

## HIGHER EDUCATION IN TRANSFORMATION SYMPOSIUM

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### Proceedings: Book of Papers

Dublin 2015

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## Talk Schedule of Conference

Day 2		Conference		
Stream 1 - Enterprising University		Stream 2 - Curriculum	Stream 3 - Digital campus	
	Time	1	2	3
0	9.00	<b>Welcome and opening of talks</b>		
1	9.30	The Paris Collection: Reflections on an interdisciplinary performance project Jennifer Hamilton Barry Sheehan Kerry Meakin DIT	Re-imagining our Curriculum: Critiquing Meaningful Reflection and Threshold Concepts in Practice Education– “Knowing it all!” Aoife Prendergast ITB	A Study of Student and Instructor Perceptions of Tablet PCs in Higher Education contexts Jennifer Percival, Timothy Claydon UOIT
2	10.00	The Evolution of a New Technological University in Terms of Policy Definition and Control of Implementation Kevin Kelly, Deborah Brennan DIT	Reflection on Integrative Project-based learning in Business and Information Technology Programs Andrew Hogue, Jennifer Percival, Khalil El-Khatib, Garrett Hayes UOIT	Lessons Learned From Teaching Data Analytics in a Fully Online Mode at Postgraduate Level Daniel McSweeney, Markus Hofmann, Geraldine Gray, Laura Keyes ITB
3	10.30	Masters of Our Universe or Survival of the Fittest? Rethinking Strategy Development in a Technological University Deirdre Lillis, Marion Lynch DIT, IT Tralee	Creating an Experiential Learning Based Multi-disciplinary Program Jeff Moretz, Steve Marsh, Jennifer Percival UOIT	Making MOOC's sustainable through the reduction of production costs B. Mulligan, R. Day ITSligo
	11.00	<b>Coffee Break</b>		
4	11.30	The Role of Governance in the Cultivation of University as an Ethical Enterprise Thomas B. McMorow UOIT	An evaluation of the effectiveness of using a hybrid PBL approach in the teaching of the Java programming language to first year third James Doody ITTD	Problematizing Second Language (L2) Learning using Emerging VR Systems Linda Butler, Flaithri Neff Hibernia College
5	12.00	The Entrepreneurial University: A unifying theme for TU4Dublin John Jameson, Patrick O'Donnell DIT, ITTD	Curriculum, classroom, culture and connectedness Mary O'Rawe DIT	Evolving Strategies for Online Learning in Graduate Courses in Education Maurice DiGiuseppe, Roland vanOostveen, Diana M. Petrarca UOIT
6	12.30	We had the experience but missed the meaning Angela Feeney, David Irwin, Tara Mckiernan ITTD	Critical Race Theory: A Strategy for Framing Discussions around Social Justice and Democratic Education Wesley Crichlow UOIT	Factors that Influence College Faculty to Adopt Digital Technologies in their Practice Kevin Dougherty Durham College

	1.00	<b>Lunch</b>		
	1.30			
7	2.00	OCAD University's Imagination Catalyst: A Case Study Helmut Reichenbacher OCADU	The Tri- Party Partnership: An Investigation into the Existing Support Structures within a DIT Work Placement Kerry Meakin, Órla Keane DIT	Engagement with a custom-made online system designed to support undergraduate work placement Claire Mc Donnell, Fran Pedreschi DIT
8	2.30	The beast in the jungle: The humanities in the future HE landscape Richard Hayes WIT	Bridging the Gap between Engineering Workforce Needs and Student Engagement Eileen Goold ITTD	Capturing and sharing professional practice on mediating 'live' online tutorial sessions - A case-study from Hibernia College Michael Hallissy Hibernia College
9	3.00	Visual analytics-the role of design and art in the emerging field of big data Sara Diamond OCAD	Engaging with Industry in the Classroom through the use of Online Technology Geraldine Duignan, Ailish Breen, Mary Heneghan ITSligo	A Step Towards Global Education: Collaborative Learning Activities using Social Network Sites Motoko Iseki Christensen Gosei Australia
10	3.30	Opportunities and limitations of the 'EUNIV' concept Ray Dart Trent	An Insurmountable Gap: Can We Balance Incoming and Outgoing Erasmus Exchanges Among Engineering Students? Susan O'Shaughnessy DIT	
	4.00	<b>Coffee Break</b>		
11	4.30	<b>Keynote session</b>		
12	5.00			
13	5.30			

Day 3

Conference

Stream 4 - Enterprising  
University

Stream 5 - Curriculum

Stream 6 - Global University

	Time	1	2	3
0	9.00	An exploration of a higher education institution's response to the need for enhanced engagement with enterprise Irene Sheridan, Daithi Fallon CIT	Moving Towards an Outcomes-Based Curriculum Model in Design Education An Action Research Study at OCAD University Bahar Mousavi Hejazi OCADU	<b>129</b> The ICT Skills plan and the Higher Diploma in Science in Computing Graduate Conversion Programme Finbarr Feeney ITTD
1	9.30	Understanding change, leading innovation Lenore Richards OCADU	Does the shift to cloud delivery of courses compromise quality control Gordon O'Reilly, John Creagh CIT	Creating Space in the Curriculum for Workplace and Generic Skills Brian Campbell UOIT
2	10.00	Developing organisational design criteria in the redesign of an Irish higher education institution Sharon Feeney, Olivia Edge, Eileen Quinn DIT, ITB	Experiments on curricular flexibility performed in different higher educational institutions in the network of technological education in Brazil Aline Azevedo Larroyed, Átila Pires dos Santos, Laurisnor Rochester Barros dos Santos, Marcos Luis Grams, Sandra Isaelle Figueiredo UFSC, IFB, UNICEUB, IFB, UnB Brazil	The Pursuit of Civic Engagement: Youth Civic Engagement and the Role of Higher Education Aideen McCormack, Aiden Carthy and Cormac Doran ITB
3	10.30	<b>Keynote session</b>		
	11.00	<b>Coffee Break</b>		
4	11.30	Leveraging Institute of Technology Incubation Centres in the Teaching of Innovation Gabriel J. Costello GMIT	Re-imagining pre-service teacher education in Ontario, Canada – A journey in the making Janette Hughes, Diana Petrarca, Ami Mamolo, Laura Morrison UOIT	Academic Engagement using Social Media: Revisiting the Technological, Pedagogical and Content Knowledge Framework in Higher Education today Matt Glowatz, Orna O'Brien UCD
5	12.00	Work Readiness of the 21st Century Graduate John Keogh, Theresa Maguire, John O'Donoghue ITTD, UL	Lost in transition: An exploration of the transition of work-based, mature students into 3rd level education Louise McAnarney ITB	Community building in online PBL courses: instigating criticality Elizabeth Childs, Roland van Oostveen, Kathleen Flynn, Jessica Clarkson UOIT
6	12.30	Brokers of transformation: prioritizing community interests in community-university research Stephen Hill Trent		A New Model Within Canadian Colleges and Universities to Develop a Diverse Future Generation of Entrepreneurs: Inclusivity and Accessibility Jay Fisher Durham College



	1.00	<b>Lunch</b>
	1.30	
7	2.00	<b>Plenary session</b>
8	2.30	
9	3.00	<b>Session</b>
10	3.30	
	4.00	<b>Coffee Break</b>
11	4.30	<b>Session</b>
12	5.00	
13	5.30	

## Preface

The Technological University for Dublin project is one of the most exciting opportunities to emerge from the ongoing debate and discussions regarding the future landscape of Irish Higher education. Exciting opportunities needless to say also come laden with challenges – and the recent International panel report assessing our TU4Dublin project plan has clearly identified these for us including the following in relation to our curriculum - responsive and flexible delivery; work based learning; multi-disciplinary; the use of digital technologies. To seek answers on how we could address and respond to these we need look no further than the contributions to the Inaugural Ireland-Canada Symposium - we are indeed excited and humbled by the response to our call for papers and workshops (over 45 papers accepted and 8 workshops from Ireland, Australia, Brazil and Canada) all reflecting and presenting on the key foundation themes that will shape our work in crafting the future Higher education landscape for Dublin and its regions with a sense of confidence and renewal. An added dimension to this event is the unique opportunity to share and celebrate our endeavours and deliberations with our Canadian partners – UOIT, Trent, OCADU and Durham College - who have enthusiastically embraced the idea and contributed at all stages in the planning, dissemination and support for this event, and most importantly are here to contribute to these ongoing conversations in person!

Higher Education in Transformation – one conversation at a time.

On behalf of the conference Steering Committee, Programme Committee and the local Organising Committee we would like to extend a warm welcome to you all – and thank you for your support and participation in HEIT 2015.

Beir bua agus beannacht

**Dr. Mary Meaney (President, ITB)**

*Higher Education in Transition* has its roots in a conversation focused on a much narrower topic: how to bring life to one of those classic international collaboration agreements founded on the best of principles but with no clearly set out implementation plan. Dr. Mary Meaney started the conversation by asking the focused question at a breakfast meeting in a downtown Toronto hotel. I was at the table with Mairead Murphy and Michael Owen. That was a year and a half ago, it was a cold morning in that part of early winter before the snow flies and memory is fickle, but my memory holds these details. We discussed creating a forum where faculty members from ITB and UOIT could explore common research and curriculum interests. We discussed thematic frameworks for the forum. We raised the possibility that, if successful, we could rotate the venue annually between Ireland and Canada. We spent some time talking about the common opportunities and challenges we face as institutions at the heart of intense and sometimes bumpy transitions in

pedagogy, education and innovation roles, student expectations and relationships with our respective governments and governing bodies. We spoke about how this might help us lay a strong foundation for our students to spend time at each other's institutions. And then, as good presidents do, Mary and I made the bold executive decision to hand matters over to Michael Owen and Larry McNutt.

Out of that exploratory conversation has grown this wonderfully rich multi-day conference that challenges researchers, teachers, administrators and policy-makers to re-consider and re-conceptualize what it means to be an institution of higher education in the 21<sup>st</sup> century. The topics cover much pedagogical ground: MOOCs, how the digital campus engages learners and teachers in a more effective learning environment, flipped classrooms, distance and asynchronous learning. Access and accountability and effective ways to serve non-traditional students and those with different abilities are student-focused subjects that stand beside an exploration of the role of post secondary institutions in local and regional economies and community development. This is an international conference that underscores the global context in which our institutions collaborate and build research and academic networks that support local engagement.

Before the opening comments and before the first session starts this forum has been a success. It has galvanized programme committee members on both sides of the Atlantic. It has involved academic colleagues across multiple institutions that have taken the time to submit papers. It has engaged senior administrators from four Canadian and three Irish institutions at a time of year when schedules are crammed. Thank you to all that contributed in any and many ways to the programme. Thank you hugely to our gracious colleagues and hosts – the Institute of Technology Blanchardstown, the Dublin Institute of Technology and the Institute of Technology Tallaght for their enormous effort to make this inaugural conference such a success. We look forward to our turn next year to welcome you all to Ontario.

**Tim McTiernan**

President and Vice-Chancellor

University of Ontario Institute of Technology

## **Stream 1 – Enterprise and Engagement**

## **The Paris Collection: Reflections on an interdisciplinary performance project**

**Jennifer Hamilton, Barry Sheehan**

Dublin Institute of Technology  
Conservatory of Music and Drama  
Dublin School of Creative Arts

### **Abstract**

*Between September 2013 and January 2014, students and staff of the Dublin Institute of Technology Conservatory of Music and Drama and DIT Dublin School of Creative Arts collaborated on the creation of an opera production which was presented at the National Concert Hall on Jan 23rd. The project was implemented within the modular framework from both colleges. The collaboration was both multi and inter-disciplinary and the students engaged at a professional level, working under staff supervision and in tandem with personnel and resources outside the college environment. The performers were required to audition for their roles and the teams of design students had to prepare and present a 'pitch' for their concept to be selected. These same design students also took responsibility for the set construction, while the entire cohort had to respond to the logistical and artistic challenges of taking the production into a major venue on the day of performance and being ready to begin in a significantly limited period of time. The delivery of a public performance in a high profile venue meant that the project culminated in full exposure of public scrutiny, and consequently demanded the skills, intelligence, energy and commitment of all involved.*

*This presentation will focus on the collaboration as a relevant case-study, exemplifying a modular-based inter-disciplinary project within the College of Arts and Tourism. It will provide an evaluation of the insights, strengths and benefits gained by all who participated. It will also provide an honest discourse on the requirements, resources and challenges such an undertaking demands, particularly with reference to establishing professional demands within an educational context. With reference to future implementation of other synergies, the presentation will provide recommendations as to how these can be realistically and sufficiently facilitated through creative and flexible programme development.*

## **The Evolution of a New Technological University in Terms of Policy Definition and Control of Implementation**

**Kevin Kelly, Deborah Brennan**

School of Multidisciplinary Technologies, Dublin Institute of Technology

### **Abstract**

*This paper derives from a Doctoral case study completed in the Dublin Institute of Technology (DIT) in 2008. The main issues of the case study are still being addressed today as DIT prepares to amalgamate with the Institute of Technology Blanchardstown (ITB) and Institute of Technology Tallaght (ITT) in 2015. The combined new institute will become a university in 2016 and is in the process of a move to a green field site. The rate and scope of these changes are challenging for all concerned. Through a series of interviews and focus groups in 2008, a story of DIT emerged. The McNay model was used as a Conceptual Framework and Analytical Tool to examine various types of university model and compare them with the cultures, practices and understandings of stakeholders in DIT. The classic entrepreneurial model from the USA was shown to be unlikely to be successful, largely because of the Institute's inability to raise money on the scale of the US model. The corporate model using managerialist practice was also rejected by stakeholders. It was concluded that a European style of University with Collegial Innovation was appropriate, that bureaucracy needed be greatly reduced and that the culture and power residing within the organisation must be acknowledged in the process of change.*

## **Masters of Our Universe or Survival of the Fittest? Rethinking Strategy Development in a Technological University**

**Deirdre Lillis**

Dublin Institute of Technology, [Deirdre.lillis@dit.ie](mailto:Deirdre.lillis@dit.ie)

### **Abstract**

*Strategic planning has become an integral part of the management of higher education institutions (HEIs) worldwide, largely in response to an external environment that is exerting increased pressure. The experiences of all but one of Ireland's 21 Universities and Institutes of Technology with strategic planning over a ten-year period are considered in this paper. Despite evidence of growing experience with strategic planning, some significant deficits are identified. With the development of Technological Universities in mind, recommendations are made with respect to strategic planning for institutional diversity, consolidation of merged institutions, performance-related funding, integration with quality assurance frameworks and external stakeholder engagement were identified. Like all aspects of their institutions, internal strategy development processes need to adapt in the new landscape for higher education in Ireland and the development of Technological Universities.*

## **The Role of Governance in the Cultivation of University as an Ethical Enterprise**

**Dr. Thomas B. McMorrow,**

University of Ontario Institute of Technology

### **Abstract**

*Universities have always relied on financial and other resources to pursue their goals. Over the last two decades, the percentage of financial support they receive from government has dwindled (Metcalfe, 2010). The expression, "enterprising university", is generally used to refer to post-secondary educational institutions adopting entrepreneurial approaches to locate new sources and forms of revenue. Invoking the term in a normative register, some adopt a cheerful, triumphant tone (Meyer, 2002), others a gloomy, foreboding one (Lynch, 2006). Certain opponents condemn the "enterprising university" for spelling the end of university as we know it, whereas certain proponents claim being "enterprising" offers universities their last, best chance of survival. I support the characterization of university as an enterprise, but I do not think it should be framed exclusively (or even primarily) as an economic one. Etymologically, the word 'enterprise' means 'undertaking'—that is, an endeavour, an activity, a project through time. This is an apt description of university whose survival and flourishing ultimately rely on the commitment of its members. I argue that framing university as an ethical undertaking informs while being informed by the following considerations: first, the integrity of university as an enterprise; second, the most suitable basis for evaluating the endeavour; third, the purposes of the enterprise; fourth, how the undertaking is governed, and lastly, who we imagine its undertakers to be. In this paper, I examine each subject in turn. My goal is to demonstrate why the university ought to be imagined foremost as an ethical enterprise—a shared project of teaching, learning and discovery, fostering each individual's pursuit of virtue.*

## **The Entrepreneurial University: A unifying theme for TU4Dublin?**

**John Jameson**

Dublin Institute of Technology

**Patrick O'Donnell**

Institute of Technology, Tallaght

### **Abstract<sup>1</sup>**

*The paper is presented as a rationale for the adoption of an entrepreneurial university model as the guiding principle for the organisation of the Technological University for Dublin (TU4D)<sup>2</sup>. It is argued that the entrepreneurial university provides a coherent context in which the internal resources and capacities of the three organisations, within the alliance, can be aligned to the external environment and the needs of their stakeholders through agility, flexibility and responsiveness. The paper first considers a broad definition of what is understood as an entrepreneurial Higher Educational Institution (HEI). It then considers the entrepreneurial mind-set as a precursor to the development of an appropriate organisational culture and appropriate individual practice. The paper identifies the OECD-European Commission Guiding Framework for Entrepreneurial Universities as providing key pillars and component measures which have been incorporated into the entrepreneurial university evaluation tool HEInnovate, which may provide direction for the TU4D project. The paper concludes with two sections which draw together the work of the Industry, Business and Employer Engagement (IBEE) Workgroup in developing a number of Organisation Principles together with their implications for organisational design within the specific context of the TU4D. The final section proposes a development process to transform TU4D into an entrepreneurial university.*

## **“We had the experience but missed the meaning”: capacity building using Student Diary Pro to enhance the mobility experience**

**Angela Feeney, David Irwin, Tara McKiernan**

Institute of Technology Tallaght

### **Abstract<sup>3</sup>**

*The mobility experience is not confined to the sphere of upward social and economic mobility but, in equal measure, to geographical, linguistic and cultural mobility as a function of the public role of the university. Effects of mobility can be registered in terms of their impact on the university directly, the impact of such mobility on society generally, and its impact on those who participate in mobility opportunities in particular. The paper begins with a general overview of ideas and intentions underpinning mobility which in turn inform and are informed by policy considerations in a European Union context. Since mobility is essentially a developmental experience for students the paper discusses ideas which underpin their use of Student Diary Pro to track their learning development by measuring their learning against agreed competencies. In the third section of this paper, the authors make observations based on samples drawn from student entries in Student Diary Pro while abroad.*

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### **<sup>1</sup> Acknowledgement**

The authors wish to acknowledge the major contribution made by the members of the TU4Dublin Industry, Business and Employer Engagement (IBEE) Workgroup, drawn from the three TU4Dublin partner institutions, to the ideas expressed in this paper. In particular, the Organisational Principles on Page 9 are an output of the IBEE Workgroup. The members of the IBEE Workgroup are: John Behan, James Bridgeman, Dr. Anthony Buckley, Jean Cahill, Pat Coman, Fiona Cranley, Dr. Frank Cullen, Dr. John Donovan, Margaret Fitzsimons, Rachel Freeman, Dr. Catherine Gorman, Assumpta Harvey, Dr. John Keogh, David Kirk, Jack McDonnell, Claire MacNamee, Tom Nolan, Mike O'Connor, Eoin O'Kennedy, Dr. John O'Neill, Adrian Payne, Margaret Whelan, Pat O'Donnell, John Jameson.

<sup>2</sup>Technological University for Dublin (TU4Dublin/TU4D)\* is a working title for a project involving Dublin Institute of Technology, Institute of Technology Tallaght and Institute of Technology Blanchardstown seeking designation as a Technological University

<sup>3</sup> T. S. Eliot, T.S. (1943), *The Four Quartets*

## OCAD University's Imagination Catalyst: A Case Study

Helmut Reichenbacher

OCADU

### Abstract

*In order to provide the context for an incubator case study, this paper provides a brief overview of the support mechanisms for Canadian university-based innovation and commercialization, especially regarding government (federal, provincial, municipal), describing OCAD University's specialized commercialization and incubator unit, the Imagination Catalyst, that supports talent and innovation within the cultural industries and creative entrepreneurship systems.*

## The beast in the jungle: the humanities in the future higher education landscape

Dr Richard Hayes

Waterford Institute of Technology

### Abstract

*That universities—existing and to-be-invented—will by necessity be more entrepreneurial in the future is enshrined in higher education policy in Ireland and, indeed, has been seemingly uncritically accepted by higher education institutions, old and new. Commercializing research output, nurturing spin-out commercial activity, embracing on-campus private, commercial companies, forming entrepreneurial graduates with entrepreneurial training embedded in the curriculum—all these strategies are encouraged, if not required, of a new higher education culture that promises, in adopting these strategies, a pathway towards "economic renewal". An industry- and business-led vision of the future of higher education sits uneasily with faculty in Humanities, however, where a linear correlation between the curriculum, research activity and commercial, economic benefit is not always easy to see, if it exists at all. Moreover, the principles on which the entrepreneurial university is built sit uneasily with the conception of the university favoured by Humanities: clearly a utilitarian conception of education finds little space for art, poetry, history, metaphysics and other disciplines that perhaps until recently have not needed to justify their existence within the academy nor the expenditure of resources in their support. This paper will seek to critique current higher education policy from the Humanities perspective (thus resisting, to a degree, the notion of the entrepreneurial university), and will offer some ways of thinking about transformed universities that are informed by principles other than those promoted by policy. The paper will examine some of the consequences for the configuration of higher education in Ireland into the future if these alternative principles are embraced. These reflections emerge from Waterford Institute of Technology's efforts to create a Technological University in the South-east of Ireland and some consideration will be made of the experience to date of seeking to invent a new kind of higher education body in the light of higher education policy.*



## Visual Analytics – the Role of Design and Art in the Emerging Field of Big Data

Dr. Sara Diamond  
OCAD University

### Abstract

*Driven by the increasing complexity of data sets the need for sophisticated analytics algorithms coupled with visualization of both data and information is growing exponentially in every discipline and industry. Artists, designers and visual thinkers have an important role to play in the presentation and interpretation of data. The Visual Analytics Lab (VAL) at OCAD University is a preeminent research lab for innovation and training in information and scientific visualization and visual analytics. As well as its perspective on the field, two brief case studies are provided, one for health care and the second for media navigation and analysis.*

## Opportunities and limitations of the 'Euniv' concept

Ray Dart  
Trent

### Abstract

*There is a relatively significant recent growth of discourses regarding the practice of 'enterprising' and 'entrepreneurial' universities (eg. Gibb and Haskins, 2013, Vostal and Robertson, 2012, Gibb, 2012, Philpott et al, 2011, Kasim, 2011, Weingart and Maasen, 2007, Kirby, 2007). Universities are exhorted to become entrepreneurial and enterprising, both in terms of business-like processes (creating adaptable, flexible and market-responsive structures) and in terms of business-like goals (diversifying revenue streams beyond traditional reliance of government and classical-student tuition revenue streams) (Dart, 2004). Despite widespread discussion, nearly ubiquitous rhetoric and fairly widespread experimentation-at-the-margins, there is as yet very little of empirical or analytical substance to ground serious discussions of significant institutional change in the post-secondary education sector. Perhaps because of their important role in many nations as fundamental social institutions, the pressures to marketize and/or commercialize universities - the pressures to become dramatically enterprising - have only occurred more recently in the university sector than in the broader civil society, nonprofit and charitable sectors. Here, the movement for 'enterprising nonprofits' and 'social entrepreneurs' (Hansmann, 1980, Young, 1980) began much earlier and became mainstream discourse almost twenty years ago (Emerson and Twersky, 1996, Leadbeater, 1997, Dees, Emerson and Economy, 2002). Here the experience with the evolution of both the idea and the practice of an 'enterprising' field has been much more widespread and much more developed. This paper proposes to examine both the hopes and rhetorics of the 'enterprising nonprofit' field, as well as the ensuing empirical experience of nonprofits as they reposition themselves along various locations of the 'social enterprise continuum' in order to develop some postulates for those planning and/or implementing 'enterprising university' reform to consider. Based on the experience of the social enterprise and 'enterprising nonprofits' fields, this paper will discuss several fundamental themes from which may be germinal to discussions of a similar kind of discursive and practice field in the postsecondary education sector. Themes developed in the paper will include ... 1. the oft-documented role of 'enterprising' discourse in the creation and maintenance of organizational legitimacy and organizational identity (Grant and Dart, 2014, Dart, 2004b), 2. the frequently overestimated capacity for commercial or 'alternative' revenue generation that is found in 'enterprising' organizations which attempt to redeploy into new markets (eg Dart et al, 2010), 3. the underappreciated role of unlabeled 'enterprising' activities which have long taken place in the sector, prior to any policy directives to be more entrepreneurial (Dees, Emerson and Economy, 2002), 4. the manners in which 'enterprising' can overshadow opportunities for both innovation and revenue generation more central to and accessible to the more 'traditional' elements of the operation (Oster, 2004, Bryson, 2008).*

## **Stream 2 – Curriculum**

## **Re-imagining our Curriculum: Critiquing Meaningful Reflection and Threshold Concepts in Practice Education– “Knowing it all!”**

**Aoife B. Prendergast**

Institute of Technology Blanchardstown, Dublin, Ireland.

### **Abstract**

*Humanities education, particularly in the areas of early childhood education and applied social studies must engage with professional practice education. There is urgency for the need for practitioners and educationalists to communicate, and for practitioners to be aware of developments in educational theory. The idea of ‘threshold concepts’ is currently widely discussed by educationalists. Threshold concepts are described as areas of knowledge without which the learner cannot progress, and which, when grasped, lead to a transformation in the learner’s perspective and understanding. Much is known about the purpose of placement educators, but how their role is implemented is subject to conflicting expectations, partly created by the structure in which they work. Collaboration between practice education settings between universities, institutes of technology and practice provide an opportunity for academia and practice settings to collaborate in a partnership to enhance practice learning and fulfil one of the main aims of the practice educator role in any contemporary setting : to narrow the theory-practice gap. However tensions and conflict will exist. How the role of a practice educator in relation to those they work with is defined have implications for the purpose and process of supervision of students undertaking professional education for that role. This paper aims to clarify the role of appropriate models of supervision in practice education and address elements of threshold concepts in the practice setting.*

## **Reflection on Integrative Project-based learning in Business and Information Technology Programs**

**Andrew Hogue, Jennifer Percival<sup>4</sup>**

**Khalil El-Khatib, Garrett Hayes**

Faculty of Business and Information Technology  
University of Ontario Institute of Technology

### **Abstract**

*Recently there has been an increase in demand for interdisciplinary programs that enable graduates to demonstrate a blend of technical and ‘soft skills’. As a result, many higher education organizations are developing programs that integrate areas such as management and information technology or entrepreneurship and engineering. The wide range of topics covered in these programs and the need for graduate to be able to integrate and apply of core concepts. Since 2010 we have used integrative project-based learning as a core element of our game development and entrepreneurship program. In this model, students work in project teams to create a “complete” video game following a set of specific feature requirements drawn from the students’ courses. This project requires students to integrate concepts across all courses taken (including those from business, game design, programming, and game art) and develop a commercially viable game. More recently, we have developed project-based learning elements for our networking and information technology security program. In this paper, we reflect on the success and challenges of implementing integrative project-based learning throughout a university program. Elements*

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*considered include scalability, management of student groups, faculty engagement, program scheduling, and effectiveness of content integration. Results have demonstrated that students are better able to understand how fundamental concepts from the various curriculum areas interact while gaining additional opportunities to practice 'soft skills' such as project management, communications, problem solving, and leadership. The paper will provide recommendations on the necessary learning environment and supports for successful implementation of integrative project-based learning.*

**Keywords:** project-based learning, curriculum

## **Creating an Experiential Learning Based Multi-disciplinary Program**

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University of Ontario Institute of Technology

### **Abstract<sup>5</sup>**

*For many years, curriculum development has considered learning outcomes at the program level largely via learning outcomes at the course level. Some programs have modified their designs to use different structures such as condensed courses or project based learning. Recently, there has been an increased interest in experiential learning as a way to facilitate student acquisition of real-world applicable capabilities while enhancing student learning of 'soft skills' such as professionalism, communication, and team management. Historically, such engagement including complexities of real-world problems has been accomplished through internships, co-op, capstone courses, or project based learning. In this paper we present an innovative model for experiential curriculum design based on skill requirements and learning outcomes derived from industry needs combined with technology enabled learning. The curriculum has been designed in a highly modular approach to ensure flexibility in student learning pathways to meet the requirements of the work related learning projects that are integrated as part of the program design. The conceptual model of this approach to curriculum design will be presented through a case study of the development of the informatics program at UOIT. Areas of caution are explored to identify recommendations for risk mitigation when developing a program utilizing this type of learning environment. In particular, student selection, technical infrastructure requirements, learning outcome measurement, faculty scheduling, and program management are considered.*

**Keywords:** experiential learning; curriculum design; modular; inter-disciplinary

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## **An evaluation of the effectiveness of using a hybrid PBL approach in the teaching of the Java programming language to first year third level students**

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### **Abstract**

*First year students on third level Computing courses find Software Development difficult: learner outcomes are poor, with high failure rates and low learner retention. A number of research studies have shown that novice programmers have low intrinsic motivation and low programming self-efficacy. One of the other possible explanations for the difficulties many learners have with Software Development is that it may be a Threshold Concept in Computing. The literature suggests that Problem-Based Learning (PBL) can improve the teaching of difficult concepts, and it has been promoted by professional and funding bodies as a teaching strategy that can improve learner outcomes and bring about positive changes in learner behaviour. The main aim of this research study was to establish the impact on learner behaviour of a Hybrid PBL approach used in the teaching of an introductory Software Development module at an Irish third level institution. Learners on the Software Development module are characterised by low prior attainment in State college entry examinations, and the majority are from low income socio-economic backgrounds. Learner behaviours were investigated over four cohorts of learners using a large range of data sources. A randomised controlled experimental design was used to measure changes in attainment, programming self-efficacy, motivation, approaches to study and preferences for types of teaching. Questionnaires, data mining of learner activity and attendance logs were used to provide additional information about learner behaviour, and further analysis was undertaken using qualitative techniques such as classroom observations and interviews. Both qualitative and quantitative measures were used to confirm, cross-validate and corroborate findings. The study made significant discoveries about the strengths and limitations of the Problem-Based Learning approach in the teaching of Software Development to low attainment learners. The implications for instructional practice and for educational theory and research are discussed and a number of recommendations are made.*

Keywords: Problem-Based Learning, Software Development, Computer Programming, Curriculum, Programming Self-Efficacy, Motivation, Approaches to Studying, Teaching, Learning.

## **Curriculum, classroom, culture and connectedness**

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### **Abstract**

*Curriculum and pedagogy are central to many contemporary debates on fostering a successful student experience, particularly in a massified higher education sector. These themes are evident in discussions from policy level to the staffroom in many countries. Attention has been specifically directed at the transition point from ‘second level’ to ‘higher/third level’ education, resulting in the development of many initiatives and materials around the ‘first year experience’ (‘FYE’). Central principles have been identified as curricula that engage students in their programme, modules and learning. Indeed the term ‘student engagement’ has evolved as a focal point of these debates as the search continues for a magic wand to tackle what are perceived to be problems of student disengagement and preparedness. Although a newer phrase in the Irish lexicon, first year experience programmes have quickly emerged which typically attempt to develop varying blends of*

*academic and generic skills such as information literacy, student engagement, resilience and confidence, and preparedness for the workplace among others. Such widening of the curriculum has many potential benefits, but in reality, institutional and individual barriers, resistance and a lack of measurability can often result in frustrations and disappointments. Building connections, in terms of curriculum, people and structures is at the heart of a successful FYE programme. This paper will draw on the example of the “Get Smart!” initiative, which is a bottom-up approach to integrative curriculum developed in the School of Hospitality Management and Tourism, Dublin Institute of Technology. The initiative sits laterally across modules and attempts to form an integrating mechanism. It also looks to extend the Orientation beyond the initial few days of a student’s commencement on their programme, using academic and quasi-academic elements. Over the six years of the initiative many challenges have emerged, including connecting the curriculum to the workplace, career preparation, securing staff and student buy-in, and the development of student resilience. Tellingly, the over-arching challenge of how the curriculum can be more than the ‘classroom’ remains largely unsolved. The paper further highlights the notion of “roles” adopted in the implementation of Get Smart! and whether these are typical of curriculum redevelopments. How can one person’s passion be institutionalised into a school or faculty-wide programme? How can ‘doubters’ become ‘do-ers’ and how can momentum be maintained as resources dwindle? Finally, the paper presents experiences of communicating the curriculum in the context of new learners. There is considerable awareness of the abilities and expectations of the tech-savvy ‘Gen. Yers’ and now ‘millennials’. The need to communicate differently should be driven more from the perspective that, if the curriculum is changing, shouldn’t the communication and conversation vehicles similarly be re-imagined? Get Smart! has used Facebook, Twitter, ezines and a bespoke app to communicate with students in language they understand. Difficulties and opportunities will be assessed, drawn from ongoing research carried out with students as part of the management of Get Smart!*

Keywords: Curriculum; connections; roles, communication, Get Smart!

## **Critical Race Theory: A Strategy for framing Discussions around Social Justice and Democratic Education**

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### **Abstract**

*The increasing diversity of our classrooms means we must learn to work with, and across, cultural, racial and gendered differences, without falling into diversity management. This paper employs Critical Race Theory (CRT) and paradigmatic frameworks to address social crises in our classrooms—thus demonstrating how we can value (i.e., not erase) our differences and equitably share power in the classroom. Employing an CRT intersectional analysis, I will explore the social, economic, and cultural dimensions of racial (in) justice in diverse contexts (within frameworks that recognize the salience of social identities including, but not limited to, class, and race, ethnicity, gender, sexuality, religion, immigration status and ability). Examples will be provided from my own teachings of how CRT has been employed in the university classroom setting and how student’s powerful testimonies and voices connect storytelling to validate their lived experiences. The aim of this presentation is to facilitate an ongoing dialogue about the meaning of contemporary racism and how CRT storytelling education can be used as strategy for framing discussions around social justice and democracy.*

Keywords: critical race theory; intersectionality; oppression; power; privilege; anti-racism; social justice; transformation, pedagogy



## **The Tri-Party Partnership: An Investigation into the Existing Support Structures Within a DIT Work Placement**

**Kerry Meakin, Órla Keane**

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DIT Grangegorman, Dublin Ireland

### **Abstract**

*The readiness of students entering the workforce upon graduating has been widely researched in Ireland, and a student work placement that is embedded in the curriculum is commonly recognised as a crucial mechanism that is key to preparing graduates for the 'real world'. In this particular study, the voice of many key parties are captured, including the students themselves, members of the academic department who coordinate the programme, and the industry partners. Recommendations are made based on the findings that highlighted gaps or weaknesses in the existing student support structures, along with the addition of an updated academic institution-industry partnership structure that will facilitate the requirements of all three parties involved – student, institution and employer. The new structure will be piloted in early 2015.*

**Keywords:** work-based learning, work-integrated learning, work placement, higher education, academic industry partnerships.

## **Bridging the Gap between Engineering Workforce Needs and Student Engagement**

**Eileen Goold**

Institute of Technology Tallaght Dublin

### **Abstract<sup>6</sup>**

*This paper is inspired by the development of the proposed new technological university in Dublin; TU4Dublin is to become "Dublin's Globally Engaged University" and is to be located at the nexus between learning and engagement (TU4Dublin, 2015). This study investigates engineering education in the context of career focused education. The main objective of this study is to investigate whether engineering students' cognitive engagement benefits from bridging the gap between technical issues and the practical realities of modern engineering practice. A portfolio of engineering practice illustrating the practical realities of modern engineering practice in the context of Engineers Ireland's competencies is developed and presented to first year electronic engineering students at the Institute of Technology Tallaght Dublin (ITTD). A mixed methods approach is used to evaluate the impact of the portfolio usage on first year electronic engineering students' learning engagement. The results show that heightened interest in professional practice increases students' value of engineering education and consequently students demonstrate greater cognitive engagement. It is concluded that incorporating real life engineering experiences into the first year engineering education experience greatly enhances it.*

**Keywords:** students' cognitive engagement, engineering practice, social cognitive expectancy-value theory

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<sup>6</sup> Eileen Goold is a lecturer in the Department of Electronic Engineering at the Institute of Technology Tallaght Dublin. This study was supported in part by a Teaching Fellowship from the Institute of Technology Tallaght. The author wishes to acknowledge the contribution of Eirgrid plc and Engineers Ireland to this study and thank the students who participated in the study. The author can be contacted at [eileengoold@eircom.net](mailto:eileengoold@eircom.net)

## Engaging with Industry in the Classroom through the use of Online Technology

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### Abstract<sup>7</sup>

*A long established method of learning in Irish third level education has been the collaboration of colleges with Industry in the form of work placement. Workplaces provide a diversity of learning that is contextualised, socialised and not readily available in traditional learning contexts (Sheridan & Linehan, 2013). Because the workplace is the context of practice, learning in the workplace is considered a form of authentic learning informed by real contexts, activities, and best practice (Franz, 2008). The placement of students is often a difficult process and not always practical with large class sizes. Therefore, it is necessary to reimagine how we engage with industry and foster relationships within the context of an online environment. We describe (1) a workshop designed to provide an authentic learning experience for large undergraduate classes, and (2) evaluation of students learning in relation to Level 8 standards (QQI, 2014): Knowledge, Know How and Competence. The workshop is delivered using a blend of online and traditional classroom environments. The appeal of the workshop is in fostering relationships with industrial partners. Students are, randomly assigned to groups and tasked with addressing a complex workplace case scenario. Scenarios are provided by the Health Products Regulatory Authority (HPRA) and represent real situations encountered in the regulation of medicines. In a limited timeframe, students must research the problem, identify a course of action and present findings to the HPRA via online technology. HPRA representatives give immediate feedback on each case. Learning is assessed in relation to Level 8 standards using a survey tool. Data indicates that participants develop insight into their own professional competencies in relation to teamwork & communication, specialised knowledge of the industry and problem solving skills. Key to the success of the workshop is framing the student presentations in a professional context.*

Keywords: work placement, blended learning, case based studies, online technology, industrial engagement

## An Insurmountable Gap: Can We Balance Incoming and Outgoing Erasmus Exchanges Among Engineering Students?

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### Abstract

*Because of the global power of English and being situated in an English-speaking country, Irish higher education institutions do not have to try very hard to attract Erasmus students from across Europe. However, persuading Irish students, particularly students of engineering, to undertake an Erasmus exchange in another European country is a much more difficult process. This paper outlines the recent history of Erasmus exchanges of engineering students to and from the Dublin Institute of Technology and examines the push and pull factors that affect these exchanges. It presents the results of a small-scale research project into the factors that encourage or discourage engineering students and the benefits that students perceive they derive from undertaking Erasmus exchanges and the limitations they face.*

Keywords: Erasmus exchanges, engineering students, push and pull factors

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## **Stream 3 – Digital campus and Universal Design**

## **A Study of Student and Instructor Perceptions of Tablet PCs in Higher Education contexts**

**Jennifer Percival<sup>8</sup>, Timothy Claydon**

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University of Ontario Institute of Technology

### **Abstract**

*The advent of the tablet device has fundamentally changed the instructor's ability to mobilize the student's learning environment, freeing them from the limitations of laptop based features, to expanding interactions and collaboration with other students. While other smart devices have enhanced mobility, the tablet computer with its true portability, long-battery life and haptic capabilities has made the mobile classroom practical in functionality and versatility. Despite their popularity with students and faculty, usability studies concerning mobile tablet devices in post-secondary environments are lacking. This study is aimed at determining user perceptions and usability of Microsoft Surface Pro tablets in the classrooms of a Canadian university by both students and faculty. The use of the tablet was examined as a tool to move students from the typical technology infused classroom using laptops into a mobile, engaging, learning environment. Overall, participants found the general computing capabilities and portability of tablets impressive, particularly for note taking and classroom engagement. This paper will discuss the benefits, problems, and possible solutions to teaching and learning utilizing tablets in the classroom. This study represents an initial starting point to understand the impact of tablet devices in higher education learning environments.*

**Keywords:** tablet-based learning, post-secondary education, digital classroom

## **Lessons Learned From Teaching Data Analytics in a Fully Online Mode at Postgraduate Level**

**Daniel McSweeney, Markus Hofmann, Geraldine Gray, Laura Keyes**

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Institute of Technology Blanchardstown, Ireland

### **Abstract**

*This paper reports on the experiences of developing and delivering the online MSc. in Business Intelligence and Data Mining between 2010 and 2013. We outline our rationale for the selection of Adobe Connect as a synchronous classroom tool and discuss our use of the moodle virtual learning environment to support asynchronous learning and communication. We also discuss some of the key changes in approaches to teaching and assessment and the challenges that were faced by academics in adapting classroom based courses to an online distance education environment. We conclude by examining student interactions with the synchronous and asynchronous delivery technologies and reflect on feedback provided by staff and students throughout the delivery of the course.*

**Keywords:** online distance learning, online assessment, masters in data analytics.

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## Making free online learning sustainable through reduction of production costs

Rita Day and Brian Mulligan

IOT Sligo

### Abstract

*A major reservation about Massive Open Online Courses (MOOCs) is that they are extremely expensive to develop and deliver and for most institutions this cannot be justified on a sustainable financial basis. As part of the MOOC technological revolution, costs and funding opportunities have been cited as reasons not to proceed (Gaebel, Kupriyanova, Morais, and Colucci, 2014). Whereas, the findings to date show that this may not be the case for all, educational institutions are often eager to engage technology and embed it into programmes (Hollands, and Devayani, 2014). There are many examples of excellent learning materials being created and distributed on the web using low cost techniques. The Khan Academy has offered free world class education for anyone, anywhere in the world since 2006. Not only are these materials freely available for reuse, but the technologies and techniques used to create them can be easily used to cheaply create new materials. The authors, in a project funded by Intel Ireland, are currently developing and testing workflows and techniques that will facilitate the rapid development of MOOCs at relatively low cost. This project, which will include the delivery of four MOOCs in coding, aimed at young people, endeavouring to measure both the costs involved and the educational impact on the participants through qualitative and quantitative research metrics. The design, methodology and approach to innovative pedagogic practices will be tested, as will the opportunities for peer to peer learning among the students, the use of asynchronous forums, auto/peer grading and collaborative activities among the developers. A prerequisite of the project is the voluntary effort of the developers. However, as production costs are often regarded as the most expensive element of the MOOC, this project will demonstrate that by completing it “in-house” the costs will be negligible. In a recent study 38% of institutions believed that cost is a key concern (Hollands, and Devayani, 2014). The video submissions will be uploaded onto the MOOC platform as both an online repository for the learning material and as a quality checking mechanism and rolled out in a pilot programme from January 2015. The research describes some of the proposed methods that can be used to develop MOOCs at very low cost, but also how, with a competency based approach to accreditation, they may be the catalyst of significant change in higher education. (Lederman, 2013, Mulligan, 2013). In this project open badges will be used as recognition of participation and achievement, with the end goal of international accreditation, as global currency. This is despite the fact that 72% of educators believing that formal accreditation should not be allowed (Petkovska, Delipetrev, and Zdravev, 2014). One of the partners has agreed to trial the MOOC’s with a Zambian student cohort, which will help achieve the globalisation of MOOC’s. The pilot will be available to students within the developers sector and through wider participation with open availability to all by a registration process. As part of the research data on MOOC’s the studies look to determine if the realisation of a digital campus in terms of student satisfaction by completing a MOOC are different from the results for traditional students (Walker, and Brooks, 2013). The final success of the project will be determined by the merit of scalability and by the cost analysis.*

## Problematizing Second Language (L2) Learning using Emerging VR Systems

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Flaithri Neff

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### Abstract

*There is little doubt that there is nothing like being immersed in the country of the language you are trying to learn. Not only do students who wish to learn English as a Second Language (ESL) enjoy the experience of inter-cultural learning contexts from a sensory and affective sense, it is often the case that they gain emotional and intellectual maturity while living abroad. The reality of travelling abroad to learn English however for many International students is often a difficult transitional one especially at pre-sessional or beginner/foundation levels in terms of language acquisition, expense, feelings of isolation while in some cases, struggling with pressures to maintain scholarships. As it stands, existing English language centres work hard to advance students onto higher levels of language competencies. They offer students opportunities to avail of further language courses, which help them progress onto undergraduate studies. As part of such programmes, colleges often plan visits to historical and cultural sites to encourage non-formal learning. Such trips often impart historical information, however, that is outside students' immediate language levels, and this oversight does not optimise the experience as potentially pedagogical in developing competencies as outlined by the Common European Framework of Reference for Languages (CEFR). While not intending to replace present ESL courses, we propose that the use of VR systems can successfully compliment Internationalisation programmes in Ireland.*

*The emergence of commercially available VR head-mounted displays offers opportunities for immersive ESL virtual environments. VR technology can enable spaces for creative learning structures during foundation/beginner courses by delivering VR-based learning within Irish virtual site visits from their home-based colleges. This will work to tailor courses to where students' levels are at in actuality before they progress to their respective host English-speaking countries at higher levels in class-based environments. While in Ireland, it is envisaged that the VR supports will facilitate visits to on-site locations that are followed up by virtual site equivalents to maximise language learning in structured, innovative ways. VR can also engage with online colleges that do not have a physical campus in offering students a diversity of online courses while offering students the option to stay at home to best suit their own personal life situations.*

*A collaborative project between researchers at Limerick Institute of Technology and Hibernia College Dublin aims to capture the structural and acoustic data of various historical buildings and iconic landmarks in Ireland. The acquisition of structural features will involve the use of a 3D laser scanner and a record of construction materials. The acquisition of acoustic data will involve measuring the impulse response of the space using a dodecahedron speaker, reference and binaural microphones. Using this data, digital equivalents incorporating spatial attributes of both auditory and visual modalities will be rendered for the Oculus Rift VR headset and standard headphones. These renders will seek to position both the ESL learner and English language lecturer at virtual Irish historical sites to articulate immersive learning to find full expression in realising the digital campus.*

## **Evolving strategies for online learning in graduate courses in education**

**Maurice DiGiuseppe, Roland vanOostveen, Diana M. Petrarca**

*University of Ontario Institute of Technology (UOIT)*

*Oshawa, Ontario, Canada*

### **Abstract**

*Internet-based learning is becoming more commonplace in post-secondary settings in Canada and internationally, though, often, instructors struggle to develop effective programming for their students. In this article, we present three cases in which instructors critically reflect on their experiences designing and implementing online learning environments for various courses in the graduate programs in education at the University of Ontario Institute of Technology (UOIT) in Oshawa, Canada. The first case focuses on an instructor's efforts to develop courses involving problem-based learning (PBL) on the basis of a faculty-developed conceptual framework. In the second case, an instructor describes how her experiences as a graduate student influenced her efforts to create community-centred online courses at UOIT. In the third case, an instructor and his students reflect on the implementation of a major course assignment involving student-facilitated small group discussions. These cases provide insights regarding theory-informed graduate course development; consideration of meaningful past experiences in graduate course development; and strengths and weaknesses of hybrid online learning systems.*

## **Factors that Influence College Faculty to Adopt Digital Technologies in their Practice**

**Kevin Dougherty**

*Durham College, Oshawa Ontario*

### **Abstract<sup>9</sup>**

*College faculty in Ontario are using a variety of digital technologies, at differing levels, in their teaching and learning practices. College administrators are looking to faculty to help meet the challenges associated with increasing enrolment and the need to deliver curriculum to a diverse student population with a range of learning needs who have unlimited access to information and communication channels through the World Wide Web. This research provides some understanding of specific motivating factors that have led many in community college faculty to adopt digital and Web technologies into their teaching and learning practices as well as those factors that may lead other college faculty to adopt similar technologies into their practices. Data collection was undertaken using a mixed-method approach in an effort to fully realize and categorize the factors necessary in a faculty decision to adopt digital technologies into their teaching practice. Findings indicate that digital technologies are employed by faculty in some cases only to achieve efficiency in communication and administrative tasks favouring traditional teaching methods in their classrooms. Others are exploring and experimenting in exciting new ways with digital technologies in an effort to enhance the learning experience for their students in and out of their classrooms. Many factors have also emerged that should be considered by college administrators when attempting to motivate faculty to adopt digital technologies when assigning workload, providing support and training, as well as by faculty deciding on the overall approach to teaching and learning, all of which carry with them financial and cultural implications. Key Words<sup>10</sup>: motivation, adoption of digital technology, teaching and learning, theory of planned behaviour, postsecondary education, college of applied arts and technology*

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<sup>9</sup>This work is based on the author's Master's thesis and portions of this paper and data reported on can be directly attributed to that thesis. Correspondence concerning this article should be addressed to Kevin Dougherty, School of Business, IT and Management, Durham College, 2000 Simcoe St. N., Oshawa ON Canada L1H 7K4.

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<sup>10</sup>Wherever the words behavioural or behaviour appear within a direct quotation, or as part of a theory name taken from existing research, the American spelling, *behavioral* or *behavior* are used when it reflects the spelling used in the original source. In the remainder of the text the English spelling, *behavioural* or *behaviour* are used.

## **Engagement with a custom-made online system designed to support undergraduate work placement**

**Mc Donnell Claire, Pedreschi Fran**

Dublin Institute of Technology

### **Abstract<sup>11</sup>**

*This paper describes an online system that was custom-made to allow BSc Optometry undergraduates to submit work electronically, while off-campus on work placement. One of the main aims of the system was to allow internal (college) supervisors to provide students with timely, formative feedback on work submitted. The system was piloted in academic year 2013-14 and an intrinsic case study was carried out to examine the engagement of the students, the external placement supervisors and the internal supervisors with the system. Engagement was gauged by examining all subjects' interaction with the system and by asking them to complete a post placement questionnaire. The results showed a high level of engagement from both the students and external supervisors but a lower level of engagement from the internal supervisors, in particular with regard to the provision of formative feedback. Possible reasons for the different levels of engagement are discussed and changes to be made to the system for academic year 2014-15 (based on the findings of the case study) are outlined.*

**Keywords:** work placement, practicum, online feedback, formative feedback, logbook

## **Capturing and sharing professional practice on mediating 'live' online tutorial sessions - A case-study from Hibernia College**

**Michael Hallissy**

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### **Abstract**

*This case-study is set within the context of a new online Masters Programme for teachers within Hibernia College, the Masters of Arts in Teaching and Learning (MATL). It explores how tutors and students interact using synchronous computer mediated conferencing (SCMC) technologies during live tutorial sessions. The study found that students and tutors did not have an agreed set of ground rules for these online events and thus there was a need for a signature pedagogy to clarify this. It was observed, using the Flanders Interaction Analysis Categories (FIAC) and tutor interviews, that the level of interaction during these tutorials was predominantly teacher led with little evidence of student voice. The study developed a toolkit to allow tutors engage in professional practice discussions. The toolkit is designed to enable tutors to reflect on their tutorial practice. Using a cyclical process tutors can capture, codify and analyse their existing knowledge with a view to developing more student-centred tutorials. This paper focuses on the use of FIAC to code and analyse an online live tutorial and how this information can then be used to inform a tutor's professional development practice.*

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## Language Learner Interaction in Social Network Site Virtual Worlds

Motoko I. Christensen

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Mark Christensen

Southern Cross University

### Abstract<sup>12</sup>

*Universities around the world are rapidly changing to the point of redefinition. Their language departments are feeling “vulnerable”, yet opportunities exist for universities to advance foreign language study since there is evidence that students wish to study languages. Online education can deliver coherent and accredited degrees but can also enhance learning outside traditional language programs. Such learning opportunities provide a viable response to the resource pressures impacting on both students and universities. This study aims to aid understandings of the efficacy of online language education utilizing a Social Network Site (SNS) by identifying issues of scaffolding in such sites. Whilst a large and growing body of literature dwells in issues related to online education, it has not yet fully explored what makes effective applications of online education in out-of-classroom contexts; only some recent contributions have addressed parts of this concern (e.g. Pasfield-Neofitou, 2012). Sociocultural theory notes that social interaction is core to learning. SNS, Chat, and similar sites provide opportunities for learners to engage in such social interactions. This study investigated interactions between Japanese language learners and native speakers in a virtual learning environment via SNS. Divided into groups based on ability, participants assisted each other by providing scaffolding during a series of discussion forums in Japanese. Analysis of interactions and a newly created activity system called the Online Joint Activity System (OJAS) assisted identification of contradictions that either hindered or enhanced the interactions. The groups who established a supportive community were able to conduct active discussions and to provide scaffolding to their members. The findings of this study could assist in creating a more effective online learning environment such as that found in MOOCs and the OJAS could assist in further understanding complex interactions in online discussion forums.*

**Keywords:** Social Network Site; Japanese Language Learning; Activity Theory; Scaffolding

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<sup>12</sup> Motoko I. Christensen is the corresponding author

## **Stream 4 – Enterprising University**



## **An exploration of a higher education institution's response to the need for enhanced engagement with enterprise**

**Irene Sheridan, Daithi Fallon**

Cork Institute of Technology

### **Abstract**

*In Irish higher education, there is strong awareness of the potential for, and of, collaboration between higher education, enterprise and communities to contribute to economic renewal and social innovation but this is accompanied by a recognition that 'higher education institutions could be more dynamic and coherent in their approach to collaboration' (Department of Education and Skills, 2011, p. 75). This view is echoed by Healy, et al., (2014, p. 6) who assert that ... 'despite the resurgence in business-university collaboration, research reports consistently find that cooperation practices are highly fragmented and uncoordinated'. The role of an engaged, entrepreneurial university is to act as a co-creator of knowledge, informed by, and in collaboration with, external organisations, and to ensure that graduates emerge with the academic excellence, practitioner knowledge and entrepreneurial skills and capabilities which ensure that they are well-placed to identify or create employment opportunities for themselves and to maintain employability. The entrepreneurial orientation of the institution and its graduates, the application of research and innovation toward challenges in society and the prioritisation of output measures such as patent applications, spinoffs and job creation are important elements in ensuring that universities optimise their contribution to society. Guerrero, et al., (2012) emphasise the importance of the entrepreneurial university as incubator to support the translation of ideas and knowledge into valuable and measurable economic initiatives as well as the importance of partnerships with society and industry in informing and supporting the development of knowledge-based entrepreneurship in higher education. Responding to these challenges and building on the outputs and outcomes of the Roadmap for Employment-Academic Partnership project (REAP, 2009), Cork Institute of Technology has established the CIT Extended Campus in order to join up and maximize the benefits of an already actively-engaged institution so that interactions are sought and stimulated, and business intelligence is collected to support the organisation to act entrepreneurially and to build better-informed, broader, mutually beneficial relationships.*

**Keywords:** Enterprise engagement, Entrepreneurial University, Customer relationship management

## **Understanding change, leading innovation – OCAD University's Master of Design in Strategic Foresight and Innovation**

**Lenore Richards**

BID, MID. Director, Master of Design in Strategic Foresight & Innovation,  
OCAD University

### **Abstract**

*This paper discusses the need for new models of education due to the complexity and speed of change in the world. I introduce OCAD U's Master of Design in Strategic Foresight and Innovation as one of a number of innovative programs attempting to become a responsible actor in the positive transformation of contemporary society. I reflect on the successes and challenges involved in the development and implementation of this highly innovative program.*

## Developing organisational design criteria in the redesign of an Irish higher education institution

Sharon Feeney

Dublin Institute of Technology

Olivia Edge, Eileen Quinn

Institute of Technology, Blanchardstown

### Abstract

*This paper outlines the first phase of a process of re-design strategy that was undertaken in an Irish higher education institution. The re-design strategy was undertaken prior to a merger of three autonomous higher education institutions in the Dublin area. The strategy undertaken comprised three main phases: identification and consideration of design criteria; short-listing and consideration of design options; and finally, the development and selection of the most appropriate design option. This paper focuses mainly on the first phase of the process undertaken: the identification and consideration of design criteria.*

**Keywords:** Organisational design, organisational change, organisational structure, colleges, universities, organisational models, organisational design criteria

## Leveraging Institute of Technology Incubation Centres in the Teaching of Innovation: A Case Study

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### Abstract

*The overriding purpose of this on-going work is to contribute to the debate on the best pedagogical approach to developing undergraduate Mechanical Engineering skills to meet the requirements of contemporary complex working environments. The particular focus of this study is to develop the students' appreciation of entrepreneurship and the development of a new venture. Enterprise Ireland has funded business incubation centres on college campuses across Ireland in order to provide a supportive environment for start-up companies and two centres have been located in the Galway-Mayo Institute of Technology (GMIT). The paper provides an example of collaboration between the Incubation Centre managers and a lecturer in GMIT in the teaching of innovation modules to final year students. The methodology of the paper involved a structured questionnaire followed by an interview with the management of the Innovation Hubs (the name given to the GMIT incubation centres). Working directly with the Innovation Hubs is a novel pedagogical approach that fosters entrepreneurial thinking and behaviour among the students. Furthermore key stakeholders (in this case the managers and staff of the Innovation Hubs) have engaged in the learning process. Both managers have been very supportive of the process as it meets their remit to involve the Innovation Hubs with the GMIT campus. The response to the structured questionnaire was positive but also provided suggestions for improving the process. Furthermore, the project supports a targeted action of the Campus Entrepreneurship Enterprise Network program, a partnership between a number of Institutes of Technology and Universities in Ireland.*

**Keywords:** incubation centre, pedagogy, teaching, innovation, education

## Graduate Work-Readiness in the 21<sup>st</sup> Century

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### Abstract

*The term 'graduateness' is beginning to be used, nationally and internationally, to describe a range of competences thought to match the demands of the workplace. There is no accompanying unifying definition, nor framework for formal recognition, rather it is used to imply a combination of attributes that varies between types of Higher Education Institutions across the World. In Ireland, the desirable characteristics of 21<sup>st</sup> century graduates variously include qualities of being 'Creative and Enterprising, Solution-Orientated, Effective Communicators, and Globally Engaged Active Leaders' (DCU 2014). Similarly, they should be engaged, enterprising, enquiry-based, effective and expert in their chosen field (DIT, 2013). While the value of these qualities is not contested here, they may be more appropriate to individuals who are growing in their professional maturity, but less so in their first encounter with work.*

*This paper argues that 21<sup>st</sup> century graduates should be supported in their transition to the world of work by being equipped with the resources to assimilate the activities of their host rapidly, to assess how their particular role is situated, supplied, and constrained, and appreciate its associated expectations, risks and consequences. Graduate success in the workplace could be underpinned by a methodology that guides formative reflection and develops their ability to evaluate work experiences, both actual and vicarious, within a framework that captures, recognises and reinforces the depth of their tacit learning. This approach may help create a solid foundation for long-term employability, enable the realisation of 21<sup>st</sup> Century Graduate attributes, and presage their formal recognition, at home and beyond, in the fullest sense. The authors offer a comprehensive workplace-specific protocol and an accompanying methodology that enables graduates not only to assert that they are work-ready, but to provide the evidence.*

**Keywords:** graduateness, transition framework, work-placement methodology, hitting the ground running, graduate attributes, tacit learning, QQI recognition, long-term employability, workplace-complexity protocol.

**Brokers of transformation: prioritizing community interests in  
community-university sustainability research**

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**Abstract**

*This paper describes and evaluates a community-driven research project in which Trent University researchers and students have partnered with three local community groups and one regional nonprofit organization to collaboratively research the options and needs for improving active transportation infrastructure in a socio-economically challenged neighbourhood in downtown Peterborough, Ontario. The project was initiated by organizations in our community and the Trent Community Research Centre, a non-profit organization that connects the community and university in research and learning activities, brokered a partnership with faculty at the university.*

## **Stream 5 – Curriculum**

## Moving Towards an Outcomes-Based Curriculum Model in Design Education: An Action Research Study at OCAD University

Bahar Mousavi Hejazi

OCAD University

### Abstract

*This paper is in preparation for the research that I will be conducting as a PhD Candidate at the Ontario Institute For Studies in Education (OISE), University of Toronto entitled "Implementation of Outcomes-Based Education at the Ontario College of Art and Design (OCAD) University: An Action Research Study of an Interdisciplinary Design Course" under the supervision of Professor Katharine Janzen. In this discussion, I intend to first establish the background, the context and the purpose of my research. Then I review the principles of outcomes-based education with an emphasis on design pedagogy. Finally, I will lay the ground for the action research study that I intend to conduct in an interdisciplinary design course that I teach at OCAD University (OCAD U) through the identification of the theoretical framework, research questions and research methodology of my study as well as its practical application and future contribution to the field of study.*

## Does the shift to cloud delivery of courses compromise quality control

Gordon O'Reilly, John Creagh

Cork Institute of Technology

### Abstract

*In the last few years' online cloud computing courses have become more common place providing the student the capability to attend courses from home, from anywhere in the world. As this new paradigm is being adopted by colleges and universities, the next associated potential wave of change is a cloud technology termed "online proctoring." This technology and method facilitates the online student taking tests and exams from a remote, off campus location. This technology could also potentially mean education institutions scale to larger student numbers than previously defined by the physical constraints of exam halls or lab facilities as well as reducing the remote students time and cost of travel to an exam invigilation centre. However the question is: How does online proctoring quality control standards measure up to the traditional exam room invigilation quality controls and if such a solution were implemented would there be compromises? On campus exam invigilation methods have evolved over a considerable period of time and the processes and quality control standards are well defined. This research firstly explores the types of online proctoring systems in existence. Secondly it investigates how these systems, offered by multiple cloud vendors, compare and what back end technologies they utilize. Lastly it investigates the potential gaps in the online proctoring quality control systems and how the verification and controls measure up to the traditional on campus exam hall invigilation methods.*

**Keywords:** Online proctoring, Cloud delivery, quality control

### Abbreviations and acronyms:

Online Proctoring (OP): Third party monitoring of an exam by a proctoring system, where the student and proctor or proctoring system are not in the same room but connected over the internet. All forms of communications and monitoring are via applications and devices that use internet protocols. Also sometimes referred to as cloud or remote proctoring.

Learning management system (LMS): Blackboard ® is an example of a LMS system.

Traditional methods: Traditional on campus exam invigilation methods.

Exams taken by the honour system: Running an exam based on trust and honesty, assuming that the student will not cheat.

## **Experiments on curricular flexibility performed in different higher educational institutions in the network of technological education in Brazil**

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### **Abstract**

*This article presents two similar experiments on curricular flexibility, each of them performed in different Higher Educational Institutions in the network of technological education in Brazil. Both experiments aimed to allow better training routes, specially directed to the idea of the entrepreneurial university, applicable to enrolled students. On the other hand, it intended to reach better management of the Institutes resources. We used in both experiments the same curricular format, where all the subjects that made up a particular course had a workload of 40 hours and lasted only a month. Each month, new students could be enrolled in courses offered by the Institutes instantaneously, allowing ten periods of enrolment of students over a year, instead of only one, two or three. Students who left the Institutes for extended periods could then complete missing subjects, instead of missing them as it would occur in the traditional model. After the conclusion of these experiments, the students completed a survey questionnaire, comparing the traditional curriculum model and the model proposed in this experiment. The survey focused on the following areas: adequacy of time to follow the activities, retain and process the acquired knowledge; facility to interrupt the course; lower losses in case of interruption; adequacy of weekly hours for required frequency and time volume for the courses. For all these variables, this more flexible model was better evaluated by the students, especially to the categories related to course interruption and sufficient time to follow the activities. The students' answers showed that a more flexible curriculum met the expectations of most of them and was favourable to consolidate the Institutes role as entrepreneurial universities.*

**Keywords:** Curricular flexibility; entrepreneurial university; instant classes

## **Re-imagining pre-service teacher education in Ontario, Canada – A journey in the making**

**Janette Hughes, Jennifer Laffier, Ami Mamol**

**Laura Morrison, Diana Petrarca**

UOIT

### **Abstract**

*In this paper/presentation, faculty members from the Faculty of Education at UOIT share their experiences and challenges of redesigning a teacher education program, against the backdrop of provincial funding cuts and a mandatory reduction of student enrolment in all Faculties of Education, as Ontario moves from a 10-month consecutive Education program to a required 2-year BEd program. In June, 2013, the Ministry of Education, Ontario announced that effective September, 2015, universities offering teacher certification would be required to double the length of their programs, moving from two semesters to four semesters, and the length of the practicum will change to a minimum of 80 days of practice teaching. In addition, the number of teacher education spaces funded by the province will be reduced by half. This*



announcement provided an opportunity for faculty to reimagine teacher education in this new context and thus began the journey that culminated with significant modifications to our existing program, including:

- 1) *An Increased range of delivery methods for courses: Although our current program, which is face-to-face with the support of an online Learning Management System (LMS), emphasizes the importance of the integration of technology and pedagogy, the new program is specifically designed to introduce future teachers to learning in the online setting with some blended courses, and with electives and Semester 3 courses offered fully online;*
- 2) *A shift in focus for some courses which were previously offered, such as additions to present courses to include new literacies and new technologies and a movement toward individualized, personal education for all students;*
- 3) *An extension of some existing program elements, such as a longer practicum (from 60 to 80 days) and the extension of a core teaching methods course into the second year of the program;*
- 4) *Consolidation of present courses to integrated courses, such as an integration of Science, Technology and Mathematics into three STEM courses, one of which focuses on computational thinking and the integration of Language Arts and digital technologies to create a course focused on digital literacies;*
- 5) *The introduction of additional new required courses, such as Mental Health (which was previously an elective course), Pedagogy of the Land (which explores issues of Indigenous ways of knowing), and a self-directed inquiry course that supports an inquiry-based approach to learning; and,*
- 6) *A movement away from a laptop program in which all students use the same hardware to a Bring Your Own Device (BYOD) model that reflects the growing trend of school districts in Ontario also moving in this direction. The new program models key elements of education at the edge of innovation so that graduates will be leaders of technology in their schools and in their school boards, and in other workplace options, such as professional development, adult education, and training.*

### **Lost in transition: An exploration of the transition of work-based, mature students into 3rd level education**

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#### **Abstract**

*The transition from the social care practice environment to a third level academic institution for the first time as a mature age student can be much anticipated, exciting and stimulating but also fraught with feelings of self-doubt, unease and difficulty. These feelings override for many mature age students the realities of commencing undergraduate study. Before commencement, most mature age students neither give much thought to issues pertaining to transition, nor believe that such issues are relevant or likely to affect them. The presence of part-time, work-based undergraduate degree programmes in social care has continued to grow stronger in recent times. However, student satisfaction with the transition has never been systematically evaluated and the quality of this learning and the evidence base to support it has not been established.*

*This study primarily investigates the experiences of mature, work-based social care students within a third level academic education setting in Ireland. This research aims to explore this transition and the complex difficulties, with the aim of potentially identifying the means of overcoming the challenges, specific to this group of learners. The results of this qualitative research will support academics in developing programmes which will enhance the overall quality of the pedagogical learning environment.*

*This study will contribute to the identification of critical barriers and relationships in current work-based social care education delivery for transformative higher education in Ireland. It*



*begins by presenting a discussion on the transition of mature students to 3<sup>rd</sup> level education, with particular focus on the work-based student. It continues by exploring the processes involved in reconciling the transition, leading to its success or failure. Professional standards and a strong academic identity are of special value in the area of academic preparation for contemporary social care practice. Establishing the academic identity of the student whilst maintaining the role of the professional in the workplace has remained a troublesome concept as practitioners seek to identify their own role.*

## **Stream 6 – Global University**

## **The ICT Skills plan and the Higher Diploma in Science in Computing Graduate Conversion programme: An example of Government, Third Level and Industry engaging to address a specific skills deficit in the Irish economy**

**Finbarr Feeney PhD**

Department of Computing, Institute of Technology, Tallaght

### **Abstract**

*The past 15 years have been ones of rapid change not only in the ever growing impact of ICT on everyday life but also locally in terms of talent development and delivery for ICT graduates. One of the critical issues identified for Ireland and indeed internationally, has been a shortage of Level 8 Graduates in Computing and Computer Science. Enterprise Ireland, Forfás, the HEA, the IDA, Industry bodies such as ICT Ireland, The Irish Computer Society, Engineers Ireland and IBEC as well as government departments recognised the criticality of supply of talented graduates to Ireland's ICT sector and took measures to correct the situation culminating in the 2014-2018 ICT Skills plan.*

*A key response measure aimed at addressing the ICT Skills shortages was the funding of a call in late 2011 for graduate conversion programmes aimed at converting numerate graduates from disciplines other than computing who worked in declining sectors of the economy into graduates with ICT Skills sufficient to take up graduate level roles in the ICT sector.*

*This paper discusses the formation of an Institute of Technology based consortium, including DIT, ITB and IT Tallaght to respond to the call for graduate conversion programmes. Discussed is the range of industry partners included in the consortium, their contribution to the development of the programme and their subsequent engagement with the programme. Also discussed are the very positive outputs from the first cycles from the programme including the employment successes and the actual range of roles obtained by graduates of the programme. Included in the paper are feedback and learning from each of industry, Institutes and student participants.*

Keywords: Computing ICT Skills Graduate Conversion Industry Engagement

## **Creating Space in the Curriculum for Workplace and Generic Skills**

**Brian Campbell**

Faculty of Social Sciences and Humanities. UOIT

### **Abstract**

*There is an Ivory Tower Stigma in some quarters where university education is framed as lacking practical value resulting in its graduates not being well prepared for labour force adjustment or productivity. Paradoxically the Ivory Tower stigma exists alongside a valorization of higher education as human capital and a driving force in the modern economy. The Ivory Tower Stigma is the starting point in this paper for the examination of co-curricular professional skills program initiatives at the graduate level. In this paper I examine the development of professional skills programs for graduate students in Canada and Ontario as a response to this stigma. I demonstrate that there has been a shift in co-curricular programs from filling in the work ready skills gap to recasting some academic skills as transferable professional skills. I suggest that the way forward is to adopt a integrated approach to addressing professional and work ready skills by integrating these elements into the main curriculum. In addition to creating some new elements with curricula I suggest that key aspects of such a project would involve identifying existing transferable skills within programs along with a re-branding exercise for the academy.*

## **The Pursuit of Civic Engagement: Youth Civic Engagement and the Role of Higher Education**

**Aideen McCormack, Aiden Carthy and Cormac Doran**

Institute of Technology Blanchardstown.

### **Abstract**

*Putnam (2000) argues that, in recent years, there has been a steady decline of social capital and civic engagement in western societies. However, arguments claiming a 'crisis' of civic engagement have also been met with fierce academic disagreement, leading to a strongly contested debate as to whether civic engagement is in decline or simply evolving. Using a mixed methods approach, this research sought to explore youth civic engagement among the students of the Institute of Technology Blanchardstown aged 18 to 25. Preliminary quantitative results provide evidence of both disengagement with traditional routes and a re-routing of engagement towards more lifestyle orientated, personal engagement. Preliminary qualitative results provide further insight into the possible barriers motivating young people to find alternative routes of civic expression. In light of these results and the national strategic priority of higher education in the promotion of civic engagement, this paper makes some recommendations for consideration in the development of the new Technological University for Dublin.*

**Key Words:** Youth civic engagement, higher education, community-based research, ethical reasoning, democracy plaza.

## **Academic Engagement using Social Media: Revisiting the Technological, Pedagogical and Content Knowledge Framework in Higher Education today**

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### **Abstract**

*Research into the use of social media for academic purposes is increasingly emerging. Such research suggests that a social networking site (SNS) could be used as an innovative tool for teaching purposes. However, much of previous research has focused on outlining the experience of students and the empirical evidence to date reports how a SNS may develop a higher level of academic engagement amongst students. In addition, research in this field has overlooked review of the pedagogy involved in utilising a SNS for education purposes successfully. Previously, Koehler and Mishra (2009) proposed the TPACK framework to explore the relationship of technology in teaching which builds the basis for this research. This paper explores the suitability of the TPACK framework in the context of utilising SNSs and reviews its relevance to the adoption of a SNS as a teaching tool. Initial observations suggests that the current TPACK framework overlooks some important elements which are relevant to the adoption of SNS.*

**Keywords:** TPACK, eLearning, Higher Education, Social Networking, Facebook

## Community building in online pbl courses: instigating criticality

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### Abstract

As post secondary institutions continue to endeavor to address changing stakeholder expectations and *policy directions*, new curriculum models that allow for choice and learner flexibility are required. One approach that shows promise in this area is online problem-based learning (PBL). This paper discusses a case-study of the implementation of a problem-based learning pedagogical framework that fosters the development of meaningful teacher-learner; learner-learner, and learner-content relationships (vanOostveen & Desjardins, 2013) in an online Bachelor's program in adult education and digital technology. Within this context, the attributes and affordances of a program design model on facilitating online community are examined.

**Keywords:** problem based learning; online community; adult education; digital technologies; pedagogical model

## A New Model within Canadian Colleges and Universities to Develop a Diverse Future Generation of Entrepreneurs: Inclusivity and Accessibility

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### Abstract

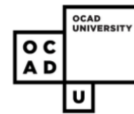
This paper reviews past research that focused on the delivery of, and support for, entrepreneurship education (EE) within the Canadian post-secondary academic environment. Specifically this review focuses on the trend towards EE 'inclusivity' within both the Canadian post-secondary system and the individual institutions examined. A wide range of studies is reviewed and impacts are categorized across key stakeholder groups. This paper concludes with insights for future research specific to other key stakeholders and provides examples to highlight academic institutions that have established EE experiences both within and outside the curriculum to satisfy a broad and diverse student population.



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