# NAIRTL Grants Initiative: Evaluation of Impact

**December 2011**

## Acknowledgements

## Copyright

## Foreword



Iwelcome the publication of this report which documents the impact of more than 160 projects that have been supported by the NAIRTL grants initiative since 2007. NAIRTL (the National Academy for Integration of Research, Teaching and Learning) was one of the initiatives funded by the HEA through the Strategic Innovation Fund (SIF1). The vision of NAIRTL is one where research and teaching go hand in hand, where students and academics work in inclusive research, teaching and learning partnerships, and where opportunities are created for all students to engage in and be challenged by appropriate scholarly activity from their first year of undergraduate studies. This report shows that the NAIRTL grants initiative has significantly contributed towards achieving this ambitious vision.

The NAIRTL grants initiative has enabled more than 160 research projects, involving 420 researchers representing seventeen higher education institutions. This is most encouraging and is a symbol of the importance and value that our higher education institutions place on teaching. One of the most important aspects of the NAIRTL grants initiative is its strong emphasis on the need to link research with teaching. As the National Strategy for Higher Education to 2030 acknowledges, it is this link with research that distinguishes teaching in higher education from other levels of education. Many NAIRTL grant holders have demonstrated outstanding success at linking research and teaching using innovative, exciting and stimulating teaching techniques, in many cases contributing to the teaching of their disciplines far beyond the boundaries of their own institutions.

This report is evidence that, in the area of teaching and learning, it is possible to make substantial impacts with a relatively small scale investment. The NAIRTL grants initiative is making a vital contribution in enabling individual, and teams of, academic staff to be more innovative and creative in their teaching. Strong links between research and teaching have been cultivated, curricula and assessment strategies have been revised appropriately, and innovative approaches to teaching and learning have been enabled. Information and communications technologies have been exploited to improve teaching and learning and a wide range of useful resources have been generated and shared across the sector. I must acknowledge, of course, that this impact is only possible because of the enthusiasm, innovation and hard work of the NAIRTL grant holders who set ambitious goals for themselves and their students, and who have worked tirelessly to achieve them.

In these challenging times in higher education in Ireland we know that we must strive to be continually better and go to greater heights. Education is the path to those greater heights. This report, which documents so much of what we are doing well in higher education, reaffirms our belief that education will lead us proudly into a new future. I congratulate the NAIRTL grant holders for their achievements in enhancing teaching and student learning. This report is a celebration of your work and I thank all those who were involved in its preparation.

_Tom Boland_
_Chief Executive Officer, Higher Education Authority_

## Table of Contents

**PART 3**

## Executive Summary

The mission of the National Academy for Integration of Research, Teaching and Learning (NAIRTL) is to ensure that all higher education students are exposed to cutting edge research in their classrooms, and that students at undergraduate and postgraduate levels are actively engaged in relevant and authentic research in their chosen discipline. To this end, NAIRTL has initiated a wide range of events and activities aimed at enhancing student learning and that support stronger links between research and teaching.

This report focuses on the impact of just one of these creative interventions, namely the NAIRTL grants initiative. The objective of the grants initiative is to provide financial support to research proposals that endeavour to enhance student learning through developing innovative and creative approaches to teaching and assessment. More than forty per cent of the National Academy's total budget to date has been invested in the grants initiative, funding 161 projects that involve 420 researchers in seventeen higher education institutions in Ireland. This report focuses on the impact of the projects that were funded in the period 2007-2010.

The report is divided into three parts. The first part provides a brief introduction to the National Academy, giving an overview of a selection of its main initiatives i.e. the awards programme for excellence in teaching, professional development activities in academic practice, and development of publications and resources. It provides an overview of the NAIRTL grants initiative and describes how the initiative has evolved over the last four years. Data is presented on application trends, project outputs and outcomes to date.

Part two of this report presents the findings of an evaluation of the impact of the grants initiative. The evaluation was compiled through an analysis of the reports which were prepared by grant holders and submitted one year following receipt of their funding. The most prominent impacts are identified and outlined under the following headings: enhancement of student learning, enhancement of the student experience, continuous professional development of academic staff, fostering collaboration, building departmental and institutional capacity, forging interdisciplinary collaborations, national and international dissemination of outputs and integration of new and existing technologies. This section does not purport to show the impact of all projects that have demonstrated success under the various headings but it does make specific reference to a selection of projects based on information that was provided in the grant holders' reports.

Part three of this report presents fifteen case studies of projects that were funded through the NAIRTL grants initiative. These case studies serve to describe, in more detail, the impact of specific projects. The case studies represent a range of institutions, disciplines, thematic areas, and approaches to integrating research with teaching and learning. These case studies provide further evidence of the impact of the NAIRTL grants initiative and illustrate how this initiative has enabled individuals and networks of scholars to enhance the student learning experience. The extent to which outputs and outcomes of these projects have already been disseminated would indicate that their impact is far-reaching and will continue to grow long after the NAIRTL grant has been expended.

# Part 1

## Introduction to NAIRTL Activities

## 1.0    Introduction to NAIRTL

The National Academy for Integration of Research, Teaching and Learning (henceforth called NAIRTL, or the National Academy) was established in 2007, following a successful proposal for funding made to the Higher Education Authority under the Strategic Innovation Fund (SIF). The SIF initiative was launched by the Higher Education Authority (HEA) in 2006, when it invited collaborative and innovative proposals for funding of up to five million euro from the higher education sector.

University College Cork, in collaboration with Cork Institute of Technology, National University of Ireland Galway, Trinity College Dublin and Waterford Institute of Technology, submitted a proposal for SIF funding to establish a National Academy that would support academic staff researchers and graduate students, to implement and advance effective research-informed teaching and learning practices for diverse audiences. In October 2006 this proposal was successful in securing three million euro of SIF funding. The National Academy developed as an inter-institutional consortium of universities and institutes of technology, promoting innovation, supporting development and sustaining good practice that integrates research with teaching and learning. While this initiative is collaboratively managed by the partner institutions, it works to support and enhance innovation in teaching and learning across the entire Irish higher education sector.

The National Academy promotes a vision of higher education, where all teachers and learners are scholars, life long learners and life long enquirers. The design and development of the National Academy was inspired and informed by international developments calling for closer links between research and teaching. Developments in the Carnegie Foundation for the Advancement of Teaching and Learning, the British Higher Education Authority (HEA), the Scottish Quality Assurance Agency (QAA), the Australian Learning and Teaching Council (ALTC) and various other agencies internationally provided motivation and insights into the activities of the Irish National Academy. Strong links have been forged with international partners, enabling the National Academy to continually learn from and build on promising models of practice in other countries.

The strategic framework that guides the work of the National Academy has four main strands:
- Investigation of models of good practice in linking research with teaching and learning;
- Developing practice to enable participating institutions to develop and implement good practice;
- Recognition of good practice in an effort to bring parity of esteem for research and teaching;
- Dissemination of good practice among higher education practitioners in Ireland and abroad.

Through the strategic implementation and evaluation of this framework, the National Academy has made significant strides in achieving its vision of a higher education sector that equally values the teaching and research efforts of academic staff.

## 2.0    The National Academy's Progress to Date

Collaborative working groups, with representation from across the higher education sector, have advanced many of the National Academy's objectives since its establishment. A number of proactive initiatives have been progressed at a national level that encourage parity of esteem for research and teaching in institutional policies and practices. This report will focus primarily on just one of these initiatives, i.e. the grants initiative. However, in an effort to provide some background information and context, a very brief overview of a selection of the National Academy's multi-faceted programme of initiatives is provided in this section.

## 2.1    Awards for Excellence in Teaching

Awards programmes for Excellence in Teaching have existed around the world for several years, for instance:

- U.S. Professor of the Year Award, est. 1981
- Canadian 3M National Teaching Fellowships, est. 1986
- Australian Awards for University Teaching Excellence, est. 1995
- New Zealand – Tertiary Teaching Excellence Awards, est. 2001
- UK  National Teaching Fellowships, est. 2000

Following an extensive research project on Awards for Excellence in Teaching and the piloting of an Awards programme in 2008, the National Academy launched the National Awards Programme for Excellence in Teaching in 2009. This Awards programme honours exemplary teachers who are also innovative researchers in higher education in Ireland. It is a highly competitive national programme, open to nominations from 38 higher education institutions. The Awards programme recognises that teaching excellence is multi-dimensional and difficult to measure, and it ensures that candidates have explored and demonstrated their teaching from a range of important perspectives. The selection process is a rigorous exercise, which is undertaken by a selection committee that has representation from a range of national educational bodies.

A primary objective of this Awards programme is to raise the profile of teaching and learning throughout the sector by recognizing and celebrating teachers who make an outstanding impact on the student learning experience, acknowledging and rewarding those who are most successful at uniting their dual roles as teacher and researcher. President of Ireland, Mary McAleese indicated that these awards are "...an important fit...with our ambition to develop Ireland as a smart economy [having] tremendous potential to really enhance teaching policy and teaching practice in Ireland". The national Awards programme recognizes and rewards teachers who have demonstrated excellence and commitment to strengthening the links between their research and their teaching. At a time when Ireland's universities, institutes of technology and colleges are being challenged to achieve ever higher standards, these Awards symbolise the outstanding quality of teaching which many Irish students already experience.

## 2.2  Professional Development in Academic Practice

Ambitious objectives relating to the continuous professional development of academic staff in higher education institutions have been identified and pursued by the National Academy. One such example is the curriculum framework for the professional development of supervisors of postgraduate students, which has been developed by a NAIRTL working group. This initiative supports and promotes good practice in the alignment of research and teaching activities with a specific focus on development of staff supervisory skills. The curriculum, together with guidelines on curriculum implementation, has been made available as a national resource to the higher education sector.

Further professional development opportunities for academic staff have been made available through the wide range of NAIRTL events such as conferences, seminars and workshops which have been hosted nationally. Many of these events were organised in collaboration with other educational organisations, where they provided a forum for practitioners from all sectors, institutes and disciplines to communicate openly about their shared experience of teaching. Through these events the National Academy has been successful in creating interdisciplinary learning communities that generate knowledge of research-informed teaching and learning practices, and that promote, support and sustain the integration of research, teaching and learning in Ireland and abroad. Some examples of past events include the ever popular NAIRTL Annual Conferences, that attract up to 300 delegates each year:

International Perspectives on Teaching and Learning in Higher Education, University College Cork, November 9-10 2007

Teaching and Learning in Higher Education: Challenging Assumptions, Waterford Institute of Technology, November 13-14 2008

Research-Teaching Linkages: Practice and Policy, Trinity College Dublin, November 11-12 2009, held in collaboration with IUA

Flexible Learning, Royal College of Surgeons in Ireland, October 6-7 2010, held in collaboration with LIN & IoTI

Engaging Minds, NUI Galway, June 9-10 2011, held in collaboration with CELT

## 2.3    NAIRTL Publications and Resources

The resources and experience of good practice generated by NAIRTL activities and events have been vital for sustaining the integration of research, teaching and learning. The National Academy has maximised all available channels of dissemination to ensure these resources reach the widest possible audience. Over a four year period NAIRTL has designed, produced and disseminated ten books and handbooks which serve to enhance the capacity of teachers to integrate research, teaching and learning (Appendix 1).

These publications continue to be popular with academic staff nationally and internationally, with more than 11,500 hardcopies having been disseminated to date. Furthermore, a wide range of resources including videos, podcasts, screen casts, slideshow presentations, worksheets, case studies, papers etc. have been developed and disseminated online. These resources are having a big impact with close to 1,500 publications/resources being downloaded from the NAIRTL website each month.
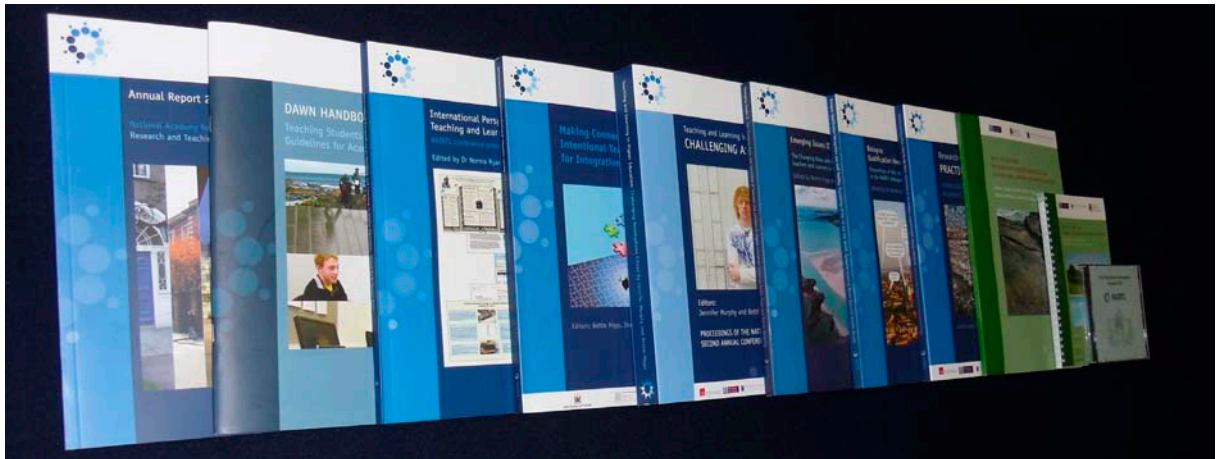


*Selection of NAIRTL Publications*

Feedback has clearly shown that access to NAIRTL resources and communities of practice has supported innovations in teaching. Academic staff who have engaged with NAIRTL events, activities and publications have expressed increased enthusiasm for teaching, and feel they are better equipped to integrate research, teaching and learning at undergraduate and postgraduate levels.

With up to 30,000 visits per annum from 157 countries, the National Academy's website enables academic staff worldwide to keep up to date with emerging research on teaching and learning, better equipping them to enhance learning in their own classrooms.

www.manaraa.com

>90,000 visits to date from 157 countries
>30,000 resource downloads

Visits
1 ▮▮▮▮▮ 54,079

*Analysis of NAIRTL website activity (image generated from Google analytics)*

Given the success of the National Academy in advancing its objectives through the design and implementation of such a wide range of engaging events and activities to date, it is not intended to demonstrate the impact of these interventions within one encompassing report. Therefore, this study will focus on the impact of just one creative intervention of the National Academy, namely the NAIRTL grants initiative. The grants initiative has been in operation since 2007 and this report focuses on the impact of projects that were funded by NAIRTL between 2007 and 2010 inclusive.

## 3.0 The NAIRTL Grants Initiative

Originally implemented under strand one of the National Academy's strategic framework, i.e. investigation, the grants initiative was designed to encourage and support staff to regard their own and their colleagues' teaching and assessment approaches as a valid area for research. It was also intended to help academics to identify and adopt innovative and creative forms of teaching and learning appropriate to their discipline. More than forty per cent of the National Academy's total budget to date has been invested in the grants initiative.

The grants initiative was organized with the ultimate intent of enhancing student learning through support of stronger links between research and teaching. This student-centred philosophy lies at the heart of all the National Academy's initiatives and is critical if educational practitioners are to stimulate students to become more actively involved in their own learning. In light of relevant literature[1] and the development of the Scholarship of Teaching and Learning (SoTL)[2], NAIRTL included the following definitions in its guidelines for funding applications:

| Research-led | The curriculum is informed by the research interests of the teachers |
|---|---|
| Research-oriented | The curriculum emphasises the processes by which knowledge is produced |
| Research-based | The curriculum includes activities in which students actually conduct research, through projects and other course work |
| Research-informed | The curriculum is informed by systematic enquiry into the teaching and learning process itself |

These definitions are useful in capturing the complexity and richness of integrating research, teaching and learning and have become central pillars of the NAIRTL grants initiative. This model provides applicants with a framework within which to locate their research, and acknowledges the shift from educational inputs to learning outcomes within the higher education sector. The definitions encourage dialogue and synthesis between research and teaching, allowing academic staff to engage in integration at any point on the continuum.

The National Academy's support for the development of innovative and progressive projects that link research with teaching and learning has been reinforced through the grants initiative. The grants initiative has evolved considerably since its foundation, as the National Academy has endeavoured to prioritise national strategies for higher education in the awarding of their grants. It encourages and supports creative approaches to research enhanced teaching, programme design and student

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1 For instance: Elsen, M. et al., 2009. How to Strengthen the Connection between Research and Teaching in Undergraduate University Education? Higher Education Quarterly, 63 (1), pp.64-85.
Boyer, E., 1990. Scholarship reconsidered: Priorities of the professoriate. San Francisco: Jossey-Bass.
Griffiths, R., 2004. Knowledge production and the research-teaching nexus: The case of the built environment disciplines. Studies in Higher Education, 29(6), pp.709–726.
Healey, M., 2005. 'Linking research and teaching: Exploring disciplinary spaces and the role of inquiry based learning', In Barnett, R (Ed). Reshaping the University: New Relationships between Research, Scholarship and Teaching. pp.67–78, London: McGraw Hill /Open University Press.
2 For instance: Activities of the International Society for the Scholarship of Teaching and Learning (ISSOTL). See: www.issotl.org.

assessment. Many of the proposals selected for funding focus on flexible learning approaches, innovative curriculum reforms and the development of creative student-centred classroom activities that will equip students with the requisite skills to compete within current and future labour markets.

The grants initiative has evolved over time providing funding opportunities for projects of different scales. Small grants, to the value of €1,000 and up to €5,000, and larger grants, of up to €20,000, were made available for successful applicants. Additionally the partner institutions were allocated funding targeted at achieving parity of esteem for research and teaching in institutional mission statements and strategic plans, and at advancing the integration of these activities beyond rhetoric into action. Throughout the lifecycle of the grants initiative, the financial commitment of the National Academy increased dramatically from €31,000 in 2007 to €475,000 in 2009. The level of funding available to NAIRTL fell significantly in 2010 due to the global economic crisis, nevertheless, the Academy dedicated an impressive €200,000 to the grants initiative in 2010.

In total, between 2007 and 2011, the National Academy has awarded more than €1.2 million to 161 research project grants involving 420 academic staff and researchers across seventeen higher education institutions in Ireland (Figure 1). While some of the projects are undertaken by individuals, many of them are collaborative, with academics working together in departmental, inter-departmental, inter-institutional and international research networks. The impact has rippled out to such an extent that it is difficult to fully capture. The National Academy's grants initiative has already enabled hundreds of academics to undertake research which has enhanced the teaching and learning experience in their disciplines.



**Over €1.2m disbursed**

Funding 161 grants involving 420 researchers in 17 HEIs

2007
2008
2009
2010
2011
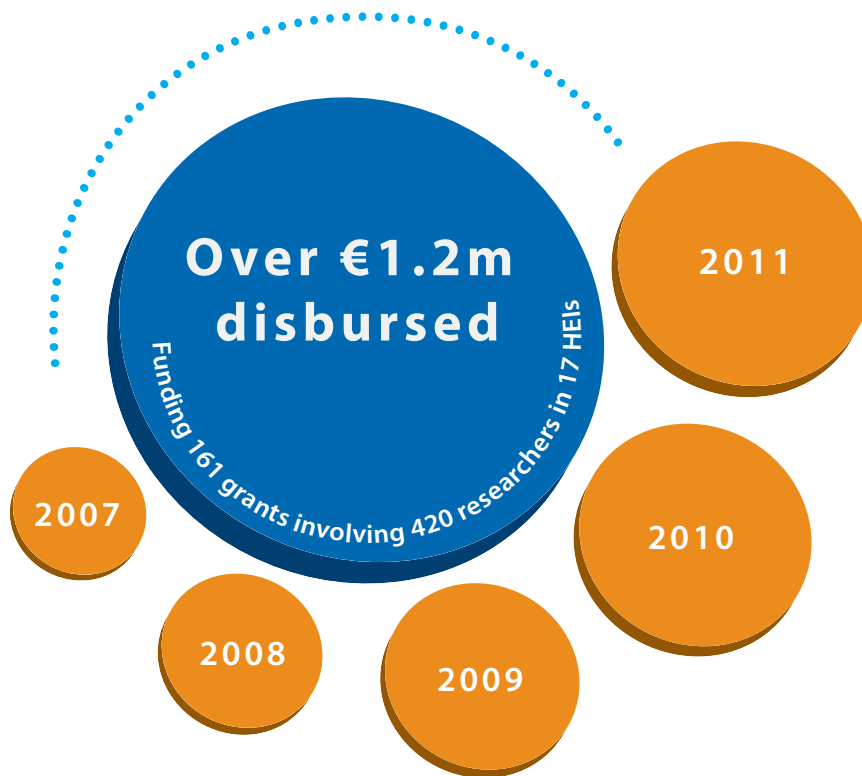
*Figure 1. Overview of NAIRTL grants initiative 2007 - 2011.*

Typical outputs of projects funded to date include:

- New academic learning communities
- New innovative approaches to teaching
- New tools for teaching and learning including: CD ROMs, books and web based outputs such as games, web sites, wikis and blogs
- New enhanced curricula and assessment practices
- Academic professional development through organisation of, attendance and presentation at relevant conferences, workshops, symposia etc.
- New thinking and research on teaching and learning approaches, with research findings being disseminated through conference presentations, journal articles, books, handbooks and online publications

The outputs of NAIRTL funded projects are widely disseminated using creative commons licenses, thus allowing reuse and re-purposing by other interested stakeholders. Good ideas and good practice spread fast giving the outcomes of these NAIRTL research projects endless potential to enhance the teaching and learning experience of others in higher education. The grants initiative was piloted in the five partner institutions steering the National Academy, and was launched in thirty-eight higher education institutions in Ireland in 2009, listed below. Participating institutions are those that are eligible for the free fees scheme under the HEA.

| | |
|---|---|
| All Hallows College | Dundalk Institute of Technology |
| Athlone Institute of Technology | Dún Laoghaire Institute of Art, Design & Technology |
| Carlow College | Froebel College of Education |
| Church of Ireland College of Education | Galway–Mayo Institute of Technology |
| Coláiste Mhuire Marino | Institute of Technology, Blanchardstown |
| Cork Institute of Technology | Institute of Technology, Carlow |
| Dublin City University | Institute of Technology, Sligo |
| Dublin Institute of Technology | Institute of Technology, Tallaght |
| Institute of Technology, Tralee | Mary Immaculate College, Limerick |
| Letterkenny Institute of Technology | Mater Dei Institute of Education |
| Limerick Institute of Technology | Milltown Institute of Theology & Philosophy, Dublin |
| National College of Art and Design | National University of Ireland, Galway |
| National College of Ireland | National University of Ireland, Maynooth |
| St Angela's College, Sligo | Royal College of Surgeons in Ireland |
| St Patrick's College, Drumcondra | Shannon College of Hotel management, Co. Clare |
| St Patrick's College, Thurles | St. Patrick's College, Maynooth (Pontifical University) |
| Tipperary Institute | University of Dublin, Trinity College |
| University College Cork | Waterford Institute of Technology |
| University College Dublin | University of Limerick |

## 3.1    Piloting the Grants Initiative 2007 - 2008

In 2007, the National Academy sought to discover the extent to which higher education institutions were integrating research with teaching and learning, with the objective of informing the development of the national grants scheme. Small grants, to the value of €1,000, were offered to higher education professionals who were excelling in linking their research with teaching and learning. This competition was launched within the NAIRTL partner institutions: CIT, NUIG, TCD, UCC, and WIT. Overall, thirty-one projects received this award. Encouragingly, over nineteen different disciplines were represented with twelve of the proposals involving collaborative academic networks. Valuable evidence of the extent to which practitioners were reflecting on research enhanced teaching was generated by the 2007 pilot programme, and the specific needs of departments and institutions in furthering their efforts to strengthen the link between research, teaching and learning was identified.

In 2008, the National Academy widened the scope of the grants initiative and a call for applications was disseminated across the five partner institutions which invited academics to conduct new research into the integration of research, teaching and learning in higher education. Ninety-two applications for funding were received in 2008, twenty-one of which were successful. The caliber of applications was very impressive, and due to the limited amount of funding available, grants were awarded to the proposals that were deemed to be most congruent with the aims and objectives of the National Academy.

The immense potential of the initiative was illustrated by the numerous creative outputs generated just one year into the pilot programme, such as workshops, teaching tools, enhanced curricula, technology implementation and publications. The need for consistent and engaging support for progressive projects linking research, teaching and learning was confirmed by the National Academy and the decision to continue the initiative endorsed.

## 3.2    The NAIRTL Grants Initiative 2009 - 2010

Building on the success of the pilot programme, the NAIRTL grants initiative was expanded to all thirty-eight higher education institutions in 2009. Applications for funding were invited from researchers who proposed to generate innovative and original data and outputs which would advance the objectives of the National Academy in investigating the interplay between research, teaching and learning. Collaborative and interdisciplinary projects were encouraged by the grants initiative, with the intended outcome of creating a more innovative and collegial environment in higher education.

Interest in the grants initiative increased significantly over time, with the number of applications rising from 126 in 2009 to 165 in 2010. As Figure 2 demonstrates, the National Academy responded favourably to the increased interest and collaborative efforts of applicants by allocating an increasing proportion of its budget each year to the initiative. The popularity of the grants initiative made it increasingly competitive, evidenced in the year on year increase in the ratio of applications to funded projects. In 2008 one in every three applications was successful while only one in every five was successful in 2010.
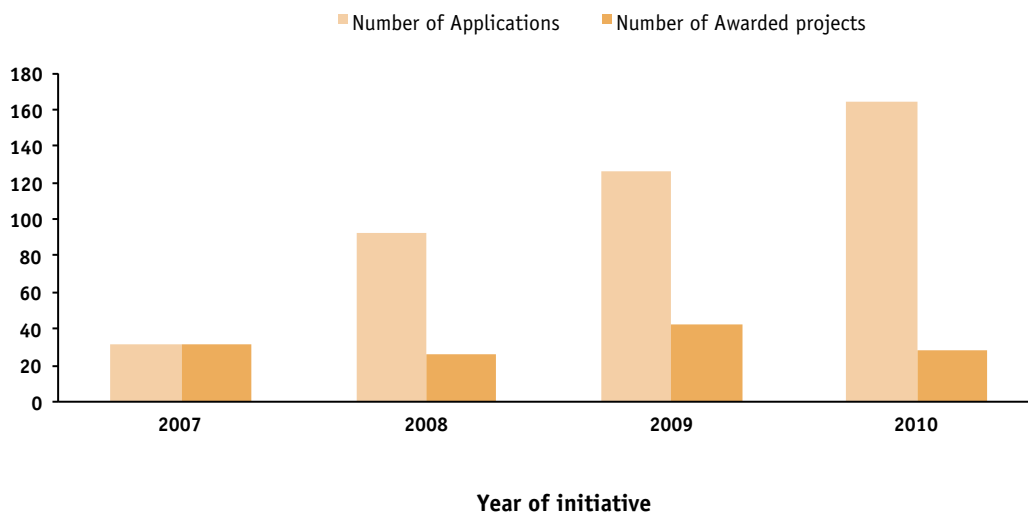
*Figure 2. Ratio of applications received to successful applications.*

An upsurge in the number of team projects featuring collaborations with other higher education institutions, educational organisations, industry and other stakeholders is evident. International higher education institutions participating in NAIRTL grant projects include; the Universidade de Sao Paolo, Brazil; University of New South Wales and University of Queensland, Australia; Trent University, University of Toronto and McGill University, Canada; University of Alabama, Alverno College, University of Illinois, Illinois Institute of Technology, Binghamton University, University of Pennsylvania, University of Philadelphia and Drew University, USA; University of Ulster, Queen's University Belfast, University of Brighton, Barrett School of Architecture London, Imperial College London, Durham University, University of Nottingham and Loughborough University, UK; Universitat Politechnica de Catalunya and Esade Business School, Barcelona, Spain; Universidade do Porto, Portugal; Hodgeschool van Amsterdam and Maastricht University, Netherlands; and Bologna University, Italy.

Other public sector bodies, research institutes, hospitals, and private sector industries have also featured in successful grant proposals, and include collaborations with Beaumont Hospital, CLARITY centre for sensor web technology, East Limerick Children's Services, Galway film centre, Health and Safety Authority, Higher Education Authority, Hope foundation Cork, Hope foundation Kolkata, HSE Sligo, Innovation Delivery Ltd, Intel Ireland, Irish College of General Practitioners, Irish Penal Reform Trust, Irish Society for Chartered Physiotherapists, Irish Software Association, Irish Universities Association, John Scottus Primary School Dublin, Kerry General Hospital, Law Society of Ireland, McGann Scahill Architects, McVerry Trust, Mercy University Hospital Cork, New York State Museum, Passive House Builders, Pathways Cork, Public Interest Law Alliance, Royal Irish Academy, SHINE, Simon Community Dublin, St Gabriel's School and Centre Limerick, Tyndall National Institute, Ulster Folk and Transport Museum, Union of Students in Ireland, and Workright Consultants.

*Global Reach of NAIRTL grants initiative*

The number of collaborative projects peaked in 2009 with thirty out of forty-two featuring collaborations with other faculties, institutions, students, and/or industry (Figure 3).
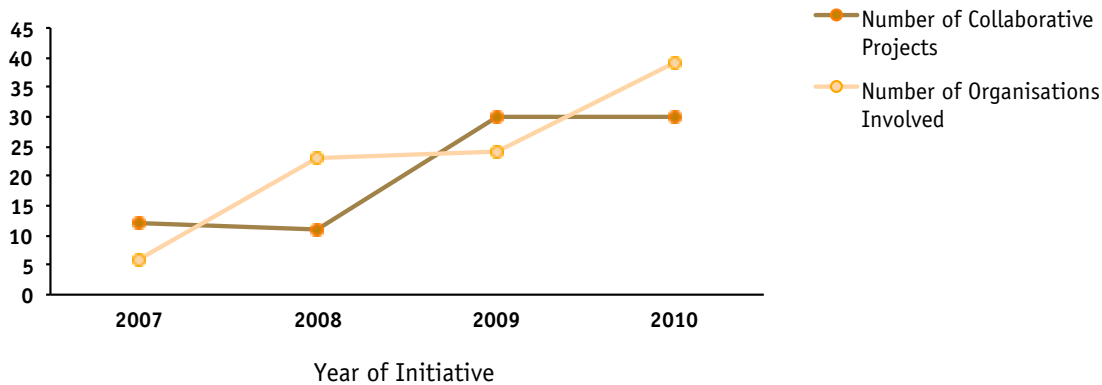


*Figure 3. Profile of funded projects 2007 – 2010.*

The number of higher education institutions represented by successful grants is consistently rising; to date, NAIRTL grants have been disbursed to seventeen Irish HEI's. In addition, National Academy grant funding has reached a wide variety of discipline areas across the sector and each year of the initiative has seen different educational fields achieving various levels of success in securing funding. Figure 4 serves as an example of the funding achieved across academic fields in 2009.[3]

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3   Field classification is as outlined by OECD see: OECD. February 2007. The Revised Field of Science and Technology (FOS) classification in the Frascati Manual, at www.oecd.org/dataoecd/36/44/38235147.pdf.

The data shows that the broad area of Social Sciences - which incorporates disciplines such as Law, Educational Sciences, Political Sciences, Psychology, Economics and Business, Sociology, Social and Economic Geography, Media and Communications and others - achieved the highest success rate gaining thirty-seven per cent of the funding allocated. The field of Medical and Health Sciences was also particularly successful, securing twenty-two per cent of the available funding in 2009. It should be noted that the number of applications from Social Sciences and Medicine in 2009 was higher than that from the other disciplines.
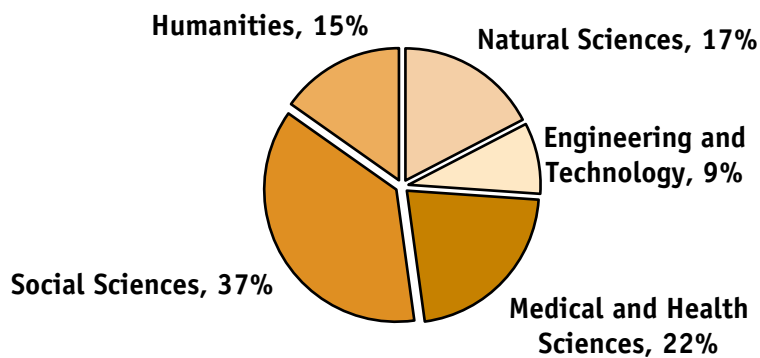


*Figure 4. Field Classification of awarded projects in 2009.*

NAIRTL's investigation into the interplay between research, teaching and learning has led to the funding of 161 innovative projects over the last four years. The projects and research teams that have been supported by this initiative have demonstrated commitment to an evidence based approach to integrating research with teaching. Just one year from the date of the grant award, project reports show evidence that a significant number of exciting and dynamic outputs, which hold student learning as the central component, were designed, evaluated and disseminated in Ireland and abroad (Figure 5 and full details in Appendix 2).
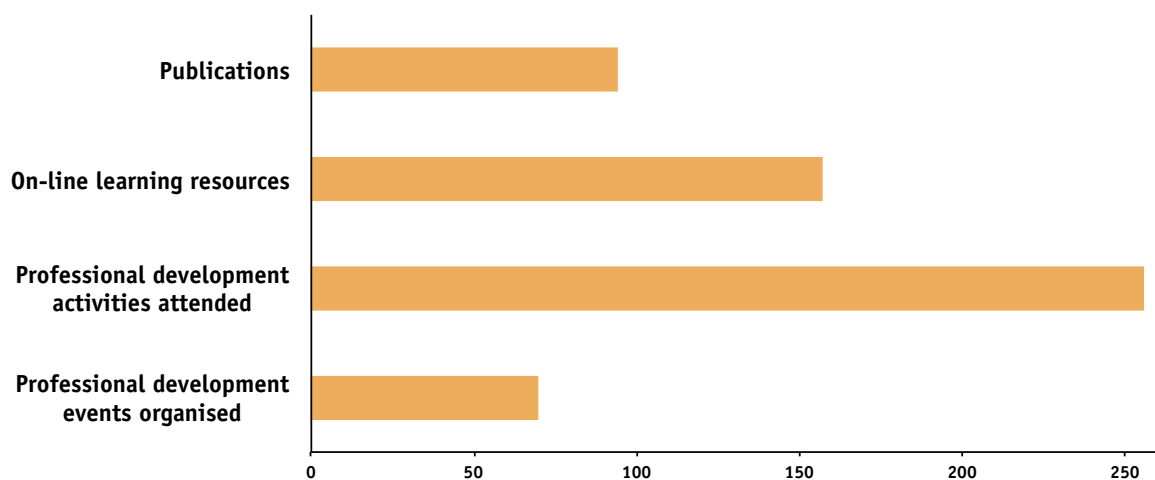


*Figure 5. Overview of grant outputs to date.*

## 3.3 Independent Evaluation

In an independent evaluation of all SIF funded projects, carried out by Dr Gordon Davies[4] in 2010, the National Academy emerged among the highest ranking of initiatives and its work was strongly endorsed. This report stated that NAIRTL is:

> *"One of the best SIF projects: internationally acclaimed, strong leadership, significant effects on entire third level sector. It has produced excellent results and has expanded to include thirty-eight institutions. Resources should be made available to continue NAIRTL's work." (p.28)*

This independent evaluation also recommended the aggregation of several other SIF projects under the NAIRTL umbrella.

The Comptroller and Auditor General report (2010) also cited NAIRTL as a good example of the extent of collaboration which emerged through SIF projects.[5] Annex E of its report provides an overview of the independent ranking of teaching and learning projects, which highlights that NAIRTL is the highest ranked project in its category.

Furthermore, the impact of the work of the National Academy has been strongly endorsed in the Higher Education Strategy to 2030 which states that:

> *"NAIRTL …has done much valuable work in …promoting research-based teaching practices in academic professional development. This work needs to continue, and to be disseminated, supported and developed at institutional and national levels, so that Ireland's higher education system can provide an exemplary teaching and learning environment. The dissemination of good practice through national networks for teaching and learning, and the recognition of excellence in teaching should underpin strategy for the ongoing development of higher education." (p.59)*

In relation to the NAIRTL grants initiative, the many worthwhile projects that were funded continue to make an impact long after the funding award has been expended. To date, the NAIRTL grants initiative has demonstrated good value for money in that significant outputs, outcomes and impacts have been achieved with relatively small amounts of funding (Appendix 2). Much has been achieved as a consequence of the passion and commitment of the grant holders. The NAIRTL grant, in many cases, simply provided the impetus for academic staff to forge ahead with their innovative and creative educational ideas and the validation for those who have the ability and the inclination to enhance the higher education experience for students. The dissemination of funded project outputs has provided the entire academic community with a substantial resource bank of imaginative and inspiring ways to link research and teaching, which will result in an enriched student learning experience.

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4   Davis, K. Gordon., February 2010. Report of SIF Evaluation. Higher Education Authority: Available at www.hea.ie/files/files/file/FINAL%2025%20Jan.pdf.
5   Report available at http://audgen.gov.ie/documents/vfmreports/74_Education_Sector_ReportRev.pdf.

The next section of this report is an exploration of the most prominent impacts which emerged from a content analysis of grantees' interim and final reports. The final reports were completed just one year after receipt of the NAIRTL grant. The impacts identified will be explored within a predetermined framework which is based on the following areas of impact: student learning, enhancement of the student experience, continuous professional development of academic staff, fostering collaboration, building departmental and institutional capacity, forging interdisciplinary collaborations, national and international dissemination of outputs and integration of new and existing technologies.

**Part 2**


# Impact Analysis of the NAIRTL Grants Initiative

## 4.0 Impact Analysis of the NAIRTL Grants Initiative

Part one of this study provided an overview of a selection of the National Academy's main initiatives i.e. the awards programme for excellence in teaching, professional development activities in academic practice, development of publications and resources and the underlying premise for introducing a grants initiative. This section will provide a more detailed analysis of the immediate and long term impacts of the NAIRTL grants initiative.

In the last decade grant-making trusts and foundations have become increasingly concerned with understanding and assessing the effectiveness of their grant-making[6] and the National Academy is no exception. NAIRTL is aware of the significance of disseminating best practice with the aim of providing models which can be emulated and enhanced by interested parties in the pursuit of excellence in teaching and learning. The ultimate intent of this report is to assess the extent to which the National Academy's grants initiative has impacted the higher education sector to date and to further disseminate models of best practice. Like numerous other impact assessments this report is attempting to quantify impact and, as such, a number of conceptual and empirical difficulties may be encountered as follows:[7]

- The counterfactual problem: this is essentially what would have happened in the absence of the intervention.
- The combinatorial problem: when assessing the impact of an intervention on various individuals or groups it is very difficult to factor in all situational influences which may have influenced progress.
- The problem of change: changes can take place between the start and the completion of interventions. It is improbable that an impact assessment can track all potential changes which may have impacted the individual or group participating in the intervention.

Having considered the difficulties associated with impact assessments in general, and accepting the limitations involved, it was decided to develop a methodological framework which combined qualitative and quantitative methods utilising the rich data resource available in the form of project reports. Each project that was successful in receiving a grant was requested to submit an interim report six months into their research to outline their progress. Subsequently, at the twelve month stage they submitted a final report outlining their outputs, outcomes and impacts. The empirical investigation for this report was based primarily on an interpretative approach to the content analysis of these reports.

In this report, the nature and degree of impact varied depending on the context, discipline and outcomes of funded projects. The comparisons available are those interpreted by staff and students within the higher education sector and individual funded projects. Interpretations and approaches to research on the integration of research, teaching and learning varied amongst grant holders and, as such, numerous different research methods were undertaken by them, for example: in depth literature reviews, questionnaires, case studies and pilot studies of newly designed peer support programmes.

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6   Mahnaz , Marashi, July 2004. Impact Assessment of Private Educational Grant-making. Centre for Civil Society; London School of Economics. p.9.
7   Bradford, M. and Robson, B., 1995. 'An Evaluation of Urban Policy' in Hambleton, R. and Thomas, H. Urban Policy Evaluation: Challenge and Change. London: Paul Chapman Publishing.

What has emerged from the reports was a combination of direct and indirect impacts on staff, students and institutions.

The most prominent impacts which have been identified from the grantees' interim and final reports are in the areas of:

- Enhancement of student learning
- Enhancement of the student experience
- Continuous professional development of academic staff
- Fostering collaboration
- Building departmental and institutional capacity
- Forging interdisciplinary collaborations
- National and international dissemination of outputs
- Integration of new and existing technologies

These impact categories were used as a framework for the analysis of final reports. Throughout the next section, a number of projects have been referenced to serve as examples of impact in the relevant categories. This section does not show all projects that have demonstrated successful impacts under the various categories but simply highlights a small selection that were chosen on the basis of information provided in the reports submitted to date. The reference system used to represent these projects includes the name of the primary applicant, their institution and the year in which they received their grant. For a full list of funded projects see Appendix 3.

## 4.1    Enhancement of Student Learning

Analysis of grantees' reports indicates that the enhancement of student learning has emerged as a universal aim and outcome across all funded projects. Many reports detail very positive impacts on student learning in a wide range of contexts and disciplines nationwide.

The transition of students from second level to third level education was identified by some grant holders as an area in need of enhancement. This was primarily based on the experiential knowledge of teachers. As a result, programmes such as 'Preparing for Academic Success' (O'Tuama 2009 UCC), and a new Chemistry Intervention Programme (Curtin 2010 UL), were designed and implemented in order to support first year students through what can potentially be a very vulnerable time in their learning development. Additional material to support these programmes such as workbooks and information manuals were distributed in an attempt to bridge the gap between second and third level education. To date, grant holders have reported a positive impact on students' comprehension and overall end of year exam results. The impact on learners and the emphasis on transition is a considerable outcome of the NAIRTL grants initiative and makes advances in addressing the concern that "students entering higher education directly from school often lacked the critical thinking and independent learning skills required for successful engagement in higher education".[8]

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8   National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills.

The positive impact of online learning activities was also identified by grantees as a significant outcome of the grants initiative. 'The Action Accounting' project (Boylan 2009 DIT) utilised remote electronic learning activities to provide feedback and encouragement to accountancy students who have difficulty accessing the subject content. Similarly, 'The Adaptive Tutoring System' (Lambert 2010 NCI) for Computing and Business Mathematics students, facilitated self-directed learning through the use of the Moodle VLE. Projects such as these utilised Web 2.0 technology to design and facilitate online supports such as worksheets, interactive exercises and discussion forums which complimented the lecturing experience. Students were enabled to share problems and solutions on their own terms.

One grantee found that students were often slow to engage with the face to face supports available to them, even when they were struggling (Healy 2008 UCC). Feedback gathered by the 'Action Accounting' project revealed that students found the new methods of e-learning interesting. They indicated that e-learning would help them in accessing the subject content which would in turn help them with their learning. These new online resources, which are available on a twenty-four hour basis, give students more anonymity in addressing any difficulties they may have.

*Students who engaged with the new initiatives formed good relationships with their peers, they showed improved confidence and they took ownership of their learning.*

Other initiatives with an emphasis on peer assisted learning; such as 'Peer Assisted Tutoring Sessions (PATS)' (O'Leary 2009 UCC), and 'Peer-Assisted Tutoring in Chemical Engineering' (Kieran 2009 UCD), had a very positive impact on students' learning. The use of peer support programmes increases students' persistence with study[9] and increases their engagement, satisfaction and retention.[10] Grantees found that students who engaged with the new initiatives formed good relationships with their peers, they showed improved confidence and they took ownership of their learning which ultimately improved exam results. Based on this evidence the impact on the student learner is significant and the National Academy's vision of the student as central to the process of teaching and learning is inspiring.

All of NAIRTL's initiatives and publications have the ultimate intent of enhancing student learning through the integration of research and teaching. The tangible impacts being experienced by the learner as a result of the NAIRTL grants initiative is encouraging.

*The introduction of a peer reviewed law journal facilitated the integration of learning at multiple points in the students' education. "The project fosters reactive learning (journal work), implicit learning (tacit knowledge) and explicit learning (through the manner in which students approach their own work as a result of editing and reviewing the work of others)"*

*(Hedley 2009 UCC)*

9   Clulow, V.G. and Brennan, L., 1998. Students and stars: the role of relationship constellations in S. Goodlad (eds) Students as Tutors and Mentors. London: Kogan Page.
10   Krause, K. L., Hartley, R., James, R., & McInnis, C., 2005. The first year experience in Australian universities: findings from a decade of national studies. Melbourne: Centre for the Study of Higher Education, University of Melbourne.

## 4.2    Enhancement of the Student Experience

An excellent student experience is critical to the success of the higher education sector in fulfilling its responsibility to the learner. In acknowledging this responsibility, funded projects worked towards transforming the learning environment and in doing so enhanced the student experience. A more creative and inclusive space for students and staff, which encouraged student participation in all dimensions, was a key outcome of final report analysis.
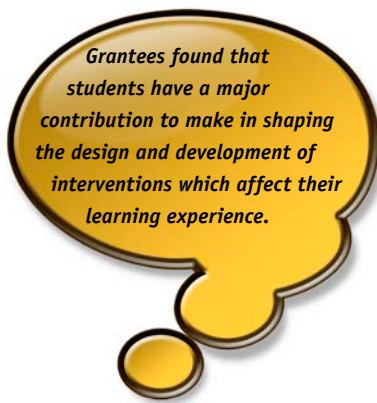
*Grantees found that students have a major contribution to make in shaping the design and development of interventions which affect their learning experience.*

Grantees found that students have a major contribution to make in shaping the design and development of interventions which affect their learning experience and in providing feedback on them. This is a very positive outcome of the grants initiative as students were encouraged to participate in the teaching process (O'Riordan 2008 UCC), in the development of an undergraduate journal (Hedley 2009 UCC), in the evaluation of programmes and tools (Gallagher 2010 NUIG) and were encouraged to give constructive feedback on their interaction with new learning styles such as e-learning (Carmesin 2008 NUIG). Students' third level experience was enhanced as a result of participating in these practices as they were challenged to question their knowledge and articulate their ideas in a supportive environment. Students expressed delight at being given the opportunity to articulate their ideas, voice their concerns, to be listened to and to be empowered as an important process in their own learning.

Similar results were also yielded from projects which encouraged active learning amongst students. Reports indicated that the NAIRTL grants initiative facilitated students participation in the editing and publishing of journal articles by their peers (Buckley 2009 UCC), and in the exhibition and presentation of their findings (McDonough 2010 NUIG). Students gained a greater understanding of scholarship in academic life and the demands it places on them, along with additional skills such as editing, presenting, referencing, poster design etc. Students emphasised the importance they felt in being part of the production of materials and in being given the opportunity to present their findings. This sense of achievement is a great motivator for students to take ownership of their own learning and to encourage them in their pursuit of academic professionalism.

The identification of students' perceptions of teaching and learning as valuable is a noteworthy outcome of NAIRTL grants initiative. It is envisaged that it will have a long term impact on the student experience as scholars attempt to gain greater insight into student opinion. According to the HEA, there is a "lack of systematic mechanisms to ensure that departments had regular and clear information from students regarding the quality of teaching and of the learning environment", yet, evidence from report analysis suggests that when student feedback was made a priority staff members found that they made more time to create good evaluation forms and act upon student responses. The grants initiative enabled critical literature reviews and preliminary research on the current system of receiving feedback in HEI's in Ireland (Murray 2008 TCD). A series of recommendations have been drafted and disseminated in Ireland and the UK. This is essential in informing future HEI feedback strategies which will enhance the student experience based on their needs.

## 4.3    Continuous Professional Development of Academic Staff

Calls for a more student-centred approach[11] to teaching have challenged many traditional academics to transform the way they teach, and in some cases, the way they view themselves as professionals.[12] Analysis of final reports reveals a positive impact in supporting graduate students, researchers and academic staff in advancing effective and innovative teaching methods across a range of disciplines.

The professional development of academic staff is a substantial outcome of the grants initiative as it facilitated the training of staff in the operation of new and existing technologies such as: Data-logging (Kennedy 2009 UCC), Motion Capture software (Campbell 2008 CIT), Probability Estimate software (Evans 2009 UCC) along with numerous other technologies such as Moodle, Alloy and Blackboard. Higher education staff were enabled to utilise new teaching and assessment technologies more effectively in order to enhance their teaching and the learning experience of their students. The up-skilling of cohorts of students and staff in new and existing technologies being introduced to their field is crucial going forward, in order to maintain competitive advantage, and to ensure the continuous improvement of university performance.

A progressive ethos was evident and threaded throughout the design and implementation of up-to-date teaching tools. The creation of audio-visual and web-based tools has impacted the development of teaching strategies in higher education. Language teachers, for example, now have access to a digital learning tool for teaching Chinese language characters (Geraghty 2010 UL), an online pedagogical support called 'wikilingua' has been introduced for language teachers (Carmesin 2008 NUIG), and a website 'www.languagegames.ie' provides teachers with games that can be used at all levels of language teaching (O'Connor 2008 NUIG).

Teachers need to be integrative thinkers themselves, to understand how students learn, to feel comfortable with a wide range of teaching strategies from which they can draw, and to design opportunities for students to connect up their learning.[13] The NAIRTL grants initiative has, therefore, facilitated the creation of new and innovative resources which will provide teachers with the opportunity to exploit a wide range of modern teaching methods.

The NAIRTL grants initiative has had a unique impact in bridging the more traditional divides between professional development activities in research and teaching. In practice, two major strands of professional development take place i.e. activities supporting research and scholarship, and activities concerned with teaching and learning, with developments in the latter far outweighing the former.[14] Analysis of final reports suggests that some integration of these strands has occurred due to the grants initiative, by offering flexible educational opportunities to higher education practitioners.

*The NAIRTL grants initiative has had a unique impact in bridging the more traditional divides between professional development activities in research and teaching.*

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11   For instance through the Bologna Process since 1999, see www.ehea.info/.

12   For more on this see, Higgs, B. and McCarthy, M., 2008. Emerging issues for teachers and learners in Higher Education: Changing Roles and Identities, EDIN Network.

13   Huber, M.T. and Hutchings, P., 2004. Integrative Learning Mapping the Terrain. Publication of the AAC&U and the Carnegie Foundation for the Advancement of Teaching.

14   Clegg, S., 2003. Problematising Ourselves: continuing professional development in higher education. International Journal for Academic Development, 8(1), pp.37-50.

Reports show evidence of development activities where research, teaching and learning are thought of simultaneously, stimulating dialogue that breaks down the harmful ideology of teaching and research as separate activities. Examples include: the expansion of 'Negotiated Learning Models' which integrates the applicant's prior experience within the field with new material being taught (McGinty 2010 UCD). This and other similar development events promote a holistic sense of academic identity as they truly integrate the traditional research-based roles and place newer emphases on teaching and its scholarship.

The critical nature of continuous professional development was highlighted by the European Standards and Guidelines for Quality Assurance; "institutions should ensure that their staff recruitment and appointment procedures include a means of making certain that all new staff have at least the minimum necessary level of competence".[15] In recent years, Holland, Norway, Sweden, Japan and Sri Lanka are all following the UK towards mandating initial professional development. The outcomes achieved by the NAIRTL grants initiative, in the brief three year period being assessed, suggests that the National Academy has made significant progress in igniting interest and enthusiasm for professional development that incorporates the development of scholarship and teaching.

## 4.4     Fostering Collaboration

Substantial evidence from final reports suggests that collaboration has been successfully facilitated by the NAIRTL grants initiative on a variety of different levels nationally and internationally. Approximately forty-three per cent of the projects funded by the NAIRTL grants initiative between 2007 and 2010 were collaborative in nature. This shows significant progress in the higher education sector and will be beneficial to Irish HEIs who are currently seeking to reposition themselves in response to the recently launched National Strategy for Higher Education to 2030[16] which encourages the development of regional clusters and institutional consolidation.

### 4.4.1   *Staff – Staff Collaboration*

Collaborative research which integrated the knowledge and expertise of a number of professionals within one particular field was widespread across funded projects. Grantees integrated their knowledge to create new teaching tools (Mulrooney 2008 CIT), to evaluate teaching and learning strategies (Cantillon 2009 NUIG), to develop best practice in teaching (O'Connor 2008 CIT), to implement professional forums (O'Flynn 2009 UCC) and to create resources for teachers and students (Collins 2009 NUIM). The collaboration of academics within the same field facilitated the enhancement of collegiality between colleagues and peers in the academic community both within and across institutions. The co-ordination of expertise in this way is critical in sustaining the integration of research, teaching and learning which has been achieved to date.

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15   European Association for Quality Assurance in Higher Education., 2005. European Standards and Guidelines for Quality Assurance. Helsinki. p.17.
16   National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills.

### 4.4.2  *Staff – Student Collaboration*

The enhancement of lines of communication between academics and students has also been achieved through staff-student collaboration. Grant holders indicated that collaboration between staff and students was an integral part of their projects and students were introduced to an alternative means of staff/student interaction (O'Riordan 2008 UCC). Analysis suggests that academics and students actively shared and learned from one another and students became more integrated in the teaching process by designing posters and presenting their findings which ultimately culminated in an enquiry-led teaching environment favoured by staff and students alike.

### 4.4.3  *Staff – Industry Collaboration*

In a bid to align themselves with enterprise, grantees established links with community agencies and organisations. Analysis reveals that professional groups were successful in collaborating with HEIs to establish undergraduate and postgraduate programmes for students and professionals, thus bridging the link between academic education and the workforce. Innovative models of inter-professional education have been designed, implemented and evaluated by grantees, for example, the 'Child Law Clinic' which supports graduate law students in the provision of research services to lawyers in children's cases (Kilkelly 2009 UCC), and blended teaching frameworks such as; a client centred teaching framework for Occupational Therapy students (Gowan 2009 UL) and an enquiry-based module in Health Promotion (Pursell 2009 NUIG).

*Students' exposure to practical aspects of community work and professional practice has helped them to make links between theory and practice.*
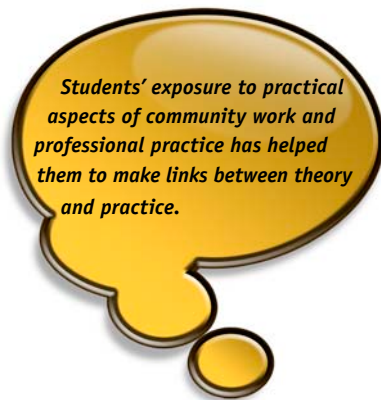
Evidence also suggests that the active partnerships between academia and associated professions have significantly impacted student learning. Students' exposure to the practical aspects of community work and professional practice has helped them to make the links between theory and practice. Reports have indicated that students who participated in schemes that blended academic knowledge with practice have become more aware of the possibilities in relation to applying theoretical approaches to their own practice. This blended approach to teaching and learning has provided students with skills, such as the ability to think critically, which will be invaluable to their future in a competitive global environment.

*Through collaborative links between social work and community work...students are beginning to recognise the value of researching practice; developing analytical and reflective skills; and becoming aware of the possibilities in relation to applying community work approaches to their own practice.*

*(Forde 2009 UCC)*

#### 4.4.4 *International Collaboration*

Reports confirm that collaborative initiatives frequently included co-operation with international institutions, agencies and organisations. This is a substantial outcome of the grants initiative as "collaboration/co-operation and consolidation will be required to harness national expertise in particular disciplines and to build up the capacity and quality of the entire higher education system"[17] going forward. Collaboration has occurred between Irish HEIs and UNSW Australia, Universidade de Sao Paulo, Illinois Institute of Technology, Universidade do Porto, University of Pennsylvania, University of Illinois, Maastricht University, McGill University UK, Drew University NJ, Queens University Belfast and the University of Nottingham amongst others. The collaborative links formed to date illustrate the mutual respect, dedication and collegiality shared by HEIs in Ireland and abroad.

Since its commencement the National Academy's grants initiative has placed a strong emphasis on collaboration with the aim of establishing learning communities that promote, support and sustain improvements in research enhanced teaching and learning practices. It is envisaged that the collaborative links which have been formed both nationally and internationally have laid the foundations for future collaboration. These links will be sustained and expanded to create a network of integrative thinkers.

## 4.5     Building Departmental and Institutional Capacity

"The capacity of higher education will almost double over the next twenty years, with most of the growth coming from non-traditional areas, such as 'mature' students and those from overseas, as well as increased postgraduate activity."[18] The collaborative links which were formed by grantees throughout the process of their funded research will enable them to respond to this growth effectively. Reports revealed that institutions have worked collaboratively in a bid to share resources and expertise, and build capacity in specialist areas, such as: CIT working with UCC and UCD (McCartney 2008 UCC), and IT Sligo working with the Universitat Politechnica de Catalunya, Barcelona (Fitzgerald 2009 IT Sligo). This partnership has provided departments with the opportunity to expand their capacity for research which is vital to the continuity of educational programmes: "we need to develop critical mass in our research capacity, to ensure that we attract the best researchers and develop world-class capability in high-value niche areas".[19]

The creation and expansion of such high value educational programmes has emerged as a considerable outcome of the grants initiative, as it impacts directly on departmental and institutional capacity. Grant holders affirmed their success in achieving accreditation for newly developed modules and CPD programmes such as: the core module 'Implementing Evidence in Therapy Practice' for a post qualification in MSc (Crausaz 2009 UCC), the FETAC level 6 certificate in 'Political Issues and Community Action' for the immigrant community (Harris 2008 UCC), the undergaduate Social Care module 'Family, Advocacy and Community' (O'Connor 2008 CIT), and the Environmental Science module on 'Wastewater Treatment' (Fitzgerald 2009 IT Sligo). The funding provided by the NAIRTL grants initiative facilitated the piloting, implementation and evaluation of these programmes. Evidence suggests that the positive feedback from student evaluations and evidence of improved performance through piloting were key factors in achieving institutional endorsement.

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17  Higher Education Authority. November 2009. Open and Flexible Learning HEA position paper, p.9.
18  National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills, p.5.
19  National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills, p.6.

The support and development of International partnerships has also emerged as a contributing factor to building departmental and institutional capacity. Grantees who formed international collaborations have utilised their links to provide additional resources, such as student exchanges between participating third level institutes in other European member states (Fitzgerald 2009 IT Sligo). It has also been suggested that international relations have acted as a foundation for future research (O'Riordan 2008 UCC). National and international partnerships are vital to institutions positioning themselves in relation to the Higher Education Strategy 2030, which states that; "together...institutions will form a coherent and inter-related system and collectively will have the requisite critical mass for optimal quality and efficiency."[20]

The National Academy has recognised and encouraged the departmental and institutional benefits which arise from working in collaboration with other key educational institutions, particularly where resources and expertise are shared equally in the process of integrating research, teaching and learning. NAIRTL is hopeful that the links established between institutions, departments and community agencies will assist the higher education sector to respond positively to increasing demands going forward.

> *Grantees who formed international collaborations have utilised their links to provide additional resources.*

## 4.6    Forging Interdisciplinary Collaborations

Further contributing to grantees' success in building departmental and institutional capacity was their ability to forge interdisciplinary collaborations. These interdisciplinary links encouraged the communication and dissemination of knowledge across disciplines.

Grantee reports suggest that individuals, who formed collaborative groups under the grants initiative, worked together to supplement each other's knowledge and expertise in the pursuit of excellence and best practice in the integration of research, teaching and learning. For example, collaboration on research between academics in the schools of Education, Food and Nutritional Sciences and Computing led to the production of a web-deployed animated game (Bradley 2009 UCC). Similarly, academics in the schools of Education, Teaching and Learning, Chemistry and IT worked together to introduce Data-logging technology to support the teaching of Chemistry and Physics (Kennedy 2009 UCC). Equally the successful collaboration of the departments of Physiotherapy, Occupational Therapy and Education in UL, led to the implementation and evaluation of a new model of interprofessional education (Gowan 2009 UL). Collaborations, such as these, contributed to the production of unique interdisciplinary tools and strategies to enhance teaching and learning.

Reports reveal that interdisciplinary communities were also successfully facilitated by the grants initiative. These communities encourage partnership of practice with a shared language that allows staff to discuss their teaching in a reflective way. The Irish Integrative Learning Project was one such endeavour that brought together a diverse, multi-institutional, multi-disciplinary integrative learning group. Sixteen participants carried out research into fifteen courses that fostered integrative

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20   National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills, p.29.

learning; their findings were shared and disseminated in a collegial environment (Higgs 2009 UCC). Similarly, the annual scientific meeting of The Irish Network of Medical Educators attracted 150 delegates from Ireland, Britain, France, Portugal, Germany, the Netherlands and Canada who came together to share their research and experience (Flynn 2008 UCC).

Interdisciplinary forums for postgraduate students were also facilitated by the grants initiative in order to encourage active contribution and reflection (Conrick 2009 UCC). The impact these communities have on participants was highlighted by some grant holders who felt that students and staff members demonstrated a greater awareness and respect for each others' disciplines through the sharing of knowledge and experience. Interdisciplinary discussions are expected to continue and the impact of integrative learning communities expanded over time.

Results suggest that the National Academy's vision for improved cross collaboration and co-operation between disciplines is being progressed through the grants initiative. Knowledge which is constructed and negotiated in academic partnership has great potential for sustainability, and through the dissemination of interdisciplinary research and methodologies, the National Academy will continue to encourage the co-ordination of expertise in the scholarship of teaching and learning.

## 4.7    National and International Dissemination of Outputs

The immediate impact of funded projects has been demonstrated by this report; however, the long term impact is wide reaching and continues to grow. The national sharing of models of good practice, through innovative dissemination methods, has facilitated the expansion of the impact generated by projects. The opportunity to broaden impact was recognised and made a high priority for all funded projects. As a result, a variety of dissemination methods were utilised to share findings nationally and internationally. Methods of dissemination include national and international conference papers, seminars, workshops, symposia, online learning resources, press releases, journal articles, books and book chapters, and roundtable discussions. For examples of these see Appendix 2.

The benefits of disseminating models of good practice and supporting resources are endless as many of the teaching tools and models created by grantees, such as: 'Peer Assisted Tutoring Systems' (O'Leary 2009 UCC), 'SitePass' for passive house construction (Kelly 2010 GMIT) and 'FLcaptions' website for foreign language learning (McLoughlin 2010 NUIG), are capable of being adapted in different contexts and future developments. These resources have been made available to academics and professionals through methods outlined above and will ensure continuity of good practice in their field. Some grantees have also highlighted the additional advantage of continually reflecting on how they teach and how they integrate their research through the preparation of reports, conference papers and posters in the dissemination process.

Further analysis determines that the funding provided by NAIRTL empowered grant holders to present their research in the international arena. Delegates in London (Evans 2009 UCC), Boston (Healy 2008 UCC), Dubrovnik (O'Connor 2008 CIT), Belfast (Carmesin 2008 NUIG), Washington DC (Buckley 2009 UCC), India and Brussels (Semenova 2009 DIT) were addressed by grantees. This is not only a significant professional achievement but will undoubtedly enhance institutional capacity and potentially lead to future international collaboration. The international dissemination of research on the scholarship of

teaching and learning in Ireland is a progressive step for the higher education sector and is likely to attract international learners and educators in future years.

The NAIRTL grants initiative has also enabled the use of new and existing technology in the dissemination of research findings. Numerous websites, blogs, wikis and YouTube videos have been created to host and exhibit the research findings of grantees to date. Reports suggested that online dissemination methods were favoured because they are cost effective, they offer consistent access, on a twenty-four hour basis, to national and international parties, and they are easily maintained by students and academics alike.

*Exposure to the research of others and the introduction of new ideas keeps them up to speed on issues regarding the scholarship of teaching and learning.*
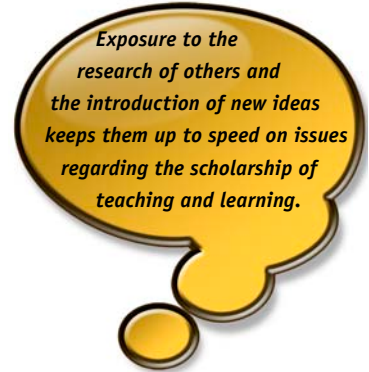
Furthermore, through the successful dissemination of project findings, a number of grantees were able to leverage additional funding from other organisations for the continuation of their research into the scholarship of teaching and learning. The following list represents just some examples of funding which was leveraged by grantees:

- *DIT Teaching Fellowship Grant and NDLR Grant (Boylan 2009 DIT)*
- *An tIonad Bairre UCC (Buckley 2009 UCC)*
- *Enterprise Ireland (Evans 2009 UCC)*
- *QIFAC (Gowan 2009 UL)*
- *Irish Aid (O'Riordan 2008 UCC)*
- *ExxonMobil Excellence in Engineering Teaching Award 2009 (Kieran 2009 UCD)*
- *NDLR Learning Innovation Projects (McDonnell 2009 DIT)*

The National Academy regards dissemination as intrinsic to the sustainability of the scholarship of teaching and learning and holds annual conferences with the intention of bringing a wide range of disciplines and professions together to reflect on their experiences in linking their research with their teaching. Participants have expressed their appreciation to NAIRTL for the opportunity to reflect and discuss their teaching in an environment which is supportive and interdisciplinary. Grantees have asserted that exposure to the research of others and the introduction of new ideas keeps them up to speed on issues regarding the scholarship of teaching and learning. Conference proceedings are published each year and used extensively by academics to inform their research.

*I received a €1,000 grant in 2008 that I used to disseminate research on teaching and learning at a conference in Boston. The outcome of that conference resulted in my submission of a book chapter for a manual on teaching and learning to be published later this year.*

*(Healy 2009 UCC)*

## 4.8    Drawing on Potential of New and Existing Technologies

There is a world wide trend away from restricted access to knowledge towards open access, open source software and open publication[21] which is indicative of the changing nature of the way we communicate. This trend has been recognised by grantees and considerable progress has been made in providing access to innovative software that has empowered staff and students in their pursuit of excellence in teaching and learning.

Technological advancement in teaching emerged from reports as a significant outcome. Grantees were successful in creating online discussion forums which encouraged collaboration and exchange amongst teachers (O'Connor 2008 NUIG), innovative software which acted as a teaching aid in Engineering, Sports Science, Media Communications, Accounting, Mathematics and Computer Science (Power 2010 NUIM; Boylan 2009 DIT; Campbell 2008 CIT), and web resources containing knowledge of teaching strategies and practical tools and exercises such as: twenty-one short videos produced to enhance the knowledge of Electrical Engineering students (O'Riordan 2008 CIT) and the interactive web-based game for students of Nutritional Science (Bradley 2009 UCC).  Digital media literacy continues to rise in importance as a key skill in every discipline and profession[22], and access to these technologies has enabled teachers to enhance student engagement in their learning and keep pace with the rapid proliferation of information in the global environment.

The use of new and existing technology by grant holders has also been skilfully tailored to the needs and preferences of the students themselves. Students' "spare-time technologies" were researched and incorporated into the design of e-learning resources. For example, Web 2.0 technology such as social networks, pod casts and wikis were used to facilitate interactive language teaching (Carmesin 2008 NUIG). Grantees have recognised the importance of digital literacy for today's students by introducing them to self-directed, student led research in virtual learning environments (VLE). Some grantees suggest that students' reflective engagement with research topics has improved, as discussion and support from online resources complemented the traditional in-class environment and presented a more holistic approach to teaching and learning (Dyer 2010 TCD; Ryan 2008 UCC; McElvaney 2009 RCSI).

The exciting potential of new and existing technologies for improving the student experience has also been recognised by grant holders who have successfully evaluated the advantages and limitations of using virtual learning environments as tools for assessment in subjects. For example, the Moodle learning environment was found to be useful up to and including final exam implementation (O'Rourke 2009 AIT). Reports reveal that students and staff have shown great enthusiasm for online assessment methods particularly in relation to continuous assessment. This enables the student to choose from a blend of approaches to teaching and learning and thus transforms their learning experience in a positive way.

The NAIRTL grants initiative has laid the foundations for the development of a blended approach to teaching and learning which can support the flexible knowledge society which has emerged in Ireland. One of the major bottlenecks for Irish adults wishing to engage with higher education is the very

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21   National Strategy for Higher Education to 2030. 2011. Dublin: Department of Education and Skills, p.2.
22   Johnson, L., Smith, R., Willis, H., Levine, A., and Haywood, K., 2011. The 2011 Horizon Report. Austin, Texas: The New Media Consortium, p.4.

limited provision and choice of part-time flexible learning opportunities at undergraduate level.[23] The technological advancements made by grantees have provided the higher education sector with strategies to expand their educational provision through distance learning modules (Conway 2010 UCC), online assessments (Kennelly 2008 NUIG), e-tutoring support (O'Riordan 2008 CIT) and discussion forums (Ryan 2008 UCC) which enhance the traditional learning environment.

## 4.9    Conclusion

The tremendous effort of grant holders in bridging the gap between research, teaching and learning is commendable. This section has demonstrated that the impact of funded projects has been wide reaching and continues to grow. Evidence from final reports indicates that the NAIRTL grants initiative has been instrumental in bringing networks of scholars together to share and discuss best practice, and in encouraging the wide dissemination of their research into the scholarship of teaching and learning. Students, staff and institutions have attained great benefit from project outputs and outcomes both individually and collectively. The final section of this report details a small selection of funded projects as examples of the positive impact of the grants initiative on students and staff in third level institutions.

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23    Higher Education Authority. November 2009. Open and Flexible Learning HEA position paper, p.4.

**Part 3**


**Selection of Case Studies**

**NAIRTL**

## Government and Politics Review: The Journal of Undergraduate Research in Political Science

**University College Cork**

**NAIRTL Grant Awarded in 2009**

### Project Overview

With support from the NAIRTL grants initiative, the Department of Government, University College Cork has produced an online undergraduate journal of research entitled, 'Government and Politics Review'. Launched in March 2010, the journal is dedicated to the publication of high-quality politics, political science and government undergraduate research, involving students of the BSc Government, the BComm and BA degrees as well as UCC's Government and Politics Society.
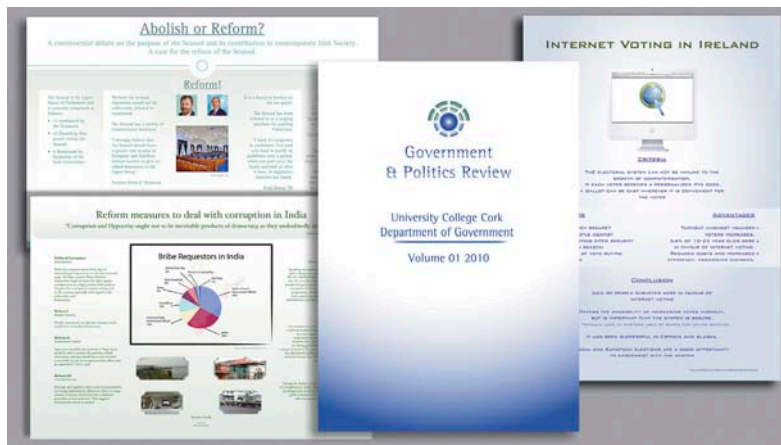


At the heart of this project was the desire to enable undergraduates to become integrated into the research culture of the Department of Government, UCC. As such, an editorial board, consisting of two staff members and two student members, was established to coordinate the journal. The two student members of the editorial board were selected by members of the student society.

The journal is therefore produced, edited and managed by staff and students of the Department of Government and the Government and Politics Society. The first edition of the journal contained five student articles and was centred on the theme of political reform. To celebrate the launch, a conference of the same theme was organised. The conference was an integral part of the project as it integrated students' research and publication experience into the academic and political community. As well as celebrating the work of those students whose research appeared in the first edition, many other students contributed to the conference in the form of producing academic posters. The event attracted the attention of leading academics including Professor David Farrell and Professor Gary Murphy, and national politicians including Mr Micheál Martin, the then Minister for Foreign Affairs.

### Impact

The project explicitly integrated research and research related skills into the undergraduate learning experience and followed a research-based learning approach. As a result, students had the opportunity to act as researchers, writers and reviewers engaged directly with the publication experience. Many aspects of the traditional curriculum encourage students to engage with research but the dissemination of their output is often limited to essay submission. Through interaction with the journal, students gained the invaluable opportunity to learn about the challenges and rewards of undertaking and publishing research. The project brought students through the entire process from the start of the research process, to designing their programme of enquiry, to the final completion and publication of their research as either a journal article or poster.

Being a published author is a huge achievement and honour for students at such an early stage in their careers. Moreover, in an increasingly competitive job and postgraduate study market, it is very beneficial for undergraduate students to enhance their CVs with their research activities. This project presented students with the opportunity to develop their skills-set, while experiencing the enjoyment of seeing their work in the published form. It also provided for the creation of a learning community between staff and students of the Department of Government. This has helped to promote, support and sustain the integration of research, teaching and learning. The exchange of ideas and feedback that this relationship has engendered has allowed staff and students to learn from one another and develop a scholarly environment that is beneficial to all.

### *Evaluation*

As part of the long term development of the journal, the project team evaluated students' engagement with the project and garnered student opinion on the journal and its development process. Students were asked to evaluate the project through anonymous questionnaires. The feedback was universally positive from the students who participated in the project. In evaluating the academic experience, seventy five per cent of students agreed that the project (both journal and conference) "contributed greatly to better performance" in their Irish politics module. A further twenty per cent agreed that the project "contributed to better performance". Staff feedback about the project was also very positive and there was clear agreement that the project had been successful for the students who participated.

### *Sustainability*

Building upon the success of the first edition of the journal in 2010, a second edition of the journal was launched in June 2011 and examined the theme of international relations. It contained four student articles. This is testament to the tight research culture and relationships developed as a result of NAIRTL funding. The solid foundations established during the journal's developmental phase, as well as the very positive reaction to the launch of the journal's first edition, will help to sustain the journal's future existence and potential expansion. While these editions contained papers from students of the Department of Government only, it is anticipated that in time, the journal will attract submissions from students across UCC and/or other universities both nationally and internationally. Plans are already afoot for the publication of a third edition of the journal in spring 2012 thus ensuring its sustainability.

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Dissemination to date:

The journal may be viewed at: www.ucc.ie/en/government/GovernmentandPoliticsReview/

- Buckley, F. and Reidy, T., September 2010. Journal presented at The American Political Science Association Annual Conference, Washington D.C.
- Buckley, F. and Reidy, T., October 2010. Journal presented at The Political Studies Association of Ireland Annual Conference, Dublin Institute of Technology.
- Buckley, F. and Reidy, T., March 2011. Journal presented at The Mid-West Political Science Association Annual Conference, Chicago.

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*For further information contact the project leaders:*

Fiona Buckley
Department of Government
f.buckley@ucc.ie

Theresa Reidy
Department of Government
t.reidy@ucc.ie

**NAIRTL**

## MoCap: An Online e-Learning Course on Motion Capture Technologies
### Cork Institute of Technology
### NAIRTL Grant Awarded in 2008

### *Project Overview*

The project set out to create an online e-learning course which would educate staff and students on the use of Motion Capture Camera technologies. These technologies are available in the School of Mechanical and Process Engineering at Cork Institute of Technology (CIT). This project enables staff and students to teach themselves how to use the technology, and to allow students to understand and integrate the technology into either individual projects or collaborative projects with students or staff from other departments.



The output of this project was MoCap - an online e-learning course for staff and students interested in using Motion Capture for biomedical multimedia teaching and learning. MoCap is a CD-ROM based e-learning course which enables learners to view sample training material on the motion capture process. The course comprises a range of learning objects including 3D animations, screen capture footage, photos and diagrams. MoCap guides the learner through techniques on calibration, database configuration, marker placement and motion capture. No prior knowledge of the software or hardware system is necessary. The course may be accessed and viewed prior to entering the lab or viewed in real time whilst working in the lab.

## *Impact*

Prior to this project, there was no visual training resource for the CIT motion capture lab, and therefore the technologies in place were not being used to their maximum capacity. MoCap has provided undergraduate students in the areas of Technology and Engineering, Science, Media and Communications, Biomedical Research and Multimedia, with the opportunity to integrate this technology into their research and enhance their understanding of motion capture. It has also given staff who are new to the area, a basic grounding in the motion capture process. The fact that the tool may be researched remotely (online) and on campus (CD-ROM within the lab) provides flexible learning opportunities to staff and students alike.

## *Sustainability*

In the design and construction of the MoCap e-Learning course, an emphasis was placed on generic motion capture methods without overly focusing on any particular software system. As a result, the tool has been given a longer shelf-life. This project has also provided long term benefits to the Institute due to its cost effectiveness. Where previously, external trainers were contracted to give tuition to novice users, this service is now provided by the MoCap e-learning course. Now that the system has been produced, little or no further expenditure is required.

Within CIT, MoCap is being used as a teaching aid on the Advanced Animation module within the Department of Media Communications for the third consecutive semester. It is anticipated that by exposing students to Motion Capture Technologies via the MoCap e-learning tool, it will encourage them to integrate this technology into their final year projects in the coming years. More widely, it is envisaged that the use of Motion Capture will become more ubiquitous in Higher Education Institutions in future years as the hardware and associated software systems become more affordable.

Dissemination to date:
- Mo-Cap can be found at: www.transculturetek.com/staffContent/MoCap/

*For further information contact the project leader:*

Joey Campbell
Department of Media and Communications, Cork Institute of Technology
joey.campbell@cit.ie

**Making the Bigger, Better: Tackling the Challenges of Large Group Teaching and Learning**

**National University of Ireland, Maynooth**

**NAIRTL Grant Awarded in 2009**

*Project Overview*

The objective of this project was to investigate, in an evidence-based manner, the reality of large group teaching (LGT) for staff and students in NUI Maynooth (NUIM). Through consultation with students and staff from the departments of Geography, Economics, Experimental Physics, Psychology, Gaeilge, German, Sociology, Philosophy, Anthropology, Music, English and Biology in NUIM, the project team learned and recorded the experience of teaching and learning in large groups.



In these consulations, academic staff discussed their positive and negative experiences of developing and implementing teaching strategies designed to meet the challenges of large group teaching. The project team felt that by drawing on local level experience and reflections on practice, by explaining the rationale for each teaching method and by discussing the development and structure of methods, lecturers would be encouraged to consider their own teaching methods and whether they are most effective and appropriate.

The outcome of these consultations was the production of a Large Group Teaching (LGT) resource pack which presented colleagues, both within and outside NUIM, with practical solutions to the difficulties associated with teaching in large groups. This resource pack is now available online, on the Moodle virtual learning environment, for all teaching staff. This online resource contains journals, teaching tips, case studies, online handbooks etc. Updating of this resource is ongoing.

*Impact*

Evaluations undertaken by the project team suggest that the strategies developed and implemented by participating staff members have resulted in an enhanced and more effective learning environment for students.  Academics have achieved a more rewarding and satisfying experience as educators. They have also noted an increase in the motivation, engagement and participation of students in classes. Students have benefited from the increased openness and awareness surrounding large group teaching strategies as they have been given the opportunity to provide feedback on their learning environment.

The project team is confident that students have benefited from:
- Greater in-class interaction and more effective learning environment
- A more friendly, less intimidating and more sociable atmosphere in class
- More independent learning and more autonomous students
- More individualised learning despite large numbers
- Better application of technology to support large groups

Decades of research on teaching and learning practices have highlighted the importance of active learning, along with the opportunities and challenges inherent in using technology to enhance pedagogy and also the need to move beyond the traditional lecture format if quality teaching and effective learning environments are to be provided in large classes. This project has been successful in advancing active learning through the creation of resources.

## *Sustainability*

Commendable efforts have been made to sustain the project going forward through collaboration with higher education professionals. Within NUIM, a staff forum was established and an information workshop for staff was held in November 2010. In addition, a collection of case study reports produced by innovative lecturers from a range of disciplines was published in October 2010. The case studies offer teaching strategies and studies of good practice, not only to other lecturers, but to students and departments as well. Along with presenting teaching strategies, the case studies present the lecturers themselves, their stories and their methods. Consultation is ongoing between lecturers and the project leader.

The outputs of this project will be invaluable in disseminating and sharing ideas amongst teachers in a flexible and inclusive way into the future.

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Dissemination to date:
- Waddington, S. and Crowley, U., 2010. 'What do they really think about large classes? Published in Proceedings of AISHE Conference, DCU, Dublin.
- Crowley, U., October 2010. 'What do students think about technology' presented at the NAIRTL/LIN Conference.

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*For further information contact the project leaders:*

Tom Collins and Una Crowley
Centre for Teaching and Learning, National University of Ireland, Maynooth
una.m.crowley@nuim.ie

## Giveme Shelter - The Development of a Second Year Engineering Design Course
**Trinity College Dublin**
**NAIRTL Grant Awarded in 2010**

### *Project Overview*

This project aimed to revitalise an engineering design module that catered for over 160 undergraduate students by introducing new practical design elements. Students from Trinity College Dublin (TCD) worked collaboratively with the Simon Community based in Dublin in order to design innovative shelters for the homeless. Students were required to design and construct prototype shelters for homeless people in the grounds of TCD. The students were assisted by weekly lectures on the design processes, along with interviews with representatives from the Simon Community, which provided students with an overview of the needs of potential users.

Over a twelve week period, students worked in groups of six to eight, with each group receiving assistance from a postgraduate demonstrator. The module was structured around a six week design stage that culminated in a poster exhibition of the individual designs, design reports and individual sketch pads. The introduction of this practical exercise into the module led groups through the process of defining the 'user need', the 'site constraints', and the review of past design solutions to the production of a prototype design. The design process was aided greatly by the introduction of a Sketch Book method that promoted reflective thinking and greatly enhanced the students learning experience.



The project highlighted the perennial challenge of enabling Engineering students to develop creative skills in problem definition and problem solving instead of rote learning of engineering theory and mathematics. The submitted coursework and in particular the individual sketch pads illustrated a growing awareness and maturity in the pursuit of problem based design centred on user needs as opposed to technologically driven solutions.

### *Impact*

Through participation in the updated module, students developed problem solving skills by using the design process as a pedagogical tool. The module provided students with an increased opportunity to be creative in an otherwise heavily structured second year degree course. The Sketch Book method of learning promoted critical reflective thinking by individual students within large class groups and in many cases, took students outside of their comfort zone and made them think more broadly about the needs of users - in this case homeless people. Students were able to recognise the importance of firstly defining the nature of the problem to be solved rather than simply applying existing theories to a well defined problem. The module led to an outpouring of creativity in the form of prototype shelters, a sample of which is shown in these images.

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*"The project was thoroughly enjoyable. It was a learning experience in many regards, not least organisational. It has given us valuable tools with which to work in teams, to manage, to collaborate and to coordinate. We look forward to doing such projects throughout the remainder of our degree and into our futures".* (Student participant)

## Collaboration

During the initial stages of the project, collaboration was restricted to colleagues at the University of Strathclyde who lead a similar design course for first year Civil Engineering students. This collaboration was of a practical and technical nature, in terms of the structural form and construction methods adopted at Strathclyde University. As the project progressed, a much broader scope for collaboration emerged based on the use of Sketch Books as a teaching tool for independent inquiry-led learning. This has resulted in a network of like minded academics coming together to foster and promote the use of Sketch Books. The network comprises of University College Cork, University College Dublin, Queen's University Belfast, University of Ulster and University of Strathclyde. It is anticipated that the network will develop the use of Sketch Books with more detailed guidelines and templates into the future.

## Sustainability

The project outcomes have been embedded in the second year Engineering course. An internal review of the module showed that greater weighting should be given to the Sketch Book to reward individual effort. Going forward, the Sketch Book will be renamed the Design Diary and a weekly template will be prepared to guide the inquiry-led learning.

Dissemination to date:

Dyer, Mark, June 9th - 10th 2011. The 5th NAIRTL Annual Conference – 'Engaging Minds', NUI Galway.

Videos have been posted on You Tube and can be accessed by searching for the module code 2E9.

- http://youtu.be/kUzoYy8m5C8  •  http://youtu.be/A-6pBS6WSaQ  •  http://youtu.be/xZ6vlZG-yCE
- http://youtu.be/o2iuOK1PEEc  •  http://youtu.be/16X9opx0Jfs  •  http://youtu.be/XaTQv7fsrxA
- www.youtube.com/watch?v=iWZod-O4_DA
- www.tcd.ie/Communications/news/news.php?headerID=1750&vs_date=2011-4-1

*For further information contact the project leader:*

Mark Dyer

Department of Engineering, Trinity College Dublin

mark.dyer@tcd.ie

## Inquiry Based Simulated Learning Environment for Undergraduate Science Researchers
### Institute of Technology, Sligo
### NAIRTL Grant Awarded in 2009

### Project Overview

The objective of this project was to develop an alternative means of learning for students to understand the workings of wastewater treatment plants and to become more competent in conducting the analytical tests for monitoring such plants. This was achieved using a laboratory-scale wastewater treatment plant. Teams of students were made responsible for the maintenance, operation and monitoring of the treatment efficiency of this lab-scale wastewater treatment plant. The wastewater activated sludge pilot plant comprised a 27 litre aeration tank, a 50 litre influent feed reservoir, a 50 litre receiving vessel for the treated effluent, a peristaltic pump for the influent feed and a diffused aeration system.



Four students were assigned to each team and each team member was given individual tasks to complete twice a week over a two to three week period. The pilot plants simulated the treatment of dairy wastewater using activated sludge which was obtained from NCF Shannonside, Ballaghaderreen, Co. Roscommon. A shared spreadsheet was developed, using Google Docs, for each team to enter their results. The spreadsheets could be viewed by both students and staff.

### Impact

One major outcome of this project was a reform of the way in which students conducted analytical tests associated with the monitoring, operation and performance of wastewater treatments plants. The responses from student surveys demonstrate that, through this pedagogy, students were able to understood, for the first time, how wastewater treatment plants are operated. Students understood the importance of their responsibilities in working as part of a team. Students also became more competent in conducting the analytical tests for monitoring wastewater treatment plants, because they conducted each analysis at least four times and could realise the significance and context of the results obtained. This also helped them to recognise sources of error and to present data in both tabular and graphical form.  One student's response to the survey sums up the experience as:

> *"The Wastewater Treatment Plant lab gives the student practical understanding of how a treatment plant works. Repeating the analyses a number of times improves the student's technique and reduces errors. It also gives the student more responsibility to look after the treatment plant etc. making it less college-like, and more like the real world work environment."*

## *Collaboration*

Some sigificant collaborative links were created with Universitat Politecnica de Catalunya, Barcelona as a result of the dissemination of the results of this project. Results of the project were presented by student teams involved in the European Project Semester at the School of Engineering in Barcelona. This contact has formed the basis for possible student exchanges between participating third level institutes in other European member states.

## *Sustainability*

Positive feedback from student surveys and improved student learning formed the basis for curriculum changes which were approved by the Institute's Academic Council. These changes have allowed the module, Wastewater Treatment Laboratory, to be delivered in this new format as opposed to the previous format whereby all the students conducted one or two analyses each week in a laboratory session without understanding the reason or significance of the analytical test. Curriculum changes also allowed the learning outcomes of the module, Team Project (10 credits), to be incorporated into the newly formatted module, Wastewater Treatment Laboratory. The incorporation of these two modules has created one overarching capstone module which enhances the student experience.

In order to disseminate the details of the pilot project, a website was created. This website gives background information on the activated sludge process, the significance of each of the analytical parameters, the templates for recording the results of each analytical parameter and the results of each test over the duration of the trials. The website is an invaluable resource to students participating in the module along with other students and staff interested in observing the generation of analytical data, particularly students undertaking the Wastewater Management module in Environmental Management by open and distance learning.

It should also be noted that there is potential for the use of lab-scale pilot plants as a research tool to investigate the effects of changing operating parameters on the treatment efficiency of wastewater plants.

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Dissemination to date:
- Fitzgerald, W., 17th-19th February, 2010. The 20th Environmental Researchers Colloquium (ENVIRON 2010), Limerick Institute of Technology.
- Fitzgerald, W., 7th October 2011. The NAIRTL/LIN conference, the Royal College of Surgeons of Ireland.
- An article based on this NAIRTL project was published in the magazine, 'Education', 23(3), 2009.
- Website outlining details of the project: www.lab-scalewwtp.com

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*For further information contact the project leader:*

William Fitzgerald
Environmental Science, Institute of Technology, Sligo
fitzgerald.billy@itsligo.ie

**SISTEM - Stimulating Interest in Science, Technology, Engineering and Maths**
## Waterford Institute of Technology
## NAIRTL Grant Awarded in 2008

*Project Overview*

SISTEM is a project that aims to stimulate interest in learning Science, Technology, Engineering and Maths (STEM) by use of demonstrations in lectures. This project set out to identify areas in introductory science, engineering and mathematics modules that could benefit from demonstrations. In many courses, students are exposed to practical work in laboratories or workshop and the emphasis is often on experimental method rather than on familiarity with phenomena, and there is often a disconnect between the lectures and the practical work.



This project has examined areas of science, engineering and maths subjects to identify areas where students have difficulty or where the lecturer feels that a demonstration would be advantageous and seeks to develop such demonstrations. The project team focused on the development of models, to help student understanding of three specific phenomena:

1.  Isomerism in Organic Chemistry – Marshmallows of different colours and skewers were used to construct all of the different isomers of butanoic acid
2.  The Workings of the Electric Motor – Students built a motor to give hands-on experience of how it works in reality
3.  The Structure of DNA – Jellybabies and skewers were used to show the helix structure of DNA

Following the use of the models by students and lecturers, they were given questionairres to assess the effectiveness of the approach and to make suggestions for changes or improvements.

*Impact*

Practical demonstrations helped familiarise students with physical phenomena and showed students the applications of particular areas of study. They also appealed to students with different learning styles.  Many concepts in STEM disciplines that were considered either difficult to grasp or were seen as having little connection with the real world were made much more understandable through the making of the models by the students.

Feedback from students revealed that, in addition to understanding these phenomena more readily, the building of models engaged their interest – or "no-one drifted off", as one student described it. Another student explained how building models "gives a visual representation of complex areas of study". Yet another said that it was "easier to learn from these models than from a textbook. By building the model yourself, you get a realistic view of what is happening".

*Collaboration*

The SISTEM project has been the starting point for many other initiatives around the use of models and games to engage students in STEM disciplines. Following on from this project, Waterford Institute of Tecnology has partnered with Nottingham Trent University and Leicester University in an FP7 project entitled "2ways", which is about developing, showing and evaluating interactive and dialogical presentations of ongoing European life science research. A boadgame is being developed, to help explain the concept of evolution.

*Sustainability*

Many demonstrations have been developed that are relatively inexpensive to construct, easy to carry to a lecture and easy to set up and run during a lecture with minimum of disruption. Further demonstrations are to be tested by lecturers to assess their usefulness. The original concepts of the project are being adopted by other lecturers to help explain complex scientific and mathematical concepts.

The SISTEM project has resulted in many new partnerships and funded initiatives both at national and international levels, through a Science Live bursary and through European Commission funding in the Framework Programme (FP7).

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Dissemination to date:
- Jellybean DNA project used for many primary schools during Science Week
- Elements of the project are incorporated into Science Week and Maths Week at national level and through the "2ways" project at European Level

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*For further information contact the project leader:*

Eoin Gill
Science and Engineering, Waterford Institute of Technology
egill@wit.ie

## Making Connections: Strengthening and Documenting Intentional Teaching for Integrative Learning
**University College Cork**
**NAIRTL Grant Awarded in 2008**

### Project Overview

The Irish Integrative Learning Project (IILP) was designed as a multi-institutional, multi-disciplinary project to promote small-scale research into the teaching of courses that fostered integrative learning in higher education institutions in Ireland. The overall aim of the project was to research and document examples of integrative learning in Higher Education in Ireland, and to produce a clear and practical resource for all teachers. Under this umbrella the project included staff development in curriculum design, pedagogy and assessment as vehicles to promote students' integrative learning.

Using the CASTL Scholars program as a model, the project aimed to build on the findings of the US 'Integrative Learning Project: Opportunities to Connect', and on the CASTL Scholars initiative on integrative learning. Sixteen participants were chosen from three institutions in Ireland, for their potential to promote and document integrative learning, and fifteen courses, impacting on 1000 students, became the subject of enquiry.
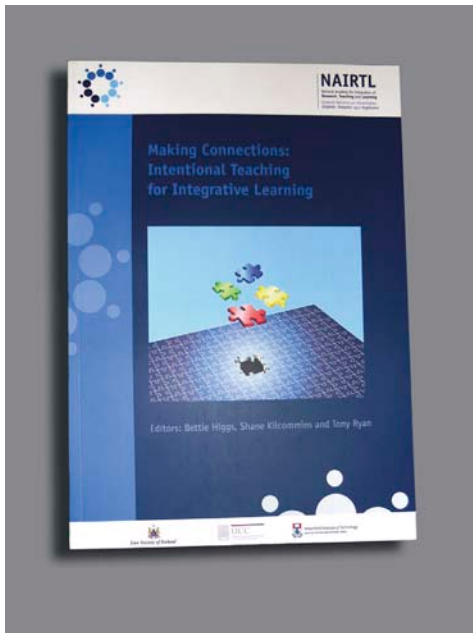


Participants began authentic, subject-centred research as advocated by Kreber (2007). Clusters emerged in Science and Mathematics, Economics and Law, Medicine and Health, and Arts and Social Science. Curriculum design, pedagogy, and assessment were all reconsidered in light of the project goals. Courses were modified and assessments were aligned with learning outcomes that encouraged integrative learning. Evidence of student learning was collected by various means including continuous assessment. For example, some participants in the IILP simply asked their students to articulate their connection-making within or between disciplines, while others assessed students' new understandings via student reflective journals and portfolios.

### Impact

Participants reported being better informed and more intentional about helping to build student attributes that promote integrative learning. They have been encouraged to document outputs and outcomes, and articulate potential short-term and long-term impacts on student learning. This dissemination has provided useful resources for other colleagues.

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In their writings, researchers showed a deepening understanding of the nature of integrative learning, and how it can be promoted. They developed a new language with which they can now debate, consolidate and disseminate their integrative practice. They have become more intentional in their teaching, and are documenting the elements and activities that nurture integrative learning. Pedagogies and teaching strategies known to provide rich opportunities for integrative learning, including problem-based learning, reflective-portfolios and critical friends, are being used.

Participants reported that this project provided a comfortable space for sharing ideas on scholarship and student learning. One aspect of the CASTL Scholars program that informed the work, and proved particularly powerful, was the critical friends approach to staff development. This has helped participants to examine their work from another perspective, and to receive critique from a colleague who is an advocate for the success of their work. Participants were not only appreciative of the insights of their critical friend, but reported that being a critical friend was a useful learning experience.

## Collaboration

The IILP placed an emphasis on collaborative group work that assists participants to develop a toolkit of teaching strategies for integrative teaching. This collaboration has been an important outcome of IILP. The bringing together of a diverse, multi-institutional, multi-disciplinary integrative learning group of participants, in other words the development of a learning community of integrative learning teachers and educational researchers, has been hugely beneficial and enlightening. The understandings gained by teaching staff in this project have continued to build students' capacity to be integrative thinkers and learners, as well as allowing them to sustain and expand the integrative learning network in Ireland and strengthen international links.

## Sustainability

Outcomes and findings of the IILP have revealed dimensions of student learning which need to be addressed going forward. Participants discovered that integrated programmes do not in themselves lead to integrative learning. That is, assumptions that students will make meaningful connections unaided may not be well-founded. Separately delivered and assessed modules may be seen by students as 'parallel' and unconnected. These findings are important in deepening our understanding of how students learn. Further international collaboration has enhanced and sustained this scholarship of teaching and learning endeavour.

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Dissemination to date:
- Higgs, B., Kilcommins, S. and Ryan, T. (eds), October 2010. Making Connections: Intentional Teaching for Integrative Learning. NAIRTL.
- Multiple papers and conference presentations have also been delivered

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*For further information contact the project leaders:*

**Bettie Higgs**
Geology and Ionad Bairre, UCC
b.higgs@ucc.ie

**Shane Kilcommins**
School of Law, UCC
s.kilcommins@ucc.ie

**C. Anthony Ryan**
School of Medicine, UCC
tony.ryan@hse.ie

## The Development of a Child Law Clinic
**University College Cork**
**NAIRTL Grant Awarded in 2009**

### Project Overview

This project set out to establish a Child Law Clinic which is the first of its kind and an innovation in Irish legal education. It provides graduate student-led research services to lawyers litigating or seeking to litigate children's issues. The Clinic exposes students to the reality and practice of legal issues affecting children, by providing them with the opportunity to prepare briefs which seek to develop not only accurate, but persuasive legal argument pertinent to the issue being litigated. Through their involvement in the Child Law Clinic, students have had the opportunity to observe, first hand, the application of the law.

The Child Law Clinic team currently involves six graduate law students and three members of staff, all of whom are actively involved in the cases under consideration. The Clinic meets at least fortnightly and operates as follows: the lawyer presents an issue - usually a set of facts - to the Director who then relays the issues to the Clinic. The Clinic team then brainstorms the issues, the law is discussed and an approach is formulated. A formal document containing research on the issue is then prepared and presented to the lawyer.



CHILD LAW CLINIC

A LEGAL RESEARCH SERVICE
PROVIDED BY STUDENTS
FOR LAWYERS

UCC  FACULTY OF LAW  NAIRTL

Without exception, the lawyers to whom these briefs were provided were not only hugely grateful to the Clinic for its production of professional, timely and comprehensive information but they were also very impressed by the quality of the legal argument and the skills employed by the Clinic to produce it. The Clinic has facilitated a two-way learning process between students/academics and practitioners and will continue to refine its approaches and protocols as it gains experience going forward.

### Impact

The Clinic operates on the basis of student-led enquiry within the terms of the issue referred by the lawyer. Students' exposure to 'real' cases involving children and the legal challenges and obstacles facing lawyers gives them an insight into the application of law in practice. As the Clinic focuses on developing and applying research skills, students are learning how to problem-solve by being forced to consider what sources and approaches are relevant in responding to the dilemma posed, and they are developing analytical legal skills by being required to research a very precise legal issue, and to develop legal argument where the answer is far from clear or certain. This 'clinical' experience is unique to the Faculty of Law at UCC and those involved in the Clinic have already gained hands-on experience, unavailable to their peers elsewhere. Students are also encouraged to research relevant non-law areas where appropriate, thus increasing their interdisciplinary awareness.
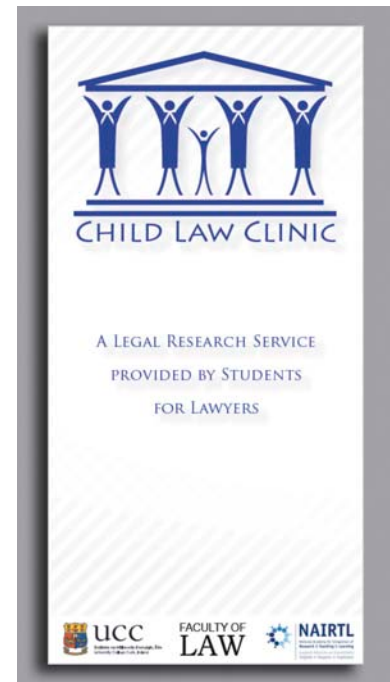
The Clinic also provides a service to lawyers by presenting them with information, including legal materials and argument, for litigation involving children. In this way, it aims to improve the quality of litigation and representation in children's cases with a view ultimately to improving children's lives through innovative law reform.

## *Collaboration*

Collaboration has been a successful enabler on a number of levels within this project. Primarily, there is collaboration between staff and students as they work as partners, sharing ideas, discussing merits of legal argument proposed and engaging with practitioners on issues associated with litigation. There is also clear evidence of collaboration between legal professionals who have referred cases to the Clinic. Feedback from the profession is extremely positive about this initiative and bodes well for a continuing active partnership between academia and the legal profession in this area.

Finally, Marsha Levick's visit to Ireland, which was enabled through this project, provided the opportunity to bring together the Clinic, members of the legal profession and NGOs to discuss issues of common concern in child law and children's treatment. Marsha was invited to present at a roundtable of solicitors in Dublin to disucss litigation in children's cases, and at an event co-sponsored by the Irish Penal Reform Trust and the Public Interest Law Alliance on litigating children's cases. Collaboration on this project continues to be pursued nationally.

## *Sustainability*

The long term sustainability of the Child Law Clinic will be ensured by its incorporation into the new LLM in Child and Family Law in UCC from 2011/2012. Graduate (PhD) students will remain the core members of the team, but the Clinic will also be opened up to the LLM students who take Child Law as a compulsory module. Overall, this arrangement ensures that the Clinic will have consistency from year to year while also being injected with new students every year whose enthusiasm and initiative will be essential to keeping the Clinic dynamic. Encouragingly, there is considerable interest in replicating the Child Law Clinic Model and its application both in Ireland and internationally.

The participatory nature of the Clinic encourages students to actively engage, analyse, evaluate and learn in accordance to the LLM modules learning outcomes. As they develop, both the Clinic and the LLM module will have reflective elements that will encourage students to consider their learning and the process by which that learning is achieved.

Dissemination to date:
- Kilkelly, Ursula, June 2011. Plenary paper addressed the Child Law Clinic at 'The International Children's Rights Conference', Queen's University, Belfast.
- A Clinic Roundtable with practitioners took place at the Law Society, Washington Street, Cork, on 19th October 2010
- Kilkelly, Ursula, January 11th 2011. Project Presented at the IPRT/PILA in Dublin.
- Project reported on RTÉ Radio in an interview by Marsha Levick with Pat Kenny on January 13th

*For further information contact the project leader:*

Ursula Kilkelly
Faculty of Law, University College Cork
ursula.kilkelly@ucc.ie

**Developing an Enquiry Led Approach to Teaching Mathematics in Primary Classrooms**

**Mary Immaculate College Limerick**

**NAIRTL Grant Awarded in 2010**

*Project Overview*

This project set out to produce video case studies of best practices in the teaching of primary Mathematics. The focus was on the development of primary level Mathematics lessons which emphasised the teaching of data, so as to provide student teachers with the opportunity to see the benefits of research-based teaching, as well as reflection.

The research method used was Lesson Study (Lewis, 2000) which is a commonly used professional development tool internationally. Lesson Study is an enquiry-led approach which involves teams of educators (in this case twenty-one prospective teachers, three teacher educators, and primary classroom teachers) working collaboratively on the design of research-driven mathematics study lessons.



The research undertaken by the project team culminated in the production of highly edited, research-driven and classroom-tested case studies of primary Mathematics teaching. These case studies were captured on DVDs which demonstrate the complexity of the teaching that occurs in real classrooms. They also present student teachers with a new learning experience; in contrast to observation and traditional lecture methods, students have the opportunity to revisit events and analyse the features that may have contributed to these events. The DVDs represent the bridge that will help prospective teachers to link theory with practice. They will also enhance undergraduate student teachers' preparedness to teach the relevant concepts. Four DVDs, which emphasis different aspects of teaching Mathematics were produced:

- DVD 1:  Best Practices in the Teaching of Data: Exploring the Mean.
- DVD 2:  Introducing Informal Tallying and Graph Construction in the Infant Class.
- DVD 3:  Using Contexts: Exploring Distributions while Solving a Crime.
- DVD 4:  Making Mathematics Real: Situating Data Comparison within a Sporting Context.

*Impact*

For student teachers who perceived teaching Mathematics as difficult, they felt that engaging in this research made mathematical concepts more accessible. They also felt that the DVDs produced by the project team, provided unique insights into possible teaching strategies as well as other considerations when planning for teaching, such as grouping, differentiation and assessment. Due

to the potential support that the DVDs will provide to undergraduate lectures and workshops, the Mathematics Education lecturers in Mary Immaculate College were granted full access to the DVDs created by this project. It is anticipated that the DVDs will be used to support countless student teachers in Mathematics Education lectures going forward.

Further feedback from student teachers revealed that participants felt they gained a unique opportunity to develop their pedagogical knowledge of teaching data. Students expressed that this opportunity had made them more aware of the relevance of data in everyday life, the importance of appropriate subject matter knowledge, as well as the importance of selecting contexts which are motivating for the pupils. It also made them more aware of the variation in pupil ability as well as the range of strategies and misconceptions which exist in primary level teaching.

## *Collaboration*

A key objective of the project was to develop close links with local primary schools, with a view to developing incubator schools that focus on Mathematics education. Two local schools worked closely with student teachers and Mathematics professionals. The teachers and principals of these schools allowed access to their classrooms, engaged in conversations and provided feedback regarding the nature of Mathematical inquiry and the effect on student learning. It is anticipated that these schools will continue to act as hubs where we can develop a culture of inquiry around Mathematics teaching.

Efforts were also made to forge collaborative links in the international arena. One such link was created with Dr Katie Makar, a Mathematics educator from the University of Queensland, Australia. Dr Makar visited pre-service teachers and provided some professional development for them around the area of carrying out statistical inquiry with children.

## *Sustainability*

This new initiative will be implemented in Mary Immaculate's undergraduate and postgraduate Mathematics Education curricula. It is anticipated that students' understanding of key statistical concepts (e.g. mean, median, mode, outliers, range, etc.) will be enhanced through analysis of the four DVD case studies.

Dissemination to date:
* Leavy, A.M., August, 2011. 'Looking in classrooms: Improving the teaching and learning of statistics in primary classrooms'. Presented at The International Association of Statistics Education Satellite Conference to the 58th Session of the International Statistical Institute. Malahide, Dublin.

*For further information contact the project leader:*

Aisling Leavy
Department of Education, Mary Immaculate College, Limerick
aisling.leavy@mic.ul.ie

## Active Approaches to the Study of the Great Irish Famine
## National University of Ireland, Galway
## NAIRTL Grant Awarded in 2010

### *Project Overview*

This project links the research documented in the publication, 'Was Ireland a Colony?,'[1] with the public pedagogy of the Irish Famine Museum in order to enhance student learning approaches to the study of the Great Irish Famine. The project is the outcome of collaboration between NUI Galway (NUIG), NUI Maynooth (NUIM), and the Irish Famine Museum at Strokestown House. A group of students selected from multiple disciplines in the two participating universities was invited to participate in two famine related research projects.

The first research project involved a series of seminars presented by the authors of chapters within the publication, 'Was Ireland a Colony'. These seminars were hosted on site at the Famine Museum. Seminars were orientated around material from the book, original documents and artefacts from Strokestown House and the existing public exhibits at the museum. The outcome of these seminars was the preparation of a new, professional standard, public exhibit on aspects of the Famine which was on loan to the museum from NUIG.



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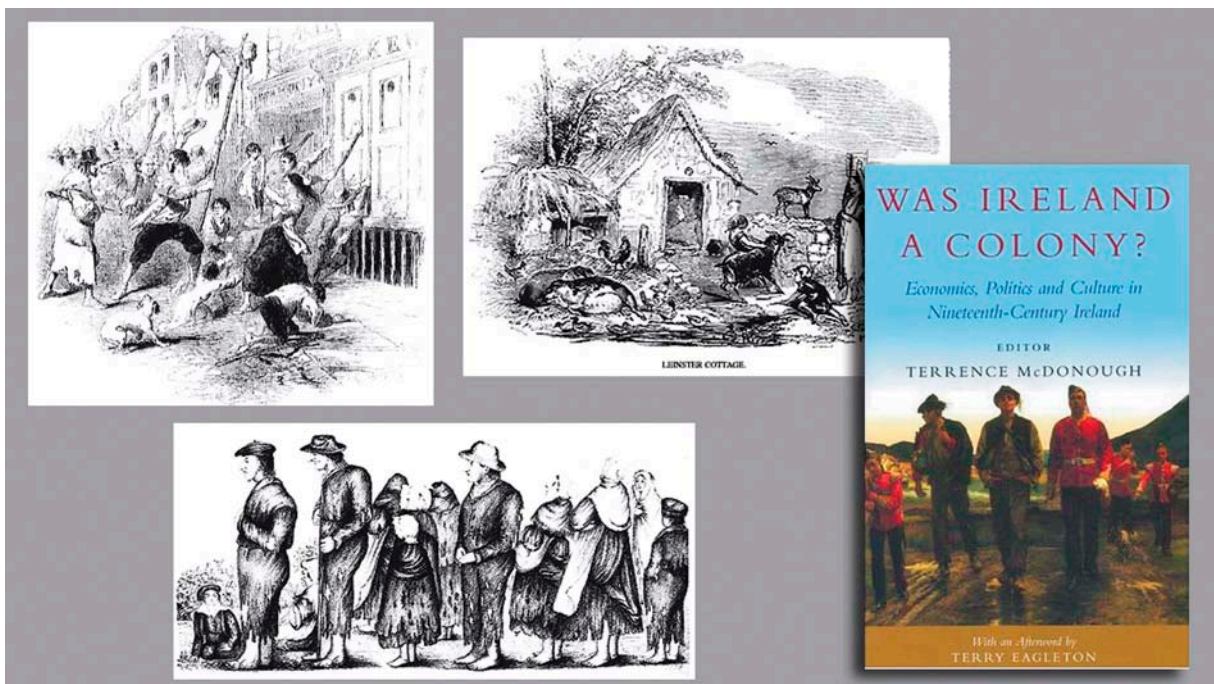
1    McDonough, T. (Ed.), 2005. Was Ireland a Colony? Economics, Politics and Culture in the Irish Nineteenth Century. Irish Academic Press, 2005.

The second research project was more practical in nature. The museum supplied a one acre plot of agricultural land as well as gardening expertise. The students, who were guided by experts in Irish agricultural history, prepared a number of plots which contrasted the productivity of the different methods of cultivating potatoes available in the mid 19th century. These experiments tested existing hypotheses about the origin of particular historical choices of crops and farming techniques on Irish estates during the 19th century.

## Impact

Through participation in these innovative research projects, students were introduced to active learning strategies and were encouraged to take responsibility for their own learning. Students were also encouraged to link with the museum. Students met the museum staff and were given a comprehensive tour of the museum and surrounding facilities as well as an introductory seminar by NUIG and NUIM lecturers, Slater and McDonough. The students rapidly became a team with integrated insights from multiple disciplines and they realised the benefits and potential of team work and practice.

## Collaboration

Collaboration was an important achievement of this project at a number of different levels. The primary collaboration was the institutional collaboration between NUIM and NUIG. Both institutions were committed to developing new and innovative ways to enrich their academic population and to reach out to the general public. The sharing of resources with faculties, students and interested members of the public, along with the creation of new exhibition material was an innovative way to begin a process of cooperation and joint activity.

A strong collaborative relationship was also established between NUIG, NUIM, and the Irish Famine museum. The museum actively participated in the initial stages of preparing additions to the exhibits and through the provision of plots and agricultural expertise. Outside scholars have contributed enthusiastically and it is anticipated that this collaboration will continue into the future.

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Dissemination to date:
Websites documenting the activities of the project:
- http://puesoccurrences.com/2011/08/24/strokestown-famine-museum-project/
- www.scribd.com/doc/55574408/14-july-1849

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*For further information contact the project leader:*

Terrence McDonough
Economics, National University of Ireland, Galway
terrence.mcdonough@nuigalway.ie

## An Online Problem-Based Prescribing Module for Medicine and Pharmacy Students
**Royal College of Surgeons Ireland**
**NAIRTL Grant Awarded in 2009**

### Project Overview

This project aimed to develop an online problem-based prescribing module for undergraduate Medicine and Pharmacy students to achieve fitness to practice and foster inter-disciplinary learning and assessment. The objective of this project was to design and implement an interactive and inter-disciplinary module to improve competence in prescribing, knowledge of therapeutics and drug safety awareness, with the long-term aim of reducing medication errors and patient morbidity.

Two study groups were chosen, namely pharmacy interns from a National Pharmacy Intern Programme along with final year Medical students. The module was designed as an online, problem-based resource with two main branches: e-tutorials and formative assessments. The themes chosen for the module were based on assessment analysis and an audit of the most commonly occurring errors in medication prescription: anticoagulation, antibiotics, analgesia and prescribing science. Scenarios were created for each of these themes and each scenario was supported by a series of assignments in a variety of approved formats, for example; extended matching questions, one-best-answer and free text options.

On completion of each assignment, students were provided with instantaneous and customised feedback, along with the correct responses and explanations. Students could re-take the assessment following a review of this material. A discussion forum was provided within each assignment to encourage student exploration and links were created to mini-tutorials on each topic. To evaluate the benefits of the new module the project team compared the performance of the two student groups and found that both groups acted favourably towards the module.

### Impact

This project has provided an entirely new curriculum which is easily accessed by a cohort of 398 Pharmacy and Medical students. Data indicates that students have embraced the new module with over 90,000 logs of participation recorded within a six month period. Through this extensive engagement with the online module, student learning has evolved from piecemeal and inconsistent exposure to prescribing teaching, either while on clinical attachments or learned while practising, to standardised, evidence-based learning which addresses general principles of safe prescribing and the most commonly prescribed medications in the context of clinical scenarios.

The online module created by this project has provided students with twenty-four hour access to the programme. It has meant that students can utilise the programme where and whenever convenient. This is of particular importance to the pharmacy interns who are in full-time employment while enrolled in a mandatory masters programme. The use of formative assessment tools as a main focus of the curriculum has allowed students to develop progress logs, and has acted as a high-yield learning tool which faciltates quick delivery of the key training points.

## Collaboration

The inherent nature of this project necessitated collobaration from the outset. The project leaders were members of the departments of Medcine and Pharmacy; as such the project facilitated the formal integration of the teaching from each faculty, which itself enhanced insight into the learning outcomes of these mutually complimentary disciplines. This approach has allowed students to benefit from the expertise of both disciplines and to get a true insight into the value of interdisciplinary care in maximising patient safety. Through joint assignments and assessments, the module has cultivated inter-professional participation between the two student groups. This alliance has prompted further combined research projects and teaching endeavours by the project leaders which incorporate other departments in the long-term interdisciplinary teaching profile.

## Sustainability

By using an online module the need for in-house lectures has been reduced. This is a positive step going forward. The new online curriculum provides the equivalent of 120 hours of active teaching, which would account for a minimum cost of 240 teaching hours when pre-lecture preparation, adminsitrataion and post-hoc review are taken into account. The module costs for design and adminsitration were modest and in-house expertise was utilised on a goodwill basis which limited expenditure, and although the initial creation and population of the site was labour-intensive, it is envisaged that it is sustainable with minimal upkeep into the future.

The module is planned to be continued as part of the Postgraduate National Pharmacy Intern Programme and the undergraduate Medical curriculum going forward. The module will undergo regular admistrative maintenance and ongoing academic updating and extension of content. Data regarding content and student interaction has been produced and has provided the project team with the opportunity to review and enhance the curriculum design going forward. The ethos of this teaching programme serves to encourage peer-assisted and inter-disciplinary learning, and integrated discussion, which will itself cultivate a culture of continued teaching and learning.

Dissemination to date:
- J. Strawbridge, M. Spooner, L. Delaney, R. Mullen, E. Clarke, J. Kelly, N.G. McElvaney. 'Prescribing competence in undergraduate and postgraduate healthcare populations'. INMED 2010.
- M. Spooner, E. Clarke, L. Delaney, S. O'Neill, N.G. McElvaney. 'Use of clinical and online assessment tools of intern competence'. INMED 2010.
- M. Spooner, F. Meagher, R.T. Brady, J. Strawbridge, J. Kelly, N.G. McElvaney, May 15th - 20th 2010. 'Assessment of prescribing skills in undergraduate medical students in fourth year of training'. Ottawa Conference in Medical Assessment.
- M. Spooner, J. Strawbridge, R.T. Brady, R. Mullen, S.J. O'Neill, J. Kelly, N.G. McElvaney, May 15th - 20th 2010. 'Prescribing competence is influenced by undergraduate professional background'. Ottawa Conference in Medical Assessment.
- M. Spooner, J. Strawbridge, E. Clarke, R.T. Brady, S.J. O'Neill, P. Gallagher, J.G. Kelly, N.G. McElvaney, September 4th - 6th 2010. 'A novel online interprofessional programme for undergraduate medical students, medical interns and pharmacy interns, Departments of Medicine and Pharmacy, Royal College of Surgeons in Ireland'. AMEE 2010.

*For further information contact the project leaders:*

Gerard McElvaney and Muirne Spooner
Clinical Medicine, Royal College of Surgeons Ireland
mspooner@rcsi.ie

## FLcaptions: Interactive Website for Foreign Language Learning Through Interlingual Subtitling of Video Clips

**National University of Ireland, Galway**
**NAIRTL Grant Awarded in 2010**

### Project Overview

This project set about creating audiovisual material and subtitling activities for use in foreign language classes in English, French and Italian. A number of screen casts, intended for first time users, were produced by the project team using the Camtasia Software. A database of bibliographical material was also created through links with the European Association for Studies in Screen Translation (ESIST). A domain name 'www.sub2learn.ie' and a logo were acquired.

A website was then created in order to host the materials produced by the project. YouTube.com was effectively used to upload video material indirectly to the website. The site was and continues to be hosted on the NUI Galway server in order to have continued technical assistance going forward. With this in mind, the project team selected and uploaded suitable promotional material from NUI Galway, obtained short films from the Huston School at NUI Galway and included other clips available on the Internet.



The website now contains captioning activities, video material, a database of bibliographical and reference material, a methodological section and a pod-cast and a screen-cast guide for the use of subtitling in Foreign Language (FL) learning. Each activity consists of multimedia files, detailed instructions and relevant reference material. The website is an invaluable resource for language teachers as it provides instructions and ideas for innovative teaching methods, and it can be helpful to students who are interested in new methods of language learning.

### Impact

The experience of NUI Galway and other higher education institutions, where subtitling has been used, suggests that it aids mnemonic retention of lexicon whilst helping students to understand pragmatic aspects of communication. Students expressed their enthusiasm for subtitling as a new fun tool for language learning and the FLcaptions website was designed with an emphasis on this fun aspect of language learning. For example, the website encourages student interaction by inviting users to subtitle a short silent clip and email their work to the creators of the website so that they

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can upload the best and most imaginative subtitles.

The benefits of student interaction with the website are twofold; firstly it aids the development of transferable ICT skills such as the use of new software, ability to work with video files and different types of text files. Secondly, and perhaps more importantly, students have the opportunity to improve their oral comprehension, writing, translation and summarising skills.

The project has also impacted language teaching methods by providing interested teachers with comprehensive instructions and creative ideas to enhance their teaching. This has had a positive impact on students' learning as it will make it possible for teachers to use subtitling technology without the need for technical expertise or lengthy and time consuming research of video material. This enhanced the motivation and involvement of both teachers and learners.

## Collaboration

Significant efforts have been made to expand the resources through collaborative links. Dissemination workshops hosted within NUI Galway have inspired colleagues to volunteer further videos in Spanish, allowing for the expansion of the resource to include new languages. Similarly, further materials, i.e. video, bibliographic and methodological resources arising from collabroative work for the 'Media 4 All' conference and linked with another NAIRTL funded project: PAISAJE Project for Intercultural Learning and Teaching of Irish and Spanish, will be uploaded to the website.

## Sustainability

The materials created by this project will be sucessfully sustained going forward. The software and hardware tools acquired for this project, namely: Camtasia software, Adobe Premier Software along with camera and video camera equipment, will continue to be utilised for the creation of further material. The hosting of the website on the NUI Galway server makes it sustainable for years to come as this is done at no additional cost to the project.

Additional workshops, such as that held at the Association of Teachers of Italian (secondary level), provided the project team with the opportunity to showcase the advantages of the website. For example, how the website can easily be used to improve students' access to contextualised foreign language material. It is anticipated that further dissemination of this kind could lead to the expansion of the resource to second level education communities.

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Dissemination to date:
- McLoughlin, L., 28th June-1st July 2011. "Tools and materials for integration of subtitling in FL teaching and learning" presented at the Media for All Conference, Imperial College, London.
- The website containing details of this project can be accessed at: www.sub2learn.ie

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*For further information contact the project leader:*

Laura McLoughlin
Department of Italian, National University of Ireland, Galway
laura.mcloughlin@nuigalway.ie

## Building Expertise in Science Teaching (BEST)
## St. Patricks College Drumcondra
## NAIRTL Grant Awarded in 2009

### Project Overview

The Building Expertise in Science Teaching (BEST) project provided final year B.Ed. students with opportunities to learn to be experts in teaching about the Nature of Science (NoS) within Irish primary schools. The BEST project aimed to develop student teachers' pedagogical content knowledge of the Nature of Science, by providing students with numerous opportunities to engage with practical activities and to discuss and reflect on different aspects of the Nature of Science.



The project emphasised inquiry-based teaching methodologies and reflective, independent learning throughout. It also encouraged collaborative co-teaching whereby students worked with experienced primary teachers to teach about NoS in schools. This is a relatively new strategy within Irish teacher education and was a unique and innovative aspect of the project. It worked on the basis that students and experienced teachers contribute complementary expertise in a mutually beneficial manner.

The practising teachers who participated in the BEST project attended two professional development days and completed three assignments. These sessions provided the teachers with an overview of what the NoS comprised and also highlighted its importance in primary Science education.

### Impact

As part of the assignments, teachers were encouraged to reflect on aspects of the NoS through the use of a reflective journal. They were also encouraged to develop their critical thinking about their research strategies, culminating in presentations where they gained feedback from peers. Analysis of student teachers' reflective journals revealed that the BEST Project had a positive impact on developing the teachers' pedagogical content knowledge of the NoS.

Throughout the course student teachers participated in active learning through team work. They applied knowledge and experiences from the course to develop new NoS activities for primary schools. This fostered independent, self-directed learning as they researched, devised and reflected on novel ideas independently, relating these to scholarly articles on teaching about NoS.

Feedback from student teachers indicated that they felt a sense of relief that investigations can be open-ended and they did not have to know all the 'facts'. They learned how to successfully integrate the NoS activities in their classes and most importantly, they realised the beneficial impact of NoS approaches.

*"... BEST project has opened my eyes to NoS – a phrase I had never heard before. I love its concept in relation to primary school children"* (PT1)

*"I was unaware that I was covering NoS when the children were investigating magnet strength...*
*I now realise that I had NoS in each lesson...I'm glad I understand this now"* (Student teacher)

### Collaboration

Collaboration was an important dimension of the BEST course as the student and practising teachers were provided with opportunities to work in collaborative groups when engaging with the NoS activities. During the second professional development day, the student teachers and practising teachers were provided with the opportunity to discuss issues connected with the planning and management of co-teaching methods, along with the delivery of their classroom based co-teaching sessions.

*"Teaching children about NoS helped me to understand the true meaning"* (Student teacher)

*"Prior to the [co-teaching] experience I would not have been confident enough to design my own activities and try them out in a classroom"* (Student teacher)

As part of this project, two experts in co-teaching were invited to act as facilitators for the first in-service day. These experts were from Queen's University Belfast and St. Mary's University College Belfast. This provided the researchers, the students and the practising teachers with the opportunity to work collaboratively with experts from different institutions. The BEST project researchers (experts in Nature of Science pedagogy) and the visiting experts in co-teaching also taught collaboratively during the in-service workshops, thus modelling a co-teaching approach.

### Sustainability

The experiences gained from the BEST project informed the EU-funded Fibonacci Project, which is a two year professional development programme in Science and Mathematics for practising primary and post-primary teachers. More details on the Fibonacci Project can be found on the following website: www.fibonacci_project.ie

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Dissemination to date:
- Murphy, C., Kilfeather, P., Varley, J., June 2010. "Building Expertise in Science Teaching", presented at the Irish Association of Social Scientific & Environmental Education (IASSEE) Annual Conference, St Mary's University College, Belfast.
- Murphy, C., Kilfeather, P., Varley, J., September 2010. 'The BEST way of Teaching about Nature of Science', Colleges of Education Consortium (CERC) & Church of Ireland College of Education (CICE), 'Collaborative Voices Conference' CICE, Dublin.
- Murphy, C., Kilfeather, P., Varley, J., October 2010. 'The Building Expertise in Science Teaching (BEST) Project'. Presented at the NAIRTL Annual Conference, 'Flexible Learning', Royal College of Surgeons, Dublin.
- Murphy, C., Kilfeather, P., Varley, J., June 2011. 'Learning to teach, teaching to learn: Students' and Experienced Teachers' Experiences of Co-teaching about the Nature of Science' presented at the Initial Teacher Education Conference, Re-imagining Initial Teacher Education: Perspectives on Transformation', St Patrick's College, Dublin.

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*For further information contact the project leader:*

Cliona Murphy
Science Education, St Patrick's College, Drumcondra
cliona.murphy@spd.dcu.ie

**The Use of Practical Social Care Research to Develop a Holistic Social Care Best Practice Manual**

**Cork Institute of Technology**
**NAIRTL Grant Awarded in 2008**

*Project Overview*

This project aimed to examine the links between social care theory and practice. The project has enhanced the grantees' practical understanding of these links, along with policy implications and delivery challenges. This has resulted in a greater level of synergy between the students' practical learning obtained during placement and the theoretical frameworks provided in the classroom.
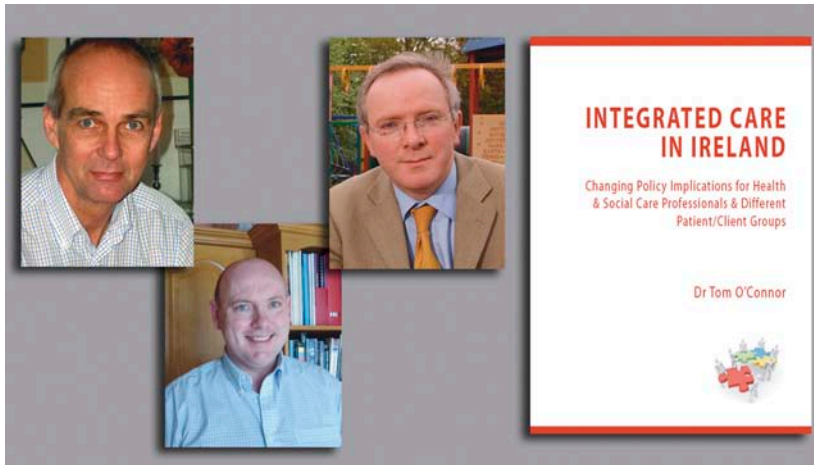


The research conducted was very innovative with a real participatory research partnership developed between Cork Institute of Technology and the Fr Peter McVerry Trust. The results of this innovative research partnership highlighted both the structural nature of the failure of social care in dealing with young offenders and posited real solutions to overcome these failings. An additional outcome of the project has been the development and delivery of two new modules in social care, informed by the research in this project, which are taught on both the BA and BA (Hons) programmes in Social Care at CIT.

*Impact*

Learners who have completed the modules developed a strongly enhanced capacity in the care management process. They have learned the theory and practice of developing holistic care plans. They have become skilled as advocates for social care clients and they may well become innovative practitioners in social care practice as a result. The principal researcher of this project has learned, in the same way as students, and hopes to become an advocate for the development of a more interdisciplinary care practice into the future.

These modules are highly regarded by students. They rely on a high level of dialogue between the researcher and learners to develop solutions to practical social care problems informed by best practice and national standards. The high level of satisfaction that learners have gleaned from these modules can be seen in their engagement with the modules, and it is mirrored in the learners' performance in the module assessment. Module assessment included the completion of both a Reflective Journal and a final examination requiring learners to evidence the development of both their knowledge and their own personal voice in this space.

## *Collaboration*

This research involved collaboration between a Higher Education Institution and the McVerry Trust, a major third sector provider. It also involved interviews with other social care practitioners in the sector. The collaboration with the McVerry Trust has allowed the learners to experience authentic case studies relating to real clients thereby enhancing the students' learning in relation to this new model of practice. Through the use of these case studies and the emanating model, the learners are required to reflect on their ongoing social care practice. The dissemination completed to date has allowed professionals and students from all over Ireland and Europe to access the learning from this project.

## *Sustainability*

This project has developed long term sustainability in CIT, having produced two accredited 5 ECTS credit modules based on this research:

1. Family, Advocacy and Community: validated January 2009.
2. Changing Models of Social Care - Holistic Interdisciplinary Care Planning: Professional and Policy Responses: validated January 2010.

Furthermore, the findings and conclusions of this project have been disseminated widely with three articles published in books as well as a number of conference presentations. The production of a dedicated book on the project will also contribute to its sustainability into the future. The research has also resulted in the development of sustainable research and academic links with other Higher Education Institutes in the United Kingdom and with advocacy organisations representing social care clients.

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Dissemination to date:

- McVerry, Peter, October 2nd 2008. 'The Need to Integrate Policy and Social Care in Dealing with Homeless and Young Offenders', research paper presented to CIT staff/ student learning seminar.
- O'Connor, Tom, (2009). 'The Need for an Integrated Social Care Profession' in Perry Share and Kevin Lalor (eds), Applied Social Care, volume two, Gill & Macmillan, Dublin.
- O'Connor, Tom, (2009). 'The Use of Practical Social Care Research to Develop a Holistic Social Care Best Practice Manual', in Jennifer Murphy & Bettie Higgs (eds), Teaching and Learning in Higher Education: Challenging Assumptions.
- O'Connor, Tom, November 15th, 2008. 'Research, Education and Social Care', presentation to NAIRTL Annual Conference.
- O'Connor, Tom, February 7th 2009. 'Towards a Holistic Irish Social Care Education and Practice', presentation to Irish Association of Social Care Educators.
- O'Connor, Tom, April 26th, 2009. 'Using Research to Develop Plans for Holistic Social Care', presentation to Joint European Annual Conference of International Federation of Social Workers, International Federation of Social Care Workers and Social Pedgagogues, ENSACT, Dubrovnik.
- O'Connor, Tom, September 15, 2009. 'A New Social Care: Bringing Structure Centre Stage' presentation to Social Work Action Network Conference (SWAN), at the University of Bath, UK.
- Mc Verry, Peter, December 1st 2009. 'The Relationship between Housing Policy Failure and Homelessness', Paper presented to joint staff and student learning seminar series at CIT.

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*For further information contact the project leader:*

Tom O'Connor
Economics and Social Studies, Cork Institute of Technology
tom.oconnor@cit.ie

# The Development of Online Assessment in the Moodle Virtual Learning Environment
## Athlone Institute of Technology
## NAIRTL Grant Awarded in 2010

### Project Overview
The main objective of this project was to examine and develop online assessment techniques in the Moodle Virtual Learning Environment (VLE) as a replacement for traditional written assessment. The project set out to examine whether online assessment was a realistic alternative to written assessment. The project examined continuous and final assessment types using the facilities provided in the Moodle VLE, along with exploring the amount of development time and technical knowledge required by the lecturer to produce the assessments.
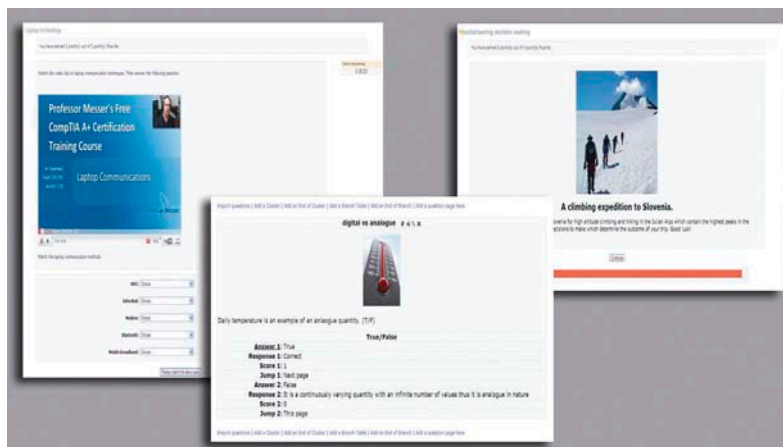


Electronic assessment techniques have evolved considerably in recent years, well beyond multiple choice questionnaires which have traditionally been the most favoured method of electronic assessment. Through an extensive assessment of the advantages and limitations of these online assessments, the project team found that there are many different types of questions that can be set in the Moodle VLE: including multiple choice, essay, matching, short answer, numerical, calculated, true/false, random, drag and drop and ordering. Multimedia images, objects and feedback mechanisms may easily be embedded in such questions.

Finally, the experiences of academic staff and department heads that use Moodle in Athlone Institute of Technology (AIT) were collated so as to ascertain attitudes to online assessment and determine the interest amongst academic staff, managers and learners in this approach to assessment. Subsequent to consultation with learners and staff, a manual and a number of video vignettes were produced to guide staff through the process of assessment design.

### Impact
The project concluded that online assessment techniques work very well up to and including final exam implementation, and assessment results using online techniques are generally in line with course averages using traditional assessment methods. Students revealed their enthusiasm for the new approach in declaring a preference for online assessment. External course examiners have also been very positive about the use of online assessment and academics have expressed an interest provided that adequate training is provided so that implementation is successful.

Using online assessment provides students with a number of benefits. For example: the learner is provided with instant assessment scores, and feedback may be provided for each question to aid the learning process. Similarly, writing difficulties for the learner are lessened because there is no writing of solutions by hand. It is, therefore, a more inclusive process. The project team also found that online assessment provides more flexible options for students as continuous assessments can be undertaken off-campus to encourage independent learning. The process can be a highly interactive experience for the learner depending on the design of the questions in the assessment e.g. watching a video clip, listening to a pod-cast, drag-and-drop, ordering etc.

## *Sustainability*

The project has demonstrated that there is an interest in online assessment techniques among academic staff, particularly in relation to continuous assessment. Academics who were exposed to this project have adopted online assessment techniques for their own continuous assessment. Further awareness of the benefits of the Moodle assessment methods and greater interaction with the training materials produced by this project, i.e. a manual and a number of video vignettes, will continue to guide staff through the process of assessment design, increasing the awareness and utilisation of online assessment.

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Dissemination to date:
- O'Rourke, M. May 2010. Project presented at the ILTA EdTech Conference, Athlone Institute of Technology.
- O'Rourke, M. October 6th and 7th 2010. Project presented at the NAIRTL Annual conference. RSCI, Dublin.

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*For further information contact the project leader:*

Michael O'Rourke
Electronic and Computer Engineering, Athlone Institute of Technology
miorourke@ait.ie

# Appendices

## Appendix 1 - NAIRTL publications

NAIRTL, 2011. *Engaging Minds*, Proceedings of NAIRTL's Fifth Annual Conference, Online publication collated by O'Mahony, C. and Buchanan, A., available at: www.nairtl.ie/Resources

NAIRTL, 2011. *Flexible Learning*, Proceedings of NAIRTL's Fourth Annual Conference, Online publication collated by O'Mahony, C., available at: www.nairtl.ie/Resources

Digitised version of Hyland, Á. (ed.), 2000. *Multiple Intelligences: Curriculum and Assessment Project,* Final Report. Originally published by Education Department, University College Cork, available since September 2011 at: www.nairtl.ie/Resources

Murphy, J., Griffin, C. and Higgs, B., (eds.), 2010. *Research-Teaching Linkages: Practice and Policy,* Proceedings of NAIRTL's Third Annual Conference

Higgs, B., Kilcommins, S. and Ryan, T., 2010. *Making Connections: Intentional Teaching for Integrative Learning*, NAIRTL

Cronin, J., Higgs, B., McCarthy, M. and McKeon, J., 2010. In at the Deep End: *Postgraduate Students' Experiences of Teaching and Learning in Higher Education*, NAIRTL

Ryan, N. and Murphy, J., (eds.), 2009. *Bologna: Qualification Recognition and Staff Mobility*, Proceedings of the 1st and 2nd Symposia in the NAIRTL Bologna Series

Murphy, J. and Higgs, B., (eds.), 2009. *Teaching and Learning in Higher Education: Challenging Assumptions,* Proceedings of NAIRTL's Second Annual Conference

DAWN, 2008. *Teaching Students with Disabilities: Guidelines for Academic Staff,* Disability Advisors Working Network Handbook

Hyland, Á. (ed.), 2008. *Papers presented at the NAIRTL/CASTL Graduate Education International Symposium*, held at UCC, November 2007, available online at: www.nairtl.ie/Resources

Higgs, B. and Potter, J., (eds.) 2008. *In at the Deep End: Starting to Teach in Higher Education,* Race, P. Adapted by Markey, A., NAIRTL

Ryan, N., 2008. *International Perspectives on Teaching and Learning in Higher Education*, Proceedings of NAIRTL's First Annual Conference

Higgs, B. and McCarthy, M., 2008. *Emerging issues for teachers and learners in Higher Education: Changing Roles and Identities,* EDIN Network

Kennedy, D., 2007. *Writing and Using Learning Outcomes – A Practical Guide,* Quality Promotion Unit, University College Cork

Deane, C., 2007. *NAIRTL Annual Report*

## Appendix 2 – Table of Outputs

This appendix does not purport to be a complete list of outputs from projects funded by the NAIRTL grants initiative. This list is based on information submitted in grant holders' reports. Work on the projects and dissemination of outputs is ongoing in many cases. This list is indicative of the standard and level of outputs achieved through the grants initiative to date.

| E-Learning Resources | | |
|---|---|---|
| **Project Lead** | **Website URL** | **Brief Description** |
| Boylan, Frances | www.wedowebsites.ie/aa | Resources to supplement lectures for Accounting students |
| Bradley, John | www.ucc.ie/nutritiongame/ | Performance Nutrition game online for nutritional science students and teachers |
| Carmesin, Berit | www.wikilingua.ie | A wiki for language teachers |
| Carmesin, Berit | http://daspodcast-tandem.blogspot.com/ | Podcasts produced by language students |
| Carmesin, Berit | http://deutschinirland.pbworks.com | Wiki providing language lesson plans, handouts and case studies for German secondary teachers in Ireland |
| Carmesin, Berit | http://galwayde.ning.com/ | Social network site for year abroad language students |
| Carmesin, Berit | http://bwl09.pbworks.com/ | Project on wiki-based collaborative writing for language students |
| Drummond, Elaine | www.nottingham.ac.uk/nmp/sonet/rlos/learndis/babyfirst/ | An e-learning resource designed to assist health care professionals to support families when their baby has an intellectual disability |
| Evans, Dylan | http://www.futuremed.ie/tlaloc/main.php | New software tool to help students improve probability estimates |
| Fitzgerald, William | www.lab-scalewwtp.com/ | Website outlining the laboratory scale waste water treatment plant learning environment for environmental science students |
| Gilchrist, Michael | www.ucd.ie/mecheng/staff_pages/gilchrist_michael.html | Innovative methods for teaching engineering mechanics to undergraduate students |
| Hedley, Steve | http://www.ijls.ie/ | Irish Journal of Legal Studies |
| Johnston, Jennifer | www.nce-mstl.ie/ | National Centre for Excellence in Mathematics and Science Teaching and Learning. Resource for teachers |
| Kelly, Mark | passivesite.blogspot.com | SitePass blog for passive house design and construction |
| Kelly, Mark | Twitter @SitePass | SitePass twitter account for information on passive house construction |
| Lahart, Orla | http://pbl.ncirl.ie/ | Web-based resource with more than 100 activities |

| Project Lead | Website URL | Brief Description |
|---|---|---|
| Lahart, Orla | http://prezi.com/ypfoabqqsy44/pbl-induction-made-easy-a-web-based-resource-and-a-toolbox/ | Toolbox – Problem Based Learning made easy |
| Marsh, Lynne | http://www.nottingham.ac.uk/nmp/sonet/rlos/learn-dis/babyfirst/ | Website hosting Reusable Learning Objects for Babyfirst initiative |
| Marshall, Patrick | http://docs.moodle.org/19/en/Learning_Log_activity_module | Learning Log Activity Module |
| Marshall, Patrick | http://docs.moodle.org/19/en/Assessment_activity_module | Assessment Activity Module |
| McCartney, Kevin | www.ucc.ie/architecture/researchtrainingexercises | Website hosting learning workshop exercises |
| McElvaney, Gerry | https://vle.rcsi.ie/login/index.php | Virtual Learning Environment for students in the RCSI |
| McLoughlin, Laura | www.sub2learn.ie | Subtitling activities for learners of English, French and Italian |
| Ni Uigin, Dorothy | www.youtube.com/user/gaeilgespainnis | YouTube videos in Gaeilge |
| O'Connor, Anne | www.languagegames.ie | Games and Grammar: Language learning methodologies in college and community |
| O'Gorman, William | www.wit.ie/SchoolsDepartments/SchoolofBusiness/CFE/ | Researching the theme of Entrepreneurship |
| O'Riordan, Don | www.skillstream.ie/ | Skills stream e-tutor support website with resources for electrical apprentices in Ireland |
| Ryan, David | www.antiimperialist.com/ | Website providing documentation on liberty and America anti-imperialism |
| Semenova, Yuliya | www.prc.dit.ie/ | Photonics Research Centre website, information and research in the area of photonics, particularly optical sensing |

| National Conference Papers | | |
|---|---|---|
| Project Lead | Paper Title | Conference Details |
| Buckley, Fiona | Engaging non-traditional University Students | Annual Conference of Political Studies Association of Ireland October 2008, NUIG |
| Cantillon, Peter | The development of clinical teachers | Conference of The Irish Network of Medical Educators June 2011, TCD |
| Carmesin, Berit | Presentation of the surveys' results, class projects and WikiLingua.ie | Conference of University Teachers of German in Great Britain and Ireland (CUTG April 6th to 8th 2009, UOU |
| Conrick, Maeve | Students guiding students: an innovative pathway | NAIRTL 3rd Annual Conference November 11th and12th 2009, TCD |

www.manaraa.com

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| Crausaz, Janice | Lost in knowledge translation? Finding learning strategies which support evidence based practice | AOTI Conference<br>May 2010, Dublin |
| Crowley, Una | What do students think about technology? | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| Crowley, Una | What do they really think about large classes? | AISHE Conference<br>2010, DCU |
| Dyer, Mark | The initial outcomes of the module presented | NAIRTL 5th Annual Conference and Galway Symposium on Higher Education<br>June 9th 2011, NUIG |
| Fitzgerald, William | Interim results from the waste-water treatment laboratory | 20th Environmental Researchers Colloquium<br>February 17th to 19th 2010, Limerick IT |
| Fitzgerald, William | Wastewater treatment laboratory | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| Flaus, Andrew | Equipping students for independent bioscience research | EdTech Association Annual Conference, AIT and CELT Conference on Teaching and Learning<br>2010, NUIG |
| Flaus, Andrew | Equipping students for independent bioscience research | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| Forde, Catherine | Research, teaching and learning on the MSW programme | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| Gallagher, A. and Gilligan, R. | Is DVD assisting training as effective as face to face training in educating student therapists on an ergonomic method of using a hoist? | NAIRTL 5th Annual Conference and Galway Symposium on Higher Education<br>June 9th 2011 NUIG |
| Gallagher, A. and Gilligan, R. | An evaluation of DVD training compared with face to face training in hoisting a client from bed to wheelchair | Association of Occupational Therapists Ireland, Annual Conference<br>May 2011, Dublin |
| Gallagher, A. and Gilligan, R. | Is video effective in teaching clinical skills? A systematic review | NAIRTL 5th Annual Conference and Galway Symposium on Higher Education<br>June 9th 2011, NUIG |
| Gill, Olivia | Engaging Minds | NAIRTL 5th Annual Conference and Galway Symposium on Higher Education<br>June 9th 2011, NUIG |
| Grehan, M., Mac an Bhaird, C. and O'Shea, A. | An analysis of at-risk students' lack of engagement with mathematics support | Statistics Service Teaching and Learning<br>May 24th and 25th 2010, IT Carlow |
| Halton, Carmel | Researching teaching and learning outcomes on a post qualifying social work course | The First National Social Work Education Conference<br>February 10th 2011 |
| Healy, Margaret and Carr, Michelle | Addressing subject anxiety and student mis-conceptions: the role of subject support centres | 3rd Inter-University Retention Colloquium<br>September 26th 2008, UL |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| Healy, Margaret and Carr, Michelle | Challenging Assumptions in Accounting and Finance: initial reflections on the role of subject support centres | NAIRTL 2nd Annual Conference November 13th and 14th 2008, WIT |
| Healy, Margaret, McCutcheon, Maeve, O'Sullivan-Rochford, Claire and Carr, Michelle | Accounting online: the design and implementation of an on-line support mechanism for students studying Accounting and Finance | Irish Accounting and Finance Association Annual Conference May 7th 2009, UCD |
| Healy, Margaret, McCutcheon, Maeve, O'Sullivan-Rochford, Claire and Carr, Michelle | The potential for using technology to enhance the Student Learning Experience | Irish Academy of Management Annual Conference September 2nd 2009, GMIT |
| Kelly, Mark | Conference paper | EdTech May 20th 2010, Athlone |
| Kennelly, Brendan | Online auto graded assignments versus paper assignments: a comparison | Annual Conference of the Irish Economics Association 2009, Blarney |
| Kieran, P.M., Malone, D.M. and O'Neill, G.M. | Assessment of tutor performance in peer-assisted tutorials (PATs) | March 30th 2010, UCD |
| Kieran, P.M., Malone, D.M. and O'Neill, G.M. | Introduction to peer-assisted tutoring to the Chemical Engineering curriculum | May 7th 2010, Dundalk IT |
| Kieran, P.M., Malone, D.M. and O'Neill, G.M. | Peer assisted tutoring in Chemical Engineering: development of a tutor-orientated module | International Society of Engineering Education (ISEE2010) June 30th to July 2nd, Cork |
| Leavy, Aisling | Looking in classrooms: Improving the teaching and learning of statistics in primary classrooms | International Association of Statistics Education Satellite Conference to the 58th Session of the International Statistical Institute August 2011, Malahide, Dublin |
| Mac an Bhaird, C. and O'Shea, A. | A study of first year students' Mathematics learning experiences at NUI, Maynooth | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| Mac an Bhaird, C. and O'Shea, A. | Measuring the effectiveness of Mathematics support initiatives at NUI, Maynooth | Irish University Quality Board Conference November 3rd 2009, Dublin |
| Mac an Bhaird, C. and O'Shea, A. | The use of technology-enhanced learning in Mathematics | The 10th Annual Irish Learning Technology Association Conference 20th and 21st May, AIT |
| McDonnell, C., O'Connor, C., Rawe, S. and Seery, M. | Developing independent learners through an innovative laboratory teaching programme | Celebrating Excellence in Teaching & Learning in the Dublin Region Higher Education Alliance May 2010, UCD |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| McGrath, Margaret and Hoban, D. | Challenge of embedding a civic engagement dimension into undergraduate healthcare education: reflections from the Department of Occupational Therapy | The Campus Engage International Conference June 4th and 5th 2009, Croke Park, Dublin |
| McGrath, Margaret and McMenamin, Ruth | An investigation of the impact of service learning on students, community partners and academic staff in Occupational Therapy and Speech and Language Therapy | The Campus Engage International Conference June 4th and 5th 2009, Croke Park, Dublin |
| McMenamin, Ruth and McGrath, Margaret | Impacts of Service Learning on Undergraduate Healthcare Students | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| Murphy, Eamonn | Distance Learning for Post-Experience Learners | AISHE Conference August 26th 2011, DCU |
| O'Connor, Tom | Research, Education and Social Care | NAIRTL 2nd Annual Conference November 14th 2008, WIT |
| O'Connor, Tom | Towards a Holistic Irish Social Care Education and Practice | The Irish Association of Social Care Educators February 7th 2009, IT Sligo |
| O'Flaherty, Joanne and Doyle, Elaine | The Impact of Education Level and Type on Cognitive Moral Development | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| O'Riordan, Jacqui | Children and Global Diversity | ESA Conference April 3rd 2009 |
| Sweeney, Breda | Understanding Simons' Interactive Controls: Teaching Cases for Management Accounting Control Systems | Irish Accounting and Finance Association Conference April 28th and 29th 2011, UCC |
| Pursell, L., McKenna, V. and Griffin, B. | A blended learning enquiry based module for best practice of evaluation skills in health promotion | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| Weibelzahl, Stephan and Lahart, Orla | PBL Induction Made Easy: A Web-based Resource and a Toolbox | FACILITATE Conference May 26th and 27th 2011, Dublin |

| Poster Presentations | | |
|---|---|---|
| **Project Lead** | **Poster Title** | **Conference Details** |
| Crausaz, Janice | Designing the plane while flying it – Using collaborative action research to develop teaching approaches supporting therapists engagement in evidence-based practice | AOTA (American Association of Occupational Therapy) Conference April 2010, Orlando, Florida |
| Crausaz, Janice | Supporting Therapists' engagement in evidence based practice through interprofessional post-qualification masters programme | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| Crausaz, Janice | Lost in Translation? Finding education strategies to support research translation into therapy practice | WFOT (World Federation Of Occupational Therapists) May 2010, Santiago, Chile |
| Flaus, Andrew | Equipping Students for Independent Bioscience Research | Future MediaFest October 2010, Atlanta, USA |
| Flaus, Andrew | Equipping Students for Independent Bioscience Research | NDLRfest April 2010, TCD |
| Gowan, Olive | A case based interprofessional model of education | All Together Better Health Conference 2010, Australia |
| Gowan, Olive | A case based interprofessional model of education | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| Kelly, Mark | SitePass | Galway Energy Night January 2011, NUIG |
| Kelly, Mark | SitePass | International Construction Management Day March 2011, GMIT |
| Lambert, Jonathan | Literature Review on the Utilisation of Virtual Learning Environments in Facilitating Mathematics Teaching and Learning | NAIRTL 4th Annual Conference in-conjunction with LIN October 6th and 7th 2010, RCSI, Dublin |
| McDonnell, C., Kett, D. and Seery, M. | Research awareness and readiness evaluation (RARE) of undergraduate Chemistry students at DIT | NAIRTL 3rd Annual Conference November 11th and 12th 2009, TCD |
| McMenamin, Ruth and McGrath, Margaret | Community – University partnerships, benefiting students, communities, educators and clinicians | Irish Association of Speech and Language Therapists Annual Conference October 2009, Galway |
| Mulrooney, Sarah | The city, the school, the space: case study building visits as a methodology | AHRA Field/Work Conference November 2009, Edinburgh |

| Project Lead | Poster Title | Conference Details |
|---|---|---|
| O'Flaherty, Joanne and Doyle, Elaine | Making the Case for Moral Development Education | NAIRTL 5th Annual Conference and Galway Symposium on Higher Education June 9th and 10th 2011, Galway |
| O'Riordan, Jacqui | Children and Global Diversity | OMEP Early Childhood Education Conference March 27th 2009 |

| International Conference Papers | | |
|---|---|---|
| Project Lead | Paper Title | Conference Details |
| Barenca, A. and Torre, G. | The Manipuller: Strings Manipulation and Multi-Dimensional Force Sensing | NIME 2011, Oslo, Norway |
| Cantillon, Peter | The development of clinical teachers | Association of Medical Education in Europe August 2011, Vienna, Austria |
| Ditchburn, David | Findings disseminated at Art and Architecture in the Era of the Book of Kells Session | 46th International Congress of Medieval Studies 2010, Kalamazoo, USA |
| Doyle, Elaine and O'Flaherty, Joanne | The Impact of Education Level and Type on Cognitive Moral Development | American Educational Research Association Annual Conference April 8th-12th 2011, New Orleans |
| Evans, Dylan and Jakobus, Benjamin | Risk intelligence: what is it and how can we measure it? | SRA Europe Conference June 21st to 23rd 2010, London, UK |
| Fitzgerald, William | Interim results of the wastewater treatment laboratory | Universitat Politecnica de Catalunya 2010, Barcelona, Spain |
| Gilligan, R. and Gallagher, A. | The evaluation of a self-instructional video on an ergonomic method of executing a mobile hoist transfer | College of Occupational Therapists Annual Conference July 2011, Brighton, UK |
| Gilligan, R. and Gallagher, A. | Is video assisted training in hoist skills as effective as face-to-face training? | 17th Annual Meeting of the European Network of Occupational Therapy in Higher Education November 2011, Ghent, Belgium |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| Gowan, Olive | A case based interprofessional model of education | World Confederation for Physical Therapy Congress 2011, Amsterdam |
| Gowan, Olive | A case based interprofessional model of education | College of Occupational Therapists 2011, UK |
| Gilligan, R. and Gallagher, A. | Developing multi-media learning resources to enhance occupational therapy practice | 17th Annual Meeting of the European Network of Occupational Therapy in Higher Education November 2011, Ghent, Belgium |
| Grehan, M., Mac an Bhaird, C. and O'Shea, A. | An analysis of first year students' lack of engagement with Mathematics support | Scottish Mathematics Support Network June 11th 2010, Edinburgh |
| Grehan, M., Mac an Bhaird, C. and O'Shea, A. | The factors that effect students' engagement with Mathematics | The CELT-MSOR Conference September 6th and 7th 2010, Birmingham, UK |
| Grehan, M., Mac an Bhaird, C. and O'Shea, A. | Why do students not avail of Mathematics support? A case study of first year students at NUI, Maynooth | 7th British Congress of Mathematics Education April 6th to 9th 2010, Manchester, UK |
| Halton, Carmel | Introducing reflective tools in peer group supervision in social work: an action research project | EERA Conference 2009, Vienna, Austria |
| Halton, Carmel | Reflective inquiry in social work practice | North & South Schools of Social Work Conference 2009, QUB, Belfast |
| Healy, Margaret, McCutcheon, Maeve and Quain, C. | Engaging International Students: the role and value of support mechanisms | BMAF Annual Conference May 28th 2009, Cardiff, UK |
| Hofstede, S. and McGrath, M. | The Community as an Educator! - developing community based learning opportunities for occupational therapy students: A European perspective | World Federation of Occupational Therapists 15th Annual Conference May 4th to 7th 2010, Santiago, Chile |
| Kennelly, Brendan | Online auto graded assignments versus paper assignments: a comparison | Economics Education Conference September 2009, Cardiff, UK |
| Mac an Bhaird, C. and O'Shea, A. | What type of student avails of Mathematics support and why? | The CELT-MSOR Conference September 7th and 8th 2009, Milton Keynes, UK |
| Marsh, Lynne | Babyfirst – educating healthcare professionals to support parents after initial diagnosis of intellectual disability | 6th Positive Choices Conference April 9th 2010, Leeds, UK |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| McDonnell, C., Kett, D. and Seery, M. | Did it work? Research awareness and readiness evaluation of undergraduate students | 21st Biennial Conference on Chemistry Education August 2010, North Texas, USA |
| McDonnell, C. | Engaging and motivating Chemistry students – achievable goal or Holy Grail? | Variety in Chemistry Education Conference September 2010, Loughborough |
| Mc Menamin, Ruth and McGrath, Margaret | An investigation of the impacts of service learning on educators, communities and students at the National University of Ireland, Galway | 3rd International Symposium Service Learning in Higher Education - Educators, Community and Students November 22nd - 24th 2009, Athens, Greece |
| McLoughlin, Laura | Tools and materials for integration of subtitling in FL teaching and learning | Media for All Conference 28th June-1st July 2011, London |
| McGrath, Margaret and McMenamin Ruth | Exploring the learning in service learning - an investigation into the impact of service learning on students, communities and educators at the National University of Ireland Galway | World Federation of Occupational Therapists 15th Annual Conference May 4th - 7th 2010, Santiago, Chile |
| McGrath, Margaret and McMenamin, Ruth | Putting the caring back into health care: examining the impact of a civic engagement pedagogy | An International Association for Medical Education Conference (AMEE) August 29th to September 2nd 2009, Malaga, Spain |
| McMenamin, Ruth and McGrath, Margaret | Researching Community - University Partnerships: Results from an Irish Study Investigating Community, University and Student Collaboration | International Conference of Education, Research and Innovation (ICERI). November 16th - 18th 2009, Madrid, Spain |
| Mulrooney, Sarah | Vilanova Artigas: the building is the best class there is | AHRA PhD Symposium December 3rd 2008 |
| O'Connor, Tom | A new social care: bringing structure centre stage | Social Work Action Network Conference (SWAN) September 15th 2009, University of Bath, UK |
| O'Connor, Tom | Using research to develop plans for holistic social care | Joint European Annual Conference of International Federation of Social care Workers and Social Pedagogues April 26th 2009, ENSAT, Dubrovnik |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| Sweeney, Breda | Accounting, Organisation and Society Workshop on Control and Creativity | April 4th to 5th 2011, Barcelona, Spain |
| Sweeney, Breda | Understanding Simon's Interactive Controls: Teaching Cases for Management Accounting Control Systems | European Accounting Association Conference April 19th to 22nd 2011, Rome, Italy |
| Whelan, Thomas, Bergin, Susan and Power, James F. | Teaching Discrete Structures: A systematic review of the literature | ACM Technical Symposium on Computer Science Education (SIGCSE) March 9th to 12th 2011, Dallas, Texas, USA |

| Academic Papers | | |
|---|---|---|
| Project Lead | Paper Title | Status |
| Buckley, P., Garvey, J. and McGrath, F. | A case study on using prediction markets as a rich environment for active learning | Accepted 2010 |
| Doyle, Elaine and O'Flaherty, Joanne | The Impact of Education Level and Type on Cognitive Moral Development | In review 2011 Journal of Moral Education (ISI impact factor .653) |
| Doyle, Elaine and O'Flaherty, Joanne | Making the Case for Moral Development Education | In review 2011 Teaching in Higher Education (ISI impact factor .554) |
| O'Flaherty, Joanne and McGarr, O. | The use of case-based learning in the development of student teachers' levels of moral reasoning | In review 2011 Teaching and Teacher Education (ISI impact factor 1.124) |
| Garvey, J. and Buckley, P. | Teaching the concept of risk: blended learning using a custom-built prediction market | Accepted 2010 |
| Garvey, J. and Buckley, P. | Using technology to encourage critical thinking and optimal decision-making in risk management education | Accepted 2010 |
| McGrath, Margaret and McMenamin Ruth | Grounding academic practice? A review of the reported impacts of service learning on academic staff | In review 2009 |
| McMenamin Ruth and McGrath, Margaret | Measuring the impact of service learning on community partners, what do we know? | In review 2009 |
| McMenamin, Ruth and McGrath Margaret | The impact of Service Learning on Undergraduate Healthcare Students - A critical review | In review 2009 |
| Murphy, Eamonn | Innovations in Education and Teaching International | In review 2011 Proceedings of the AISHE Conference |
| Sweeney, Breda | Creativity, control and efficiency | In review 2011 Organizations and Society (4* journal) |

| Project Lead | Paper Title | Conference Details |
|---|---|---|
| Whelan, Thomas, Bergin, Susan and Power, James F. | Discrete structures teaching: A systematic literature review, Technical Report no. NUIM-CS-TR-2010-01, Dept. of Computer Science, NUIM | NUI Maynooth, 2010. |

| Workshops | | |
|---|---|---|
| **Project Lead** | **Workshop Title** | **Date and Venue** |
| Carmesin, Berit | Using Blogs and Wikis in Language Teaching and Learning: A case study | March 13th 2009, UL |
| Carmesin, Berit | Das vernetzte Klassenzimmer. Web 2.0 im Sprachunterricht | March 7th 2009, NUI, Galway |
| Carmesin, Berit | Pod-casting in the Language Classroom | April 1st 2009, Limerick |
| Carmesin, Berit | Web 2.0 Technologies in Language Teaching and Learning | April 15th 2009, WIT |
| Conrick, Maeve | Early career researchers and research directions in French and Francophone studies | June 10th 2010, UCC |
| Conrick, Maeve | The PhD and early career research: pathways to success | June 17th 2010, UCC |
| Halton, Carmel | Researching a reflective approach to teaching and learning on a post qualifying practice teaching course at UCC | April 11th to 13th 2011 Bournemouth University, UK |
| Halton, Carmel | Ethical challenges in interprofessional education and practice | November 5th 2010, UCC |
| Halton, Carmel | Scaffolding reflective learning on graduate and postgraduate social work courses | 2009, NUIG |
| Halton, Carmel | Workshop on practice teaching & practice assessment: challenges and opportunities | June 11th 2010, UCC |
| Healy, Margaret and McCutcheon, Maeve | Addressing subject anxiety and student mis-conceptions: the role of subject support centres | September 11th 2008, CIT |
| Kennedy, Declan | Using datalogging technology to integrate research and teaching and learning in science education | 10 workshops Nationwide |
| Kennelly, Brendan | Learning and Assessment in Economics | July 2009, NUIG |
| Kieran, P., Malone, D. and O'Neill, G. | Student Peer-Tutoring: an educationally beneficial elective module | February 10th 2010, UCD |
| Knowles, James and Murphy, Orla | Joint workshops on digital editing | 2010, UCC |
| Lahart, Orla | PBL | June 2011, NCI |
| Mac an Bhaird, C. and O'Shea, A. | The challenges and benefits of using technology in Mathematics support | December 4th 2009, DCU |
| Mac an Bhaird, C. and O'Shea, A. | The use of technology in the provision of Mathematics support | January 21st 2010, University of Ulster |

| Project Lead | Workshop Title | Date and Venue |
|---|---|---|
| McGrath, Margaret | Service Learning - An Introductory Workshop for Community Partners | September 2009, NUIG |
| O'Connor, Anne | Use of games in the primary school context | September 2009, NUIG |
| O'Connor, Anne | Use of games in language teaching during in service training day in conjunction with the Department of Education, NUI Galway | March 28th 2009, Galway |
| O'Connor, Anne | Use of games in the primary school context | November 2008, NUIG |
| O'Riordan, Jacqui | Children and Global Diversity Workshop series with Hope Kolkata co-ordinator, staff and students | January and February 2009, UCC |
| O'Rourke, Michael | Moodle Lessons within the Department of Electronic and Computer Engineering | June 2011, AIT |

| Learning Seminars and Symposia | | |
|---|---|---|
| **Project Lead** | **Seminar Title** | **Date and Venue** |
| Halton, Carmel | Reflective teaching and learning: models, methods and outcomes on professional and post qualifying Social Work courses | October 14th 2010, UCC |
| Halton, Carmel | The challenges of assessing course portfolios and learning journals on professional and post qualifying courses in Social Work | November 19th 2010, UCC |
| Kennedy, Rossana | Conference Education for Health, 2nd Symposium on Assessment: the big questions, some answers | January 22nd 2010 |
| Knowles, James and Murphy, Orla | Editing Frank O'Connor | 2010, UCC |
| Knowles, James and Murphy, Orla | New perspectives, new books | 2010, UCC |
| Knowles, James and Murphy, Orla | Digital humanities | 2010, UCC |
| Knowles, James and Murphy, Orla | Student collaboration – editing Frank O'Connor's bibliography for the Boole Library | 2010, UCC |
| Lambert, Jonathan | Towards the Development of an Adaptive Tutoring System for a Computing and Business Mathematics Module as a way to Facilitate Self-directed Learning through the use of the Online Virtual Learning Environment Moodle: Lunchtime Seminar Series | 2011, NCI |
| McVerry, Peter | The need to integrate policy and social care in dealing with homeless and young offenders | October 2nd 2008, CIT |
| McVerry, Peter | The relationship between Housing Policy Failure and Homelessness | December 1st 2009, CIT |

| Books and Book Chapters | | |
|---|---|---|
| **Project Lead** | **Title** | **Details** |
| Berman, David | A Manual of Experimental Philosophy | Jeremy Pepyat Books, Dublin 2009 |
| Buckley, P., Garvey, J. and McGrath, F. | Using Prediction Markets to Deliver Authentic Learning Experiences, Upcoming in Technologies for Enhancing Pedagogy, Engagement and Empowerment in Education: Creating Learning-Friendly Environments | Accepted 2010 |
| Crowley, Una | Reflections on practice  - case study booklet by eight innovative lecturers | In press 2009 |
| Dwan, T. and O'Leary, E. | A practical guide to the PATS programme | UCC 2009 |
| Grehan, M., Mac an Bhaird, C. and O'Shea, A. | Why do students not avail of mathematics support? A case study of first year students at the National University of Ireland, Maynooth. | Conference Proceedings British Congress of Mathematics Education 254-258 2010 |
| Higgs, Bettie, Kilcommins, Shane, and Ryan, Tony (eds) | Making Connections: Intentional Teaching for Integrative Learning | A NAIRTL publication October 2010 |
| Leavy, Aisling | Series of monthly 1200 word articles, disseminating work on teaching data in the primary school | The INTO Intouch Magazine January - May 2012 |
| Mac an Bhaird, C. and O'Shea, A. | The role of Technology in Mathematics Support. Book chapter in Teaching Mathematics Online: Emergent Technolgoies and Methodologies | In Review |
| O'Connor, Tom | The Use of Practical Social Care: Research to Develop a Holistic Social Care Best Practice Manual | Teaching and Learning in Higher Education: Challenging Assumptions Jennifer Murphy and Bettie Higgs (Eds) A NAIRTL Publication 2009 |
| O'Connor, Tom | The Need for an Integrated Social Care Profession | Applied Social Care Volume 2 Perry Share and Kevin Lalor (Eds) Gill and McMillan, Dublin 2009 |
| O'Connor, Tom | Integrated Care in Ireland: Changing Policy Implications for Health and Social Care Professionals and Different Patient/Client Groups | September 2012 |
| O'Riordan, Jacqui | Critical Social Thinking: Policy and Practice | Conference Proceedings Eileen Horgan, Eluska Fernandez and Jacqui O'Riordan (Eds) January 2010 |
| O'Tuama, Seamus | Preparing for Success: A Guide to Surviving the Transition to Third Level Learning for First Year Students | Guidebook 2009, UCC |

| Programmes and Modules | | |
|---|---|---|
| **Project Lead** | **Programme / Module Title** | **HEI** |
| Buckley, Fiona and Harris, Clodagh | Certificate in Government and Political Leadership | UCC, Adult and Continuing Education Centre |
| Crausaz, Janice | Implementing evidence in therapy practice CT 6001 | UCC Module, 2009 |
| Fitzgerald, William | Wastewater Treatment Laboratory, 10 credit Module | Sligo IT, Module |
| Halton, Carmel | Postgraduate Diploma in Advanced Fieldwork Practice and Supervision | UCC, Module in Social Work, 2010 |
| O'Connor, Tom | Family, Advocacy and Community - 5 credit module | CIT, Module in BA (Hons) Degree in Social Care |
| O'Connor, Tom | Changing Modules of Social Care: Holistic Interdisciplinary Care Planning: Professional and Policy Responses – 5 credit module | CIT, Module in BA (Hons) Degree in Social Care |

## Appendix 3 - List of Projects Funded 2007 - 2011

| 2011 Projects Funded | | | |
|---|---|---|---|
| **2011 Applicant(s)** | **Institutions** | **Network Name** | **Project Title/Description** |
| Rónán Ó Dubhghaill<br>Niamh Brennan<br>Stephen Cassidy<br>Aoife Flanagan<br>Laura McElwaine<br>Maura McGinn<br>Aisling McKenna<br>Gerry Murray<br>Natalie Nic An Ghaill<br>Lewis Purser<br>Gary Redmond<br>Margaret Whelan | CIT, DCU, DIT, IOTI, IUA, NUIG, NUIM, TCD, UCC, UCD, UL, USI | IUA Institutional Research Officers Group | The Development of a Framework for a National Student Survey System |
| Lorraine McGinty<br>Kevin Breen<br>David Casey<br>Julie Carson-Berndsen<br>Joe Carthy<br>Nikki Dillon<br>John Dunnion<br>Gerry Dunnion<br>Gerry Grogan<br>Imelda Huggins<br>Tahar Kechadi<br>Keith Finglas<br>Eoghan Nolan | Google, Intel, IPA, Irish Software Association, UCD | The Negotiated Learning ICT Graduate TandL Development Alliance | Educating RITA: Educating graduates through the integrating of our Research Internships Training Alliance for student/industry "needs-focused" curricular reform |
| Alison Farrell<br>Terry Barrett<br>Carol Barron<br>Alison Clancy<br>Deirdre Connolly<br>Yvonne Delaney<br>Lorna Dodd<br>Roisín Donnelly<br>Siobhan Drohan<br>Kay Hack<br>Aine McKillop<br>Pauline Sloane | DCU, DIT, NUIM, TCD, UCD, UL, UU, WIT | Facilitate - the national network for Enquiry and Problem Based Learning (EPBL) in Ireland | PBL.doc - the provision of flexible enquiry and problem based learning programmes for the development of academic writing, from 1st to 4th level |
| Tim O'Sullivan<br>Gráinne Hargaden | DIT, UCC | Chemnet | Opensource chemistry question bank for flexible, on-line teaching and assessment of students using SMILES |

| 2011 Applicant(s) | Institutions | Network Name | Project Title/Description |
|---|---|---|---|
| Robert Hutchinson<br>Brendan Bolger<br>Patrick Cross<br>David Fleming<br>Padraig Lenihan<br>Jennifer Moore<br>John O'Callaghan<br>Kevin O'Sullivan<br>Bernadette Whelan | NUIG, RIA, UL | Arts and Humanities Mobile Learning Community of Practice | Immersive Learning in History: An Augmented Reality Mobile Phone Application (app) |
| Anca Mustata<br>David Goulding<br>Dragos Andrei Mustata<br>Julie O'Donovan | UCC | The group for vertical and horizontal integration of mathematics education | Vertical and horizontal integration in mathematical education through student participation in teaching/curriculum development of mathematics circles and teacher workshops |
| Sinead Breen<br>Barbara Jaworski<br>Ann O'Shea<br>Kirsten Pfeiffer | NUIG, NUIM, Loughborough University, St Pats, Drumcondra | Task Design Network | The design and use of mathematical tasks to promote conceptual understanding and develop advanced mathematical thinking skills |
| Aileen Barrett<br>Ciara Cullen<br>Fiona Daly<br>Ruth Fewer<br>Mary Loughnane<br>Anne-Marie Lydon<br>Fiona Murphy<br>Sarah Slattery | Beaumont Hospital, CUH, Galway University Hospital, Kerry General Hospital, RCSI, Waterford Regional Hospital | RCSI Physiotherapy Practice Education Team | Developing an innovative, on-line assessment skills module for Clinical Tutors and Educators in Health Professions Education |
| Nuala Harding<br>Martin Fitzgerald<br>Marian Fitzmaurice<br>Anne Carpenter<br>Marion Palmer<br>Ciara O'Farrell<br>Michelle Tooher<br>Angelica Risquez<br>Anne Mangan | AIT, Carlow IT, DIT, IADT, Institute of Physical Therapy, NUIG, Tipp Institute, TCD, UL | EDIN – Education Developers of Ireland Network | EDIN - from Capacity Building to Sustainable Continuing Professional Development (CPD) |

| 2010 Projects Funded | | | |
|---|---|---|---|
| **2010 Applicant(s)** | **Lead Institution(s)** | **Discipline(s)** | **Project Title/Description** |
| Michael O'Rourke | Athlone Institute of Technology | Electronic and Computer Engineering | The development of lessons, case studies, scenarios and simulations in the Moodle virtual learning environment for self-directed learning |
| Mark Kelly | Galway-Mayo Institute of Technology | Construction and Demolition Waste Research Group | SitePass - The development of a Virtual Learning Environment for a passive house construction technology module |
| Miriam McSweeney | Galway-Mayo Institute of Technology | Business Studies (Computer Applications) | An investigation into cultural context and the impact upon the use of technology in a third level college in the Republic of Ireland |
| Aisling Leavy Mairead Hourigan Aine McMahon | Mary Immaculate College | Mathematics Education | Developing an enquiry led approach to teaching in primary classrooms: the production of video case studies of best practices in the teaching of primary mathematics |
| Orla Lahart Stephan Weibelzahl Brendan Tangney | National College of Ireland (in collaboration with TCD) | Computing, Computer Science and Statistics | The design and development of a Problem Based Learning induction resource to equip students with the skills necessary for successful participation in any Problem Based Learning module |
| Jonathan Lambert Frances Sheridan | National College of Ireland | Maths Support, Computer Support | Development of an adaptive tutoring system for a Computing and Business Mathematics module as a way to facilitate self-directed learning through the use of the online VLE Moodle |
| Stephan Weibelzahl Abi Reynolds | National College of Ireland | Computing, Centre for Research and Innovation in Learning and Teaching | How do you Moodle? Improving student's learning experience of virtual learning environments (VLEs) in Higher Education |
| Aideen Gallagher Martina Kelly | National University of Ireland, Galway | Occupational Therapy, Industrial Engineering | Development and evaluation of a pioneering self-instructional video on an ergonomic method of executing a hoist transfer. (A hoist is a mechanical device used by a carer to transfer a non-weight bearing person from one item of equipment to another) |

| 2010 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Terrence McDonough Lorraine McIlrath Eamon Slater Jonathan Bell Mervyn Watson Charles E. Orser Denis O'Hearn Christine Kinealy Peter Gray | National University of Ireland, Galway (in collaboration with NUIM, Ulster Folk and Transport Museum, New York State Museum, SUNY Binghampton, Drew University, QUB | Economics, Community Knowledge Initiative, Sociology, Ulster Folk and Transport, Museum Historical Archaeology, History, Anthropology | Active approaches to the study of the great Irish famine |
| Laura McLoughlin Marie Biscio | National University of Ireland, Galway | Italian Studies | Flcaptions: interactive website for foreign language learning through inter-lingual subtitling of video clips |
| Breda Sweeney Emer Curtis | National University of Ireland, Galway | Accountancy and Finance | Understanding Simons' interactive controls: Teaching cases for management accounting control systems |
| Patrick Marshall Susan Bergin | National University of Ireland, Maynooth | Computer Science | Development of a semi-automated tool to support co-assessment and the use of reflective learning logs for group based projects |
| James Power Susan Bergin | National University of Ireland, Maynooth | Computer Science | Improving first year experience with discrete mathematics for computing students through the development of a software-based environment for formative assessment and applied learning |
| Geraldine MacCarrick Michelle Mary McEvoy | Royal College of Surgeons in Ireland (in collaboration with The Children's University Hospital) | Medical Education | The development and evaluation of an interactive case-based Virtual Learning tool designed to improve undergraduate students' understanding of patient safety and its role in minimising the incidence and impact of adverse events |
| David Ditchburn Roger Stalley | Trinity College Dublin | History, History of Art | Investigating the Book of Kells: learning through Art and Science |
| Mark Dyer Kevin O'Reilly Ruth Collins David Goldberg Elizabeth Burd | Trinity College Dublin (in collaboration with University of Illinois, Durham University) | Civil, Structural and Environmental Engineering | The development of the second year Engineering Design course, through the introduction of an online virtual learning system and the creation of an embryonic network of innovative schools of engineering around the world |

| 2010 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Maura Conway<br>Angela Sheehan<br>Patrick Enright<br>Michael Kane<br>Gerald Fitzgerald<br>Paul McSweeney<br>Mairead Kiely<br>Jorge Oliveria<br>Eleanor Fouhy<br>Mary McCarthy-Buckley | University College Cork | Food Industry/Science Engineering/Food Science | Development of resources to enable the delivery of undergraduate modules by distance as part of a new flexible degree in Food Science with Business |
| Josephine Hegarty<br>John Sweeney<br>Lynne Marsh<br>Agnes Phelan<br>Anne Cummins<br>Síle Creedon<br>Mary Lorraine Drinan | University College Cork | Nursing and Mid-wifery | An online support package for trained Preceptors (registered Nurse/Midwife), Student Nurses and Student Midwives which provides an overview of the clinical assessment process |
| David Sammon<br>Tadhg Nagle<br>Paidi O'Reilly<br>Patrick Finnegan | University College Cork | Business Information Systems | An international collaboration to develop a web-based pedagogical tool to simplify theoretical research for students and doctoral researchers |
| Lorraine McGinty<br>Imelda Huggins<br>Joe Carthy<br>Taher Kechadi<br>Gerry Dunnion<br>Nick Quirke<br>Padraig Dunne<br>Angela Evans<br>Julie Carson-Berndsen<br>Jamie Wells<br>David Casey<br>Nikki Dillon<br>Alan Smeaton | University College Dublin (in collaboration with DCU) | Computer Sciences and Informatics | Leading innovations in graduate education beyond horizons: addressing graduate-specific professional training needs through negotiation and integration of cross-disciplinary TandL with co-operative research partnership |
| Sherrie Buckley<br>Alison Warren<br>Mairead Cahill<br>Cathy McCormack<br>Carina Wiid | University of Limerick (in collaboration with TCD) | Occupational Therapy | Exploring the usefulness of public and private blogging during practice education placements: Perspectives of occupational therapy students from the University of Limerick and Trinity College Dublin |
| Teresa Curtin<br>Aine Regan<br>Peter E Childs<br>Sarah Hayes | University of Limerick | Chemical and Environmental Science | Retaining weaker students in undergraduate Science Programmes: the design, development and evaluation of an intervention programme in chemistry for first and second year students in third level education |

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| 2010 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Elaine Doyle<br>Joanne O'Flaherty | University of Limerick | Accounting and Finance | An Interdisciplinary approach to enhancing the ethical responsibility of undergraduate students |
| Barbara Geraghty<br>Ann Marcus-Quinn | University of Limerick | Languages, Literature, Culture and Communications | Development of digital leaning object for teaching recognition and writing of 100 elementary kanji ('Chinese') characters for zero beginner learners of Japanese as a foreign language |
| Olivia Gill<br>Ailish Hannigan<br>Fiona Faulkner | University of Limerick | Maths and Statistics | The implementation and evaluation of small group, problem based learning approaches to tutorial support for first year undergraduate mathematics modules for science and technology students |
| Eamonn Murphy<br>Sarah Moore<br>Michael Hennessy<br>Ellen Fowler | University of Limerick | Enterprise Research Centre | Leveraging expertise in distance learning to enhance education for Ireland's post-experience learners |
| Niamh O'Meara<br>Olivia Gill<br>John O'Donoghue | University of Limerick | National Centre for Excellence in Maths and Science Teaching and Learning | Helping prospective Mathematics teachers' progress on the ladder of knowledge: an innovative approach to teacher training |
| Giuseppe Torre<br>Nicholas Ward | University of Limerick (in collaboration with QUB) | Computer Science and Information Systems | The development of an information resource aimed at digital media students and practitioners that focuses on communication protocols and gives relevant examples of their use |

| 2009 Projects Funded | | | |
|---|---|---|---|
| **2009 Applicant(s)** | **Lead Institution(s)** | **Discipline(s)** | **Project Title/Description** |
| Barry O'Connor | Cork Institute of Technology | Registrar | Partner Operational Grant |
| Michael O'Rourke | Athlone Institute of Technology | Electronic and Computer Engineering | The development of online assessment in the Moodle Virtual Learning Environment (VLE) as a replacement for traditional written assessment |
| Claire McDonnell Christine O'Connor Sarah Rawe Michael Seery | Dublin Institute of Technology | Chemical and Pharmaceutical Sciences | Research Awareness and Readiness Evaluation (RARE) of Undergraduate Chemistry Students |
| Yuliya Semenova Ginu Rajan Gerald Farrell | Dublin Institute of Technology | School of Electronic and Communications Engineering | Integration of Research and Learning in Optical Fibre Sensing Technology |
| Frances Boylan Pauline Rooney Alice Luby Tony Kiely Daniel King Dan Shanahan Rebecca Maughan Jennifer McConnell | Dublin Institute of Technology | Learning, Teaching and Technology Centre | Untying the Accountancy Knot: the design, development and implementation of interactive animations and simulations to support underperforming 1st year accountancy students, including those with dyslexia |
| Andrew Flaus Michael Carty | National University of Ireland, Galway | Biochemistry | "So what do I do now?" Equipping students for independent bioscience research |
| Dorothy Ni Uigin Pilar Alderete | National University of Ireland, Galway (in collaboration with Trent University) | Gaeilge | AIPLIS - Audiovisual Intercultural Portal for Learning Irish and Spanish |
| Lisa Pursell Barbara Griffin Verna McKenna | National University of Ireland, Galway | Health Promotion | A blended learning enquiry based module for best practice of evaluation skills in health promotion |

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| 2009 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Peter Cantillon Yvonne Steinert Peter McLeod Linda Snell | National University of Ireland, Galway (in collaboration with McGill University) | General Practice | What are the key factors that influence the development of clinical teachers' implicit theories about teaching and learning? A Canadian - Irish collaborative study |
| Iain MacLabhrainn | National University of Ireland, Galway | Centre for Excellence in Learning and Teaching (CELT) | Partner Operational Grant |
| Ann O'Shea | National University of Ireland, Maynooth | Mathematics | An investigation of the effectiveness of mathematics support initiatives |
| Tom Collins Una Crowley Alison Farrell Claire McAvinia | National University of Ireland, Maynooth | Centre for Teaching and Learning, Education Department | "Making the Bigger, Better" - tackling the challenges of large group teaching and learning |
| Gerry McElvaney Muirne Spooner | Royal College of Surgeons | Medicine | Developing an online problem-based prescribing module for undergraduate Medicine and Pharmacy students |
| William Fitzgerald Noel Connaughton Paul Hamilton | Sligo IT | Environmental Science | Inquiry Based Simulated Learning Environments for Undergraduate Science Researchers |
| Dolores Corcoran Sinead Breen Therese Dooley Madeeha Khalid Maurice O'Reilly Ronan Ward | St. Patrick's College, Drumcondra | Education | Situated learning about Mathematics Teaching: mutual engagement of colleagues in a series of lesson study cycles applied to Academic and Curriculum Mathematics courses in one college of education |
| Cliona Murphy Janet Varley Paula Kilfeather | St. Patrick's College, Drumcondra | Education | Building Expertise in Science Teaching (BEST) |

| 2009 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Brian Foley | Trinity College Dublin | Centre for Academic Practice and eLearning (CAPSL) | Partner Operational Grant |
| Patrick Prendergast Aileen Douglas Carol O'Sullivan David Lloyd | Trinity College Dublin | Vice-Provost | An International Symposium entitled "Innovation: the third pillar of the Irish Higher Education" |
| John Bradley Tom Hill Mark Tangney Sabin Tabirca | University College Cork | Education, Computers, Nutritional Sciences | The Sports Nutrition Game for Sport and Exercise |
| Fiona Buckley Theresa Reidy | University College Cork | Government, Political Science | Journal of Undergraduate research in political science |
| Maeve Conrick Fiona Cox | University College Cork | French | Postgraduates sharing experiences in research and teaching and learning: an innovative pathway |
| Janice Crausaz | University College Cork | Occupational Therapy | Supporting therapists' engagement in evidence based practice (EBP) through a post-qualification Masters' degree module |
| Michael Cronin Helena Guiney | University College Cork | School of Mathematical Sciences | Learning by Doing: Integrating research into a statistics course using a student-designed research project |
| Elaine Drummond Lynne Marsh Richard Windle Helen Laverty | University College Cork (in collaboration with University of Nottingham) | Nursing and Mid-wifery, School of Nursing | Who Knows Best? An investigation of the potential of student-generated content within vocational degree courses |
| Dylan Evans | University College Cork | Medicine - Behavioural Science | An online tool for helping students improve the accuracy of probability estimates |
| Catherine Forde Deborah Lynch | University College Cork | Applied Social Studies | Social work within a community discourse |
| Carmel Halton | University College Cork | Applied Social Studies | An evaluation of the contribution of the Postgraduate Diploma in Advanced Fieldwork Practice and Supervision to improving the quality of practice teaching on fieldwork placements |

| 2009 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Steve Hedley<br>Shane Kilcommins<br>Ursula Kilkelly | University College Cork | Law | Establishment of an Irish online Law Journal |
| Bettie Higgs<br>Marian McCarthy | University College Cork | Ionad Bairre, Centre for Teaching and Learning | 24 Small Grants disbursed among 4 Colleges for Undergraduate Research Projects |
| Aislinn Joy<br>Laura Sahm | University College Cork | Medicine | Focus on patient safety: How lifelong learning starts between pharmacy and medical students at UCC |
| Declan Kennedy<br>Noel Brett<br>Sean Finn<br>Matthias Jauch | University College Cork | Education | To investigate the effectiveness of using data-logging technology to integrate research and teaching and learning in science education |
| Ursula Kilkelly<br>Dorothy Appelbe<br>Alan Lerner | University College Cork (in collaboration with University of Pennsylvania) | Law | Development of a model for a Child Law Clinic |
| James Knowles | University College Cork | English | Texts, Editing and the World Wide Web Seminar |
| Seamus O'Tuama<br>Natasha Underhill<br>Lyndsey Power<br>Clodagh Harris | University College Cork | Government | Preparing for academic success: A study of how targeted skills-based workshops can effectively aid first year students to bridge the gap between second and third level learning |
| Eileen O'Leary<br>Teresa Dwan | University College Cork | Science Faculty | Peer Assisted Learning (PAL) altered to Peer Assisted Tutoring Sessions (PATS) |
| Rossana Salerno-Kennedy<br>Pat Henn<br>Siun O'Flynn | University College Cork | Medicine | Education for Health Symposium |
| Patricia Kieran<br>Dermot Malone<br>Geraldine O'Neill | University College Dublin | Chemical and Bioprocess Engineering | Development and evaluation of peer-assisted learning in the undergraduate chemical engineering curriculum |

| 2009 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Michael Gilchrist | University College Dublin | SEEME School of Electrical, Electronic and Mechanical Engineering | Innovative methods for teaching foundation level engineering mechanics to large cohorts of undergraduate students, through research-led assignments for small student groups with postgraduate students |
| John Garvey Patrick Buckley Fergal McGrath | University of Limerick | Accounting and Finance | Promoting information literacy using prediction markets |
| Jennifer Johnston | University of Limerick | NCE-MSTL | The design and implementation of two-tier MCQs into first year science modules |
| Olive Gowan Mairead Cahill Maire O'Donnell Ann Taylor Alison Warren | University of Limerick (in collaboration with UCD) | Speech and Language Therapy | Enhancing student learning on placement through the implementation of a case based inter-professional model of education |
| Neil Quinlan | Waterford Institute of Technology | Office of Strategic Planning | Partner Operational Grant |

| 2008 Awards | | | |
|---|---|---|---|
| **2008 Applicant(s)** | **Lead Institution(s)** | **Discipline(s)** | **Project Title/Description** |
| Brendan Goggin | Cork Institute of Technology | Registrar | Partner Operational Grant |
| Joey Campbell | Cork Institute of Technology | Media and Communications | MoTrack: An online e-Learning course for students and staff interested in using Motion Tracking for biomedical multimedia teaching and learning activities in CIT |
| Sarah Mulrooney | Cork Institute of Technology | Cork Centre for Architectural Education | Studio Learning: Proposal for analysis of environments for studio teaching and learning for design based subjects |
| John P Murphy | Cork Institute of Technology | Civil and Structural Engineering | The contribution of final year research projects in engineering to the integration of research into teaching and learning |
| Tom O'Connor | Cork Institute of Technology | Economic and Social Studies | The Use of Practical Social Care Research to Develop a Holistic Social Care Best Practice Manual |

| 2008 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Don O'Riordan | Cork Institute of Technology | Electrical and Electronic Engineering | "SkillStream": Technologically Enhanced Teaching and Learning. An e-Tutoring support program for apprentice and technical students |
| Iain MacLabhrainn | National University of Ireland, Galway | CELT | Partner Operational Grant |
| Peter Cantillon | National University of Ireland, Galway | General Practice | How good teachers are made: an inter-professional critical incident study |
| Berit Carmesin Doris Devilly Michelle Tooher | National University of Ireland, Galway | German, CELT | WikiLingua(.ie): research and idea exchange on the use of Web 2.0 in language teaching and learning |
| Brendan Kennelly John Considine | National University of Ireland, Galway (in collaboration with UCC) | Economics | On-line auto-graded assignments versus paper assignments: A comparison |
| Aisling McCluskey | National University of Ireland, Galway | Mathematics | A case for innovation in mathematics education at third-level |
| Margaret McGrath Ruth McMenamin | National University of Ireland, Galway | Occupational Therapy, Speech and Language Therapy | An investigation of the impact of Service Learning on Students, Community Partners and Academic Staff in Occupational Therapy and Speech and Language Therapy at the National University of Ireland, Galway |
| Anne O'Connor | National University of Ireland, Galway | Italian | Games and Grammar: Language learning methodologies in college and community |
| Brian Foley | Trinity College Dublin | CAPSL | Partner Operational Grant |
| David Berman | Trinity College Dublin | Philosophy | Teaching and Research in Experimental Philosophy |
| Amy Murray Aisling McKenna Maura McGinn Aoife Flanagan Nyiel Kuol | Trinity College Dublin (in collaboration with DCU, UCD, NUI, Galway, UL) | CAPSL | Developing a best practice approach for 'closing the feedback loop' in Higher Education Institutions – turning feedback into action! |

| 2008 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Clodagh Harris Fiona Buckley Monica O'Mullane Theresa Reidy | University College Cork | Government, Political Science | Integrating Research, Teaching and Learning in a Multicultural Setting: Developing a FETAC level 6 Certificate in political issues and community action for the immigrant community |
| Margaret Healy Maeve McCutcheon Michelle Carr | University College Cork | Accounting, Finance and Information Systems | Developing an Accounting and Finance Support Centre: Establishing and Disseminating Best Practice |
| Bettie Higgs Tony Ryan Shane Kilcommins | University College Cork | Ionad Bairre, Centre for Teaching and Learning, Paediatrics and Child Health, Law | Making Connections: Strengthening and Documenting Intentional Teaching for Integrative Learning |
| Kevin McCartney Sarah Mulrooney | University College Cork (in collaboration with CIT) | Cork Centre for Architectural Education | Literature Review and Development of Learning Workshop Exercises for Students Starting Research by Design |
| Jacqui O'Riordan | University College Cork | Applied Social Studies | Children and Global Diversity: Collaborative Development of Learning Materials: UCC and Hope Foundation |
| David Ryan | University College Cork | History | Multiple Forum Education and Research: Enhancing Learning through Complimentary Temporal Environments, Research-Led Teaching, and Student-Based Enquiry |
| David Ryan | University College Cork | History | Research-Led Teaching Seminar Series and Publication |
| Siun O'Flynn | University College Cork | Medicine | Medicine and Health Conference in collaboration with INMED |
| John O'Halloran Alexei Pokrovskii MJA O'Callaghan MH Quinlan Tom Kelly John O'Mullane Paul Callanan Teresa Dwan | University College Cork | ZEPS, Faculty of Science, Computer Science, Physics | Various Projects: Mathematical Modelling for Biologists SMS-based Lecture Interaction Case Study: Teaching using Audience Response Systems |

| 2008 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Neil Quinlan | Waterford Institute of Technology | Office of Strategic Planning | Partner Operational Grant |
| Eoin Gill<br>Sheila Donegan<br>Padraig Kirwan | Waterford Institute of Technology | CALMAST Science and Engineering | SISTEM – Stimulating Interest in Science, Technology, Engineering and Maths |

| | 2007 Projects Funded | | |
|---|---|---|---|
| **2007 Applicant(s)** | **Lead Institution(s)** | **Discipline(s)** | **Project Title/Description** |
| Deirdre Goggin | Cork Institute of Technology Thomas Crosbie Holdings | | Mentoring element of the Professional Development Module of the BA in Sales which was developed in partnership with Thomas Crosbie Holdings which focuses on capturing and fostering work based learning within the workplace |
| Eva Juhl | Cork Institute of Technology | Multi-media | A Users' Guide to Writing Programme Outcomes |
| Orla Baxter | National University of Ireland, Galway | NCBES Development Manager | UREKA |
| Bettie Higgs | University College Cork | Ionad Bairre, Centre for Teaching and Learning | Workshop: Teaching and Learning in the Field |
| Carmel Halton Nona Lyons | University College Cork | Applied Social Studies | Educating Practitioners for Reflective Inquiry: The Contribution of a Portfolio Process to New Ways of Knowing |
| Catharine Pettigrew Gill Chard Phil McGowan | University College Cork | Speech and Hearing Sciences, Occupational Therapy | Workshop: Building research capacity in the health professions through the promotion of therapists-in-training as interdisciplinary researchers |
| Clodagh Harris | University College Cork | Government | The active citizenship approach to teaching and learning active citizenship: Integrating research, teaching and learning in the post-graduate classroom |
| David Sammon | University College Cork | Accounting, Finance and Information Systems | A Sense-Making Approach to IT Innovation Adoption |
| Edel Barnes | University College Cork | Accounting, Finance and Information Systems | A Case Study of Accounting Education and Possibilities for Assessment Innovation at Third Level |
| Graham Allen Siobhan Collins Carrie Griffin Mary O'Connell | University College Cork | English | Making Books, Shaping Readers |
| Helen Lynch | University College Cork | Occupational Therapy | Assessment for Learning |
| Humphrey Moynihan Anita McGuire Stuart Collins | University College Cork | Pharmaceutical Chemistry | Workshop: UPCRO: a gateway for undergraduates into PharmaChemical research in UCC |

| 2007 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Juliet Hewish Katie Long | University College Cork (in collaboration with UCD) | English, School of English, Drama and Film | Accessing the Word-hoard: An Introduction to Old English |
| Kevin Cronin | University College Cork | Process and Chemical Engineering | Development of a computer-based teaching tool in probabilistic modelling for use by postgraduate students |
| Marian Murphy Maria Dempsey Carmel Halton | University College Cork | Applied Social Studies, Applied Psychology | Reflective Learning in Social Work Education: Researching Student and Graduate Experiences |
| Martina Kelly Siun O'Flynn Marian McCarthy Andrea Scott | University College Cork | General Practice, School of Medicine, Ionad Bairre, Centre for Teaching and Learning | Beyond consultation: the role of reflection in creating institutional change – let the students teach the teachers |
| Rossana Salerno-Kennedy | University College Cork | Medicine | Workshop: "Real patients as Teachers" |
| Siun O'Flynn Pat Henn Claire O'Sullivan Alice Lee Catharine Pettigrew | University College Cork | Medicine, Occupational Therapy, Speech and Hearing Sciences | Workshop: Learning together to work together – Interprofessional education of medical, occupational therapy and speech and language therapy students in UCC |
| Tony Ryan Rob Gaffney Nuala Walshe Siun O'Flynn | University College Cork | Paediatrics and Child Health, School of Medicine, Nursing and Mid-wifery | Professional Training: Learning Together to Work Together - Introducing Standardised Patient Educators as an Interprofessional Education and Learning (IPEL) Project in the College of Medicine and Health |
| Yvonne Nolan | University College Cork | Neuroscience/Anatomy | Research Methodology in Neuroscience and Biomedical Science |
| Daniel Black-shields | University College Cork | Economics | 'The Game is Afoot': The Pedagogical Case of Sherlock Holmes, Expert Problem-solving and the Scientific Imagination |
| Bridie McCarthy Ann McAuliffe | University College Cork | Nursing and Mid-wifery | Therapeutic communication skills for palliative practice |
| Peter Kennedy | University College Cork | Vice-President for Research | Conference and skills training: Frequency Synthesizer Simulator and Emulator |
| Felicity Kelliher | Waterford Institute of Technology | School of Business | 'Real world' in a classroom: a simulated approach to management education |
| John Wall | Waterford Institute of Technology | Civil and Construction Engineering | Multiple intelligences instructional design framework for virtual classes |

| 2007 Applicant(s) | Lead Institution(s) | Discipline(s) | Project Title/Description |
|---|---|---|---|
| Margaret Denny Suzanne Denieffe | Waterford Institute of Technology | Office of Research and Innovation | Exploring How Teaching For Multiple Intelligences Using A Multiple Intelligence Teaching Approach Affected Student Achievement In An Undergraduate Education Programme In Ireland |
| William O'Gorman | Waterford Institute of Technology | School of Business | Post Graduate Diploma in Enterprise Development |
| Kevin Ryan John Carney | Waterford Institute of Technology | Civil and Construction Engineering | Theories in Practice? Practising Theories? Applications to Practice? A Constructarium in Low Carbon |
| Angela Collins Carmel Coyne Rosanna Molloy Don O'Neill | Waterford Institute of Technology | | Transferable Skills in Third Level Modern Language Curricula involving WIT, DCU and Trinity College Dublin – Academics and Academics working together |
| Catherine Lowry-O'Neill | Waterford Institute of Technology | School of Education | Action research: A living link between teaching and research |
| Siobhan Drohan | Waterford Institute of Technology | Computing, Mathematics and Physics | Implementing and Evaluating Problem-Based Learning (PBL) in the Information Systems Development (ISD) Classroom |