electronic presentation of their teaching portfolios. These e-portfolios facilitate ongoing documentation of doctoral students' teaching development and support their transition to effective university instructors.

Impact on Student Learning

The project has had a twofold impact on student learning, providing benefits and enhanced learning opportunities for both doctoral students and undergraduate students:

- positive outcomes for doctoral students included the following:
- facilitation of a doctoral student's transition to instructor,

- promotion of teaching excellence at an early career stage,
- stimulation of innovation in teaching practice,
- enhancement of creativity in the classroom,
- opportunity open to all doctoral students across UCD,
- increased doctoral student engagement at school (SILS) and university levels.

Undergraduate students taught by doctoral students also benefitted by:

- experiencing module content from different perspectives,
- engaging with learning in varied ways,
- interacting with doctoral students,
- considering similar educational/research pathways for themselves.

The overall approach to bringing doctoral and undergraduate students together in a teaching and learning environment was highly experimental, enabling doctoral students to engage in innovative teaching approaches and providing undergraduate students with learning opportunities that extended beyond the traditional lecture format. Both doctoral and undergraduate students were very positive about their experience. Doctoral students reflected upon lessons learned as they brought theory and practice together in the classroom setting. Summing up their journey, one student observed, 'I feel like I've learned loads and lots more to come'. Another doctoral student valued the experimental approach to teaching on an undergraduate module, 'IS20090 has been an incredible facility for me during the semester. It has really encouraged me to step outside the box and explore the best available tools to enhance student learning'.

Undergraduate students were enthusiastic about their module, and commented positively on their interaction with doctoral students. In module feedback, undergraduate students repeatedly noted that 'the guest lecturers were very good' and 'guest lecturers aided my learning.'

The overall success of linking doctoral and undergraduate modules offers one pathway to promoting a university-wide approach to doctoral training as effective educators, as well as increasing undergraduate student engagement.

Sustaining Doctoral teaching support

Significantly, this project has approached doctoral teaching development from a constructivist perspective, enabling all stakeholders to participate; this is new to doctoral teaching development generally. The project to-date has provided an important first examination of formal doctoral teaching development in UCD. Because the challenge of preparing doctoral students for teaching holds significant international and interdisciplinary interest, there is an opportunity for UCD to take a lead in research providing innovative approaches to sustainable doctoral teaching development in Information and Library Science programmes and other disciplines generally.

A sustainable approach to doctoral teaching development which takes both doctoral and institutional perspectives into consideration and which can be applied in a variety of disciplines fulfils a critical teaching and learning gap both locally and internationally. It would support UCD's Forming Global Minds: Strategic Plan to 2014 (2010) to deepen links among education, research, and innovation to increase conversion of knowledge into 'life-enhancing products, services and policies in a manner that will enrich all aspects of social and economic life in Ireland and beyond.'

For the immediate future, a continued offering of IS50060: Learning to Teach; Teaching to Learn. Developing Effective Practices in Third-Level Education is envisioned by the School of Information and Library Studies. While this module offers an initial step forward in doctoral teaching support, in the longer term, further consistent, systematic, broad scale supports that are imbedded in our practice of preparing educators are required support doctoral teaching development and excellence.

A grant proposal identifying collaborative means of developing sustainable doctoral teaching support has been drafted, and EU funding opportunities are being investigated.

Ethics

This project received ethics exemption from UCD's Research Ethics Committee, and was assigned Research Ethics Exemption Reference Number (REERN) HS-E-11-76-Fulton.

Project dissemination

Project outcomes will be presented in a peer-reviewed conference paper accepted for the annual conference of the Association for Library and Information Science Education (ALISE), to be held in Dallas, Texas in January 2012. Full conference information available at www.alise.org.

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www.ucd.ie/teaching/fellows

