Contemporary Research in Irish Education

Book of Abstracts

Postgraduate Research Seminar 2014
School of Education
NUI Galway
Nuns’ Island, Galway
Wednesday 30th April 2014
5.00-8.30pm

Welcome and Introduction

We are delighted to welcome you to the annual Postgraduate Research Seminar of the School of Education, NUI Galway. A central part of the School of Education’s recurrent Research Seminar Series, this annual research colloquium affords the School’s master and doctoral researchers the opportunity to share and discuss their research, and the broader conceptual and methodological contexts within which that research is being undertaken.

Entitled Contemporary Research in Irish Education, this inaugural book of abstracts represents a large selection of the School’s current and ongoing graduate research, which engages with, and addresses important questions and topics across the three fundamental domains of educational research: innovation in methodology and teaching; professional development and leadership; and educational sciences/foundational educational research.

Building on the successes of the previous seminars, and as a publication output from this year’s colloquium, this book of abstracts includes the abstracts of the presenters, synopsising their respective research focus, questions and methodologies.

Le gach dea-mhéin,

[Signature]

Dr Tony Hall
School of Education
April 2014

-----------------------------------------------------

Book of Abstracts: compiled and produced on behalf of the School of Education by Dr Tony Hall.

Cover Image: NUI Galway Overall Winner 2014 Capture Your Campus photo competition: Feidhlim Lally-Croke "Quadrangle".
## SCHOOL OF EDUCATION
### ANNUAL POSTGRADUATE RESEARCH SEMINAR, 30 APRIL 2014
- **SEMINAR SCHEDULE** -

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.15-5.30pm</td>
<td><strong>Welcome &amp; Overview</strong> - G005 Science Teaching Centre</td>
<td>Dr. Mary Fleming, Head, School of Education</td>
</tr>
<tr>
<td>5.30-7pm</td>
<td><strong>Parallel Session I</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Venue: G005 Science Teaching Centre</td>
</tr>
<tr>
<td></td>
<td>Maeve Dunne</td>
<td>Chair: Dr. Patricia Eaton</td>
</tr>
<tr>
<td></td>
<td>Devon Goodwin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hannagh McGinley</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B</strong></td>
<td>Venue: G022 Boardroom</td>
</tr>
<tr>
<td></td>
<td>Stiofán Ó Cualáin</td>
<td>Chair: Dr. Brendan Mac Mahon</td>
</tr>
<tr>
<td></td>
<td>Seán Ó Grádaigh</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Niall Mac Uidhilin</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C</strong></td>
<td>Venue: G023 Seminar Room 2</td>
</tr>
<tr>
<td></td>
<td>Annelie Eberhardt</td>
<td>Chair: Dr. Manuela Heinz</td>
</tr>
<tr>
<td></td>
<td>Michael McNamara</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paul Flynn</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>D</strong></td>
<td>Venue: G024 Seminar Room 3</td>
</tr>
<tr>
<td></td>
<td>Sorcha O’Toole</td>
<td>Chair: Dr. Tony Hall</td>
</tr>
<tr>
<td></td>
<td>Martin McHugh</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eilis Flanagan</td>
<td></td>
</tr>
<tr>
<td>7-7.20pm</td>
<td><strong>Break for Refreshments</strong> - G025 Staffroom</td>
<td></td>
</tr>
<tr>
<td>7.20-8.20pm</td>
<td><strong>Parallel Session II</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Venue: G023 Seminar Room 2</td>
</tr>
<tr>
<td></td>
<td>Diogo Gomes</td>
<td>Chair: Dr. Patrick Farren</td>
</tr>
<tr>
<td></td>
<td>Alison McNamara</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seamus Lynch</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B</strong></td>
<td>Venue: G024 Seminar Room 3</td>
</tr>
<tr>
<td></td>
<td>Andrea Lynch</td>
<td>Chair: Ms. Sinéad Ni Ghuidhiri</td>
</tr>
<tr>
<td></td>
<td>Gabriel Bourke</td>
<td></td>
</tr>
<tr>
<td>8.20-8.30pm</td>
<td><strong>Seminar Close</strong> - G005 Science Teaching Centre</td>
<td>Dr. Mary Fleming, Head, School of Education</td>
</tr>
</tbody>
</table>
# Table of Contents

<table>
<thead>
<tr>
<th>Research Abstracts</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Researching Minority Students in Ireland’s Higher Education: Towards a Culturally Responsive Research Design</em>&lt;br&gt;Maeve Dunne</td>
<td>1</td>
</tr>
<tr>
<td><em>Exploring the issue of under-representation of minorities and disadvantaged groups in ITE programmes in Ireland: The Qualitative Side of the Diversity Profiling Initial Teacher Education (DITE) Project</em>&lt;br&gt;Devon Goodwin</td>
<td>2-3</td>
</tr>
<tr>
<td><em>Post-primary Teachers’ Perceptions and Conceptions of Travellers in an Intercultural Education Context</em>&lt;br&gt;Hannagh McGinley</td>
<td>4</td>
</tr>
<tr>
<td><em>Implementing the Literacy Strategy in the Gaelcholáiste: Challenges and Supports</em>&lt;br&gt;Stiofán Ó Cualán</td>
<td>5</td>
</tr>
<tr>
<td><em>Teacher Supply and Demand in Second Level Irish Medium Schools….. Cá bhfuil na Múinteoirí?</em>&lt;br&gt;Seán Ó Grádaigh</td>
<td>6</td>
</tr>
<tr>
<td><em>The Importance of the Local in Children’s Multimodal Engagement with Challenging Audio Texts in a Gaeltacht Context</em>&lt;br&gt;Niall Mac Uidhilin</td>
<td>7-8</td>
</tr>
<tr>
<td><em>Foreign Language Teaching and Learning in Ireland - An Enquiry-Based Project to Develop the Continuous Professional Development of Foreign Language Teachers</em>&lt;br&gt;Annelie Eberhardt</td>
<td>9-10</td>
</tr>
<tr>
<td><em>The Impact of Standardised Assessment in Primary Schools in Ireland: Key Actor Perspectives</em>&lt;br&gt;Michael McNamara</td>
<td>11</td>
</tr>
<tr>
<td><em>Technology Based Innovations in Teaching Methodology that Effect Transformative Learning for Initial Teacher Education</em>&lt;br&gt;Paul Flynn</td>
<td>12-13</td>
</tr>
<tr>
<td><em>An Exploration of the Implementation of Assessment for Learning (AFL) Strategies in the Further Education (FE) Classroom</em>&lt;br&gt;Sorcha O’Toole</td>
<td>14-15</td>
</tr>
<tr>
<td><em>Hook Theory: A Review of Hooks and Hook Strategies as Pedagogical Resources</em>&lt;br&gt;Martin McHugh</td>
<td>16</td>
</tr>
<tr>
<td><em>Micro-Ensembling: An Innovative Pedagogical Approach to Embedding Educational Technology in Poetry Education to Enhance Learning</em>&lt;br&gt;Eilis Flanagan</td>
<td>17</td>
</tr>
</tbody>
</table>
Science Outreach and Science Education at Primary Level in Ireland: a mixed methods study
Diogo Gomes

A Design-Based Cycle Approach to Developing Maths Mission: A Maths Game for Second-Level Students
Alison McNamara

Defining Pedagogical Content Knowledge and Subject knowledge for Teaching Business and Economics
Seamus Lynch

A Study of ADHD in Adolescent Females: Adolescent Participant Recruitment Issues and Challenges
Andrea Lynch

Meaningful Reading – Can a Relational Frame Training (RFT) Intervention Improve Reading Comprehension?
Gabriel Bourke
As Ireland emerges as an increasingly diverse and multi-ethnic state there is a growing concern within Irish intercultural discourse that the Irish context marginalises and constructs racialised minorities in deficit terms, positioning them as ‘other’ than Irish, as less Irish, or less than Irish. (Bryan, 2008) In an attempt to transcend nationalist conflicts and ascribed categories of race and to gain a deeper insight to the experiences and formation of ethnic minority populations in Irish educational settings, this paper analyses the research design of a qualitative study which explores the university experience of Access Migrant, Non-Access Migrant and Traditional Entry Students.

It is argued that traditional Western research paradigms have perpetuated a continued use of racialised terminology within sociological inquiry. In order to integrate marginalized narratives within the intercultural discourse surrounding Higher Education in Ireland, it is argued that researchers in this area need a new set of moral and ethical research protocols. (Denzin, 2005)

This paper acknowledges both the need and demand to validate the authenticity and encapsulate the full complexity of the lived experiences of migrants in Ireland’s higher education system. In response to this challenge, Culturally Responsive Research Methodologies are identified as a key process within Irish intercultural research insofar as it has the potential to integrate the voices and perspectives of migrants in Ireland that exists beyond a 'white', 'eurocentric' dialogue. In order to move towards a more inclusive and diverse dialogue, key challenges and opportunities are identified within the construction of a Culturally Responsive Research design within higher education research.
Exploring the Issue of Under-Representation of Minorities and Disadvantaged Groups in ITE Programmes in Ireland: The Qualitative Side of the Diversity Profiling Initial Teacher Education (DITE) Project

PhD Researcher: Devon Goodwin
Supervisor: Dr. Elaine Keane

The teacher population in Ireland is largely homogenous in terms of ethnicity, social class, gender, religion, and dis/ability. This is in contrast to the current and growing diversity in the student population, a disparity that has been dubbed the “diversity gap” or “demographic divide”.

Researchers and policy makers are in agreement that this gap is problematic and that further diversification of teaching would be beneficial. More problematic than reaching consensus on the issue of increasing diversity, however, has been the task of articulating and evidencing exactly why an increase in teacher diversity is beneficial.

As such understanding is fundamental to establish before embarking on any discussion of how to diversify teaching, I will present my research on how the rationales for the benefit of increased diversity have evolved since their first publication in 1986. Having established the benefit of increased diversity, I will then present the DITE project, being run by Dr. Elaine Keane and Dr. Manuela Heinz, discussing how the demographic database that it is accumulating will help us understand teacher diversity in the Irish context. My own research is a qualitative sub-project of the larger DITE project.

Using a Constructivist Grounded Theory methodology I will be interviewing either two or three groups of individuals; unsuccessful applicants to Initial Teacher Education (ITE), entrants to Initial Teacher Education, and (potentially) non-applicants to teaching. The goal of such work is to gather insights into the factors that affect the experience and motivation of potential teachers from various socio-demographic positions and backgrounds in Ireland; to understand what enables them or disables them from entering Initial Teacher Education.
Such insights will aid in the analysis and application of the results of the quantitative DITE data. The question of whether the third group of participants, “non-applicants”, should be included, and ideas on how to target into this group meaningfully will be put forth for input by symposium participants.
Post-primary Teachers’ Perceptions and Conceptions of Travellers in an Intercultural Education Context

PhD Researcher: Hannagh McGinley  
Supervisor: Dr. Elaine Keane

This paper will consider the issue of intercultural education and its perceived relevance for Irish Travellers by exploring emerging themes from interviews with a sample of post-primary school teachers in a West of Ireland school, with a relatively high level of diversity. The overall aim of this research is to explore the complex issues that impact upon the educational experiences and outcomes of Travellers in post-primary education. It will provide an analysis of how the discourse on intercultural education is being understood and implemented at the local level with regards to Travellers. It is a qualitative study, situated in an anti-positivist, interpretive paradigm, which draws on the principles of critical educational science. Data is being collected through semi-structured interviews with teachers and pupils (both Traveller and non-Traveller). This paper will examine emerging themes from the teacher interview data, including teachers’ perceptions of barriers to participation for Travellers, teachers’ problematization of behavioural issues as a cultural problem, and teachers’ conceptualisations of Traveller culture.
Implementing the Literacy Strategy in the Gaelcholáiste: Challenges and Supports

MEd Researcher: Stiofán Ó Cualáin  
Supervisor: Dr. Brendan Mac Mahon

Irish medium education is a growing sector, with Gaelcholáistí serving those outside the Gaeltacht areas who wish to receive their education at second level through Irish. However, particular challenges for the teaching and learning of literacy in Irish medium schools are identified in the National Strategy *Literacy and Numeracy for Learning and Life* (DES, 2011, p.11). This paper outlines a study which sought to investigate the nature of those challenges and to identify factors which could support implementation of the Literacy Strategy in the Gaelcholáiste sector. The study employed a qualitative approach, using semi-structured interviews to gather data from key stakeholders in the implementation process. Findings indicate significant challenges will be posed to the Literacy Strategy in Gaelcholáistí, including scepticism towards an initiative perceived to have been designed with English medium schools in mind; social and cultural forces which impact on Irish as a minority language in the wider context; the availability of teachers with adequate levels of literacy in Irish; and issues related to pedagogical practices with regard to teaching through a second language. Factors identified as favourable to the successful implementation of the strategy are also outlined.
Teacher Supply and Demand in Second Level Irish Medium Schools.....
Cá bhfuil na Múinteoirí?

PhD Researcher: Seán Ó Grádaigh
Supervisor: Dr. Manuela Heinz

The Second Level Irish Medium School (SLIM) sector has experienced unprecedented growth in recent years. Previous studies at primary level Gaelscoileanna highlighted great difficulties in recruiting suitably qualified teachers in this sector (Máirtín, 2006). 70% of Principals indicated difficulty in finding and appointing teachers. One third of principals expressed concern about the standard of spoken Irish of some of their teachers. 57% of principals expressed concern about the standard of written Irish of their teachers.

MacDonnacha’s study on Second Level Schools in Gaeltacht areas revealed similar findings and concluded that there was a severe shortfall of suitably qualified teachers with sufficient Irish to teach effectively in Gaeltacht schools (MacDonnacha,2004).

This paper outlines a research study on the recruitment, employment and difficulties faced by principals in the SLIM sector in both Gaelcholáistí and 'Iarbhunscoileanna sa Ghaeltacht'.

Carried out in 2013 using questionnaires and semi-structured interviews with principals, as part of a mixed method approach, this research complements both Máirtín’s and MacDonnacha’s work and makes recommendations on how best to facilitate the supply of suitably qualified teachers for this sector.
Recent research shows that the intergenerational transmission of Irish is breaking down as linguistic habits of young people in strong Gaeltacht areas change (Mac Donnacha et al., 2005; Ó Giollagáin et al., 2007). The principal goal of this research is to investigate how pedagogical interventions that draw on a new literacies (NL) perspective, and which are supported by technology, can be designed to support young learners’ engagement with rich language resources in a Gaeltacht context.

This presentation describes the preliminary results of such an intervention in a primary school in a Category A (Ó Giollagáin et al., 2007) area of the Gaeltacht. Rich audio resources from the Raidió na Gaeltachta archives were provided to the children as a basis for the creation of multimodal digital artefacts (MDAs) using digital story-making software. A cloud-based solution was devised to solve accessibility/compatibility issues in both the school and at home.

Preliminary results suggest that themes related to local funds of knowledge voices are a catalyst for sparking children’s interest in mixing various forms of media (audio, image and text) to create new artefacts that are rich in language and culture. The children in this intervention were reluctant to use their own voices but rather chose to use voices from the past taken from radio archives that are connected to the local area.

Following a design-based research methodology, the results from this intervention are being used to refine a model that will be tested for transferability to other similar Gaeltacht contexts in order to provide a template as to how Gaeltacht schools can harness the richness spoken language, artefacts in the home and children’s prior knowledge to stimulate creativity and the production of MDAs that are rich in both language and culture.
This research study will make an important contribution to the provision of innovative and effective CPD (continuous professional development) for modern language teachers. It will explore the role that collaborative enquiry into language teaching methodologies can play in teacher professional development and the improvement of language learning in Irish schools. A number of recent research and policy reports indicate that second language teaching and learning in Ireland is fraught with difficulty and that current levels of foreign language proficiency of Irish citizens are unsatisfactory: The Royal Irish Academy addressed in its National Languages Strategy the main challenge for Ireland: to become truly multilingual (RIA 2011, 6). In the new Junior Cycle which will be implemented from September 2014, languages and communication play an important role. Language competency features in 1st and 2nd statements of learning. The Junior Cycle reform envisages changes to course content as well as delivery with greater emphasis on developing creativity, innovation, critical thinking and learning skills. As a result teachers will be challenged to implement innovative teaching and learning methodologies. Changes regarding teaching approaches and styles will require support. This thesis and the approach taken in it will allow teachers to experiment with new methods. The collaborative enquiry is hence timely and of a rather grassroots nature. Reason for this is that research done by university employees for/about teachers and their workplaces is often times “not quite the match” (McAteer 2013, 16). Subjectivity and an epistemological stance are fruitful in educational research and stressed by McAteer when she proclaims “context is everything” (ib.). Results stemming from enquiry-based projects are that teachers feel empowered and more confident in their everyday work. They realize how to make learning situations for their students more effective and how to critically conduct research on a reflective basis.
During the presentation at the Postgraduate Seminar, the following points will be discussed: How can this PhD project provide (i) a better understanding of current provision and practices of CPD for teachers of modern foreign languages in Ireland and internationally, (ii) a deeper insight into language teachers’ needs with regard to CPD, as well as (iii) constructive suggestions in terms of enquiry-based research as an integral part of CPD to further the professional learning of foreign language teachers.

To what extent can collaborative and enquiry-based classroom research enhance teaching practice and student learning in the modern language classroom?

**Bibliography**


The recent introduction of the national literacy and numeracy strategy (DES, 2011) has heralded a new age in standardised assessment (SA) in primary schools throughout Ireland. Stemming from the widely publicised results outlined in PISA 2009, revised procedures in the administration of SA have aimed to enhance student performance on both a national and international scale. Having now experienced two waves of this reform since 2011, this qualitative study aims to explore the perceived impact of SA in primary schools from the perspectives of key actors in this area.

Importantly, a multi-perspective approach is being adopted in ascertaining the nature of such impacts, encompassing a survey strategy in the collection of qualitative data. Here, those most experienced in the administration of SA are being interviewed using a semi-structured methodology, namely primary school teachers and principals. Expert interviews are also being undertaken with a DES inspector, an NCCA executive and a third level lecturer to derive contextual data in this regard.

As the piloting stage of this study is drawing to a close, this oral presentation aims to outline the learning gleaned from this vital stage which has undoubtedly informed the direction of the research in a positive manner. I shall begin by initially providing a broad overview of the inherent features of this study, as well as those pertaining specifically to the piloting stage. The main thrust of this presentation, however, will concentrate on the knowledge gained as a result of the experiences encountered throughout the piloting stage of this study. Here, the challenges faced by the researcher, as well as the processes involved in the revision of key procedures within the study will be discussed. Furthermore, I shall briefly outline some of the key emergent findings in light of their contribution in answering the research questions at the heart of this qualitative study.
Technology Based Innovations in Teaching Methodology that Effect Transformative Learning for Initial Teacher Education Participants

PhD Researcher: Paul Flynn
Supervisor: Dr. Tony Hall

Information and Communications Technology (ICT) is at the vanguard of contemporary pedagogical innovation particularly in the area of Initial Teacher Education (ITE). Encouraged by significant investment, the proliferation of ICT is evident in our schools, third level institutions and social strati, developing concomitantly with the emergence of Digital Humanities (DH). Addressing this development requires a structured narrative examination of concepts such as historical teaching methodology, the construction and utilisation of DH content in education, the role of digital storytelling in the learning process and the relationship between computer supported collaborative learning (CSCL) environments and ITE participants.

This paper contains a systematic qualitative review of the relevant literature in order to establish a cohesive narrative that engages the major themes, research and findings in this field to date with particular emphasis in transformative learning in teaching methodologies. A thematic approach was taken to select and review the literature and parameters set that focused the literature review with the aim of identifying and interrogating the core themes that are central to transformative learning in CSCL environments with a particular focus on ITE participants and the subject area of history. Techniques such as digital storytelling, CSCL remote interaction, online live tutorials and technology based classroom innovations were prominent in the literature. An analysis of these developments highlighted a significant change in historical social boundaries between classroom content and the community, participating cohorts and information trading, as well as the relationship between the individual student and the education program they are engaged in.
As a consequence, the key findings of the literature review indicate that participation in CSCL environments as part of a cohesive, structured learning process can contribute to a transformative learning experience that has the potential to effect the wider community and permeate the traditional walls of educational institutions. While investigations into the effectiveness of CSCL environments that engage participants appear to yield positive results in relation to transformative learning such engagements require interrogation in a wider context in order to establish the extent to which such a learning process can function within post-institutional instruction. With ITE participants to the fore of classroom based innovations in teaching methodology this is an excellent opportunity to build upon the existing literature and apply a Design Based Research methodology to advance this field of study.
An Exploration of the Implementation of Assessment for Learning (AfL) Strategies in the Further Education (FE) Classroom

PhD Researcher: Sorcha O’Toole
Supervisor: Dr. Mary Fleming

The aim of this piece of research is to explore the impact on learning when specific AfL teaching strategies are introduced into the FE classroom. Specifically what the research is trying to identify is whether these strategies improve student performance and experience of learning. The literature review to date in this research has examined three broad areas; adult learning, assessment for learning (AfL) and professional teaching practice.

The characteristics of an adult learner and the difficulties experienced in adult learning by adult educators are the focus of the first element. The second element explores the theoretical and empirical research on AfL. Here the focus is on how AfL teaching strategies may or not help adult learners and the five key AfL strategies, as identified by Wiliam (2008). The final section of literature review will look at the context of teaching and the features of the reflective teacher. A key question underpinning this section relates to the fact whilst there is a need for a change in practice in order to introduce and embed AfL are FE teachers and FE centres willing to take on this challenge?

While the methodology of the study is still being developed it is proposed that the study will use mainly qualitative methodologies in order to gain insightful, rich data from teachers working in the FE sector. The research will take place in an FE centre in the West of Ireland and work with a group of experienced FE teachers. At this stage it is proposed that a case study method will be applied as the researcher will be working with one FE centre. Data will be gathered here in the form of semi-structured interviews with teachers and also focus groups. This will take place over a two year period, where the researcher will work with the FE teachers to design and redesign the AfL strategies so that they ultimately suit the adult learner. The question put to the FE teacher will be; do these AfL teaching strategies improve student performance for adult learners?
To date there is very little research on AfL in the FE sector so this study will try and address this in some way. Many teachers feel they are using AfL strategies in their classroom; however, they are not doing it in a planned, embedded way.

To conclude the presentation a short input on a possible data collection method will be outlined.
Hook Theory: A Review of Hooks and Hook Strategies as Pedagogical Resources

PhD Researcher: Martin McHugh
Supervisors: Dr. Mary Fleming and Dr. Veronica McCauley

The presentation offers a review of “hooks” as an educational tool within the science classroom. Hooks, also known as anticipatory sets, are any type of instruction set at the beginning of class to engage and prepare students at the start of the lesson. In other words, as the name suggests – to grab their attention and foster interest so as to engage pupils in the learning at hand. In achieving this, hooks have the potential to bring about behavioural benefits, combat boredom and augment learning. The most effective hook strategies aimed at second level teachers are also discussed. This presentation argues that due to lack of statistical evidence regarding hook application, methodological investigation into their impact in the classroom is warranted. The scope of future research needs to encompass a definition as well as teacher and student perspectives on the effectiveness of hooks. Both short and long term examination of hooks is warranted to assess their impact on personal interest and subject choice. Key principles regarding the development of hooks are set out so as to benefit future design.

In addition, the presentation will outline the development of the research question, sub-questions and the emerging research approach/strategy.
**Micro-ensembling:** an innovative pedagogical approach to embedding educational technology in poetry education to enhance learning

*PhD Researcher: Eilis Flanagan*

*Supervisor: Dr. Tony Hall*

This paper explores the value of creating an active learning environment which integrates mobile touch screen technology with poetry education to support students in creating meaningful learning experiences.

The study considers the potential of technology to support and enhance ensemble pedagogy. Ensemble pedagogy employs drama-based activities as a teaching and learning method that encourages students to collectively discover a text and supports formation of personal and emotional connections with abstract concepts. *Micro-ensembling* is a concept developed within the context of the author’s doctoral thesis on engaging pedagogies and technologies to encourage engagement with literature. In this study, the process encourages students to observe and reflect on their video-recorded embodiments of key moments in a poem. Students can communicate their experiences to their peers locally, nationally and globally using carefully monitored media such as virtual learning environments (VLEs), Twitter and Skype Classroom. The aim is to afford students an aesthetic learning opportunity that enables them to make meaningful experiences and apply their learning across subjects, curricula and situations.

This inclusive method aims to address current concerns about Irish teenagers’ apparent lack of comprehension, analytical and critical thinking skills. The study is conducted in the context of digital content creation because of its potential for fostering meaningful learning experiences in terms of developing identity, sociality, creativity and civic participation.

Employing a Design-Based Research (DBR) methodology the study demonstrates practically how technology can be integrated effectively within ensemble pedagogies, using micro-ensembling.
Worldwide, science has become economically very important [1]. The European Union and different EU countries, such as Ireland, stress that science and technology graduates are fundamental for economic growth [2], [3]. Nevertheless, reports show that, in Ireland the number of graduates in science is not achieving the desired targets [4]. Ireland is not an isolated case, and a trend of diminishing interest in science has been identified in other countries [1], [5]. In response, policy documents of several countries state the need to change the way science is taught in schools (towards inquiry-based learning methods rooted in constructivist teaching and learning) and for further action to be taken to encourage students to pursue science degrees [4–6].

Universities and other organizations (e.g. Industry) have been proactive in supporting and strengthening student uptake in science through the development of informal science programs for primary and secondary level students (science outreach). A number of reports have recently suggested the potential that science outreach can have in improving student engagement in science and also as a direct vehicle in assisting science education in the classroom [7–9]. It is argued that science outreach can create a third space in science education, one in which the formal school science and these informal programs form a partnership, with the objective of improving students science education [9]. The value of the partnership between schools and science outreach providers cannot be overemphasized, and as such, forms the basis of this research.

This study examines how initiatives of science outreach, offered by universities to primary level schools can assist science education at primary level. Particularly we are interested in understanding how teachers and science outreach practitioners choose and develop science activities. The specific aim of this study is to examine the perceptions and practices of both primary-level teachers and science outreach practitioners’, in terms of their constructivist approach to the teaching and learning of science in the primary level classroom. The key research questions are:

What perceptions do primary-level teachers and science outreach practitioners have regarding of the role of constructivist teaching and learning environments in primary level education?

How do teachers and science outreach practitioners respond to different pedagogical and conceptual challenges in relation to a constructivist teaching and learning approach?

This study follows a mixed methods approach [10]. Quantitative data was obtained through the Constructivist Learning Environment Survey (CLES) [11]. This data was used to compare primary-level teachers and science outreach practitioners’ perceptions of constructivist learning environments. Concurrent with this, qualitative and quantitative data was obtained through a semi-structured interview format [12], where educators and outreach practitioners were asked to analyse a series of conceptual and pedagogical dichotomies presented to them in a video format. The focus here was to explore the conceptual and practical choices of practitioners in science learning environments.
References


A Design-Based Cycle Approach to Developing Maths Mission: 
A Maths Game for Second-Level Students

PhD Researcher: Alison McNamara
Supervisor: Dr. Catherine Paolucci

This presentation charts the design-based research cycles throughout the course of this PhD and the development of the maths game, Maths Mission, for second-level students. An important component in this research is to develop an understanding of students’ perspectives that inform the design and development of Maths Mission. Each aspect of the game is designed with the students’ favourite maths topics in mind with a view to increasing their awareness of how useful maths is in real-world scenarios. This presentation examines the students’ perspectives prior to development of Maths Mission, students’ feedback from preliminary studies and offers an insight into the development of Maths Mission, the three-dimensional (3D) maths game for the second-level classroom.

The goal of the game itself is to start building a destroyed city by completing the maths questions such as perimeter, area and how many tiles needed to tile the floor while bearing in mind conversions from centimetres to metres. Students engage in and apply maths topics that are covered in school within the 3D environment. The primary audience for the game consists of second and transition year students at post-primary level.

This presentation briefly discusses the design-based research cycles from the initial proof-of-concept development in May 2012 to the final version of Maths Mission in February 2014. Finally, the future of Maths Mission is discussed and how it is then used as a tool in the latter stages of the PhD to discover any impact it may have on students’ perspectives, attitudes and motivations.
Defining Pedagogical Content Knowledge and Subject knowledge for Teaching Business and Economics

PhD Researcher: Seamus Lynch
Supervisor: Dr. Catherine Paolucci

This presentation will provide an overview of how Pedagogical Content Knowledge and Subject Knowledge for the Teaching for Business and Economics are still relatively under-researched and undefined. Almost 30 years since Shulman (1986) initiated research in this general area, Mathematics and Science remains by far the most researched subjects, while Business and Economics have been notably ignored. Of 1,196 relevant peer-reviewed articles that cite Pedagogical Content Knowledge plus a subject, only 8 and 3 refer to Business and Economics respectively compared to 360 and 278 to Science and Maths respectively.

Since Shulman’s seminal 1986 work, Pedagogical Content Knowledge (PCK) has become part of educational vocabulary. The subsequent literature – primarily US or UK based - reveals an ongoing struggle to define it, determine its precise components and to develop it during Initial Teacher Education programmes. In recent years, many theorists have used Ball et al.’s (2008) domain map for subject knowledge for teaching (and its two constituents, PCK and SMK (Subject Matter Knowledge)) as a suitable analytical framework. This paper takes Ball et al.’s domain map as a suitable analytical framework for the examination of how pre-service teachers learn to teach a particular subject and attempts to develop it to reflect teacher-knowledge that is unique to Business and Economics. This is being done by reference to the reasonably modest body of literature and policy initiatives in other countries as well as concurrent (and potentially collaborative) research in Mannheim, Germany.
Preliminary research shows that knowledge concerning 'Current Affairs/Business News' and 'Personal Experience of the Business world' are as significant to the effective Business teacher as many of the established knowledge-for-teacher areas identified by Shulman and subsequent research.

Of the Teaching Council’s 65 learning outcomes for Graduates of ITE Programmes, only one makes specific mention of PCK or SCK. This research asks whether the teaching of Business and Economics could be more effective with ITE methodologies and methodologists that reflect greater awareness of PCK and SMK, particularly assessing the importance of the aforementioned knowledge that are unique to Business subjects. Thus, the researcher looks at the type of people who deliver Business Methodologies/Pedagogy modules in Ireland and their backgrounds as well as the key stakeholders in this area, including Business Associations and Educational bodies.
A Study of ADHD in Adolescent Females:  
Adolescent Participant Recruitment Issues and Challenges

*PhD Researcher: Andrea Lynch*  
*Supervisor: Dr. Pat Eaton*

**Purpose of Study:**

The purpose of this study is to examine the experiences of adolescent women with ADHD and to understand the ways in which this condition impacts their social and educational experiences. Additionally this study will explore the attitudes and perceptions of second level teachers regarding the teaching and education of students with ADHD, while examining the current levels of educational provision and inclusion currently in place in Irish schools for students with ADHD.

**Methodology:**

This mixed methods project is utilizing the qualitative methodology of semi-structured personal interviews while obtaining descriptive statistical data via the use of online questionnaires. Data will be analyzed using the guidelines established in Grounded Theory.

**Abstract:**

After providing a brief overview of the focus of this study and its development, this presentation will focus on an in-depth discussion of the particular methods that have been employed to recruit adolescent participants, which include the use of social media outlets such as Facebook and Twitter, along with professionals in the medical and therapeutic communities. The unique challenges of adolescent participant recruitment will be discussed along with possible alternative methods for successful recruitment.
Meaningful Reading – Can a Relational Frame Training (RFT) Intervention Improve Reading Comprehension?

PhD Researcher: Gabriel Bourke
Supervisor: Dr. Tony Hall

Reading comprehension is defined as the ability to read, decode, process, analyse, evaluate, and construct new knowledge gleaned from a continuous or non-continuous text, or apply it to the real world i.e., problems to be solved. A reader should be able to "construct, extend and reflect on the meaning of what they have read across a wide range of continuous and non-continuous texts" (PISA 2003). Relational Frame Theory (RFT) is a functional contextual approach to language and cognition that states that the unique ability of humans to derive new relations from already existing relations underlies all forms of complex verbal behaviour (language and cognition, communication, development of the speaking apparatus etc.) According to RFT the foundational skill for most intellectual abilities, especially language, is Derived Relational Responding (DRR) or relational framing (Lipkens, Hayes & Hayes, 1993, Devany, Hayes, & Nelson, 1986, Barnes, McCullagh and Keenan, 1990).

DRR describes the ability to relate objects to each other in certain frames (e.g., equivalence, opposition, more than/less than, before/after, contains/is a part of, causes/is caused by, and many more). These relational skills are taught to children by caregivers (via multiple exemplars) in daily language interactions and communication and they continue to develop in adults. In this research, 2 groups of students (experimental and control) were tested in reading comprehension, verbal and cognitive abilities, and relational skills. The experimental group then underwent a 14 week RFT training intervention. This required maintaining a regular weekly training regime on a website. Both groups were then retested. Results show a 50%-70% higher increase in experimental students when compared to the controls. They also show a similar increase in within-subject scores i.e. between pre-assessment and post-assessment scores, in the experimental group and less so in the control group. Data gathering and analysis is still ongoing.