



Scholarship, leadership and technology: a case study of embedding evidence-based practice

Dr Linda Creanor

Centre for Learning and Academic Development

Glasgow Caledonian University, UK

This case study describes how one university is addressing the challenge of embedding evidence-based practice in learning, teaching and technology by building on the concept of distributive leadership. Following its launch in 2008, the Caledonian Scholars and Associates initiative has firmly established itself as a key aspect of continuing professional development for learning and teaching within the institution, with technology playing a central role. The paper outlines how the initiative has benefitted from the experiences and findings of national and international developments and adapted them to the local context by supporting, encouraging and acknowledging evidence-based practice across the curriculum. It provides an overview of evaluation findings and concludes by outlining future plans to ensure sustainability.

Keywords: evidence-based practice; distributive leadership; embedding learning technology

Introduction

Raising the profile and status of innovative pedagogic practice in higher education can be problematic, due in no small part to the continuing pressure on academics to focus on career enhancement through disciplinary research. Whilst lip service may be paid to the central role of learning and teaching, the culture within institutions often systemically embeds the imbalance, as research, rather than excellent pedagogic practice, continues to attract higher status and remains a central tenet of academic promotion (Vardi & Quin, 2011). Against this background, an emphasis on scholarly approaches to learning and teaching, firmly grounded in evidence, is essential to enhance the standing of pedagogic practice and to increase opportunities for career progression through the learning and teaching route.

For those who pursue innovation through the application of technology, the task of gathering evidence to support career progression can be particularly daunting. Technology enhanced learning frequently stands accused of technological determinism with insufficient evidence or theoretical underpinning presented to support its claims of effectiveness in a learning and teaching context (Oliver, 2011; Creanor & Walker, 2010).

Hence the strategic implementation of evidence-based, technology enhanced practice linked to career progression within the disciplines is perceived as a challenging goal which requires explicit encouragement and support through institutional recognition and influential leadership.

Evidence-based practice can be interpreted in many ways and from a range of perspectives. Originating in the field of medicine, the concept has been widely adopted in education to ensure that pedagogic practice is effectively informed by the findings of high quality educational research (Biesta, 2007). It has often been linked to scholarship in learning and teaching (Boyer, 1990) which Prosser describes as ‘*evidence based critical reflection on practice to improve practice*’ (2008:2). Whereas educational research can be highly theoretical, innovative scholarly activity, underpinned by action research, is firmly rooted in day to day learning and teaching activities (Mills, 2000; Reason & Bradbury, 2001).

The value of evidence-based approaches to the learner experience is undisputed (Jenkins, 2009), however institutional culture, disciplinary context, lack of acknowledgement and recognition can have a significant impact on staff engagement in continuing professional development (CPD) relating to scholarly activity, including technology enhanced learning. Innovative pedagogic practice is often equated with technology enhancement, even though it is recognised that technology can be employed equally to reinforce a traditional, transmission-mode pedagogy as to encourage forward-looking, student-centred approaches (Conole et al, 2004; Beetham & Sharpe, 2007). Tensions continue to exist between pedagogical and technological drivers, resulting in an ongoing struggle to maintain a scholarly focus against a backdrop of constant change and relentless technological advances (Watson, 2001). It is crucial therefore that innovation in learning and teaching is informed by scholarship and a sound evidence base, and promoted by persuasive opinion leaders, if it is to play a truly effective role in the education of 21st century learners.

The aim of this paper is to highlight some of the challenges faced in combining evidence-based approaches with learning technology, influential leadership and career progression by focusing on the experiences of one UK university over a three year period. Firstly, it will outline the background and rationale for a strategic CPD initiative designed to address these issues, informed by relevant national and international developments. It will go on to describe the implementation, outcomes and findings to date, before reflecting on the impact of such an approach and making recommendations for future development to ensure sustainability.

Influencing models and frameworks

Innovation as a concept is problematic within higher education with varied foci encompassing local, often individualised, developments in learning and teaching alongside more managerial and business-oriented institutional and political strategies (Hockings, 2005; Findlow, 2008; Smith, 2011). The relatively short history of learning technology in this context mirrors the variation in conceptual understanding and implementation, with strategies and policies veering between top down and bottom up developments with a similarly diverse range of outcomes.

Large-scale initiatives

In recent times for example, considerable amounts of UK government funding were disbursed by the Higher Education Funding Council for England (HEFCE) to establish 74 Centres of Excellence in Learning and Teaching (CETLs) from 2005-2010, each with a particular pedagogic focus. These centres, many of which incorporated technology enhanced approaches, were locally hosted by the successful bidders but had a sector-wide remit. The dual aims for this initiative were, ‘*...to reward excellent teaching practice and to further invest*

*in that practice so that CETLs funding delivered substantial benefits to students, teachers and institutions*⁴.

In a parallel development in Scotland, the Scottish Funding Council (SFC) invested £6 million in a series of 6 transformational e-learning projects involving both higher and further education partnerships which addressed topics such as assessment and feedback, blended learning and pedagogically-driven approaches to embedding technology in the curriculum⁵. The aim was to effect transformational change in the culture and attitudes of institutions to the integration of e-learning within mainstream learning and teaching.

Whilst success in embedding innovation and evidence based-practice is clearly evidenced by sections of these strategic initiatives (Anderson et al, 2008; VLL Final Report, 2010), an interim evaluation of the impact of the CETLs noted that,

The tradition of deliberate strategies to change and enhance learning and teaching in higher education in the UK has a relatively short history. Traditionally, its legitimacy among numbers of academics has been uncertain. Central or cross-disciplinary standards, approaches, suggestions and development have run up against the canon of concerns traditionally held by academics. So, academics do not appreciate a heavy central steer on practices that have been very much the local preserve. (Saunders et al, 2008:9)

These findings suggest that despite top-level encouragement and substantial resource, local ownership, empowerment and individual agency remain key influencers of engagement and impact in encouraging creative, evidence-based learning and teaching practice. Without a real sense of long-term commitment to the projects, continuation and embedding beyond the initial funding period is difficult to achieve. (Gunn, 2010a; Bates & Sangra, 2003).

The individual perspective

In contrast to these large scale initiatives, empowering and developing the potential of individual academics is the focus of the Professional Standards Framework for Teaching and Supporting Learning in Higher Education in the UK (UKPSF). Developed by the Higher Education Academy (HEA) in collaboration with the sector, the framework identifies a series of levels and criteria against which an academic's professional development in the scholarship and leadership of learning and teaching can be gauged (HEA, 2006). The framework can be contextualised at a local level, indeed institutions are actively encouraged to do so, and it links to accreditation as an Associate, Fellow or Senior Fellow of the HEA. Although not, as yet, a universally compulsory requirement, an increasing number of UK institutions require new academic staff to attain fellowship of the HEA at an early stage, either by undertaking an accredited programme of study or through a direct application based on experience. The framework is used by institutions to inform their postgraduate certificate programmes in learning and teaching and to shape CPD activities. The UKPSF is currently under review following a sector-wide consultation and while 'the use of appropriate learning technologies' is currently a stated requirement of core knowledge, there is a call for this to be strengthened in the revised version given the increasingly central role of technology enhanced learning in HE⁶.

Internationally, the Australian Faculty Scholars Network has also attracted significant interest. Supported by the Australian Learning and Teaching Council (ALTC), it has extended its impact from the initial pilot institutions to a wider group of participating universities. The original aim of the project was to assess the validity of a leadership development capacity framework for teaching and learning (Parrish & Lefoe, 2008). This approach also focuses on individuals and is underpinned by the concept of distributive leadership (Bennett et al, 2003; Knight & Trowler, 2001) which is described by Lefoe et al (2007) as,

⁴ <http://www.hefce.ac.uk/learning/tinits/cetl/>

⁵ http://www.sfc.ac.uk/effective_institutions/eLearning/elearning_transformational_change.aspx

⁶ <http://www.heacademy.ac.uk/ukpsf>

... a distribution of power within the sociocultural context of universities, and a sharing of knowledge, of practice and reflection through collegiality. (2007:5)

Originally conceived as a way of preparing future leaders in learning and teaching for a rapidly evolving higher education system, this model promotes the development of leadership skills amongst staff who do not necessarily have a formally recognised leadership role in a hierarchical sense. The model has been used successfully to take forward key technology enhanced learning priorities including e-assessment, feedback and online distance learning (Lefoe, 2010; Keppell et al, 2010), with participating staff rewarded with small amounts of funding, partial relief from teaching duties and support through the network of faculty scholars. One outcome of this initiative has been a distributive leadership development framework which, like the UKPSF, can be adapted for a local context. In addition, it was found that participants gained confidence in their own ability to act as leaders and to influence colleagues and senior managers in taking forward key learning and teaching innovations.

With distributive leadership, those people who may not sit in hierarchical positions of leadership have an opportunity to lead both upwards and sideways among their colleagues and through this mechanism have a real opportunity to influence others and more importantly influence those with power that comes with hierarchical positions of leadership. (Parrish & Lefoe, 2008: 2)

Influenced by, and building on, these examples, the following case study outlines how such models and frameworks have influenced the approach of one UK institution which sought to attain a similar strategic impact through the empowerment of individuals, the embedding of technology enhanced learning and the encouragement of evidence-based practice across all disciplinary areas.

Case study: Caledonian Scholars and Associates

Glasgow Caledonian University (GCU) is a modern, campus-based Scottish institution with almost 17,000 students studying in its three academic schools in the areas of business and society, health and life sciences, and engineering and the built environment. With a significant widening participation agenda, it places a strong emphasis on learning, teaching and the student experience. Nevertheless, promoting recognition for excellence in learning and teaching and encouraging engagement in continuing professional development (CPD) in a meaningful way have been challenging goals, particularly in the fast-moving field of learning technology. Whilst undertaking the University's postgraduate certificate in learning and teaching for higher education (PgC LTHE) programme is expected of all new staff, participation in ongoing CPD for learning and teaching beyond this stage is generally optional and unrewarded. As a result, the University sought to address these inter-linked challenges in an informed way, building on experiences in the sector both nationally and internationally.

Inspired by the successful Faculty Scholars Network in Australia and informed by the HEA UK Professional Standards Framework, the Caledonian Scholars and Associates initiative was launched in summer 2008. It is underpinned by the distributive leadership model outlined above which recognises and encourages localised ownership of innovation and change. The initiative aims to support the implementation of GCU's CPD framework for learning and teaching, which reflects the key priorities of the University's Learning, Teaching and Assessment Strategy and is itself closely mapped to the HEA Professional Standards Framework.

The aims of the Caledonian Scholars and Associates initiative are to,

- provide opportunities for new and experienced staff to maintain continuing engagement with scholarly approaches to learning and teaching throughout their careers.
- enhance learning and teaching practice and the quality of the student experience
- recognise individual endeavour and address a number of promotion criteria through the learning and teaching route
- actively promote innovation in learning and teaching to benefit students, departments and academic Schools

- enable lecturers and staff who support student learning to gain University recognition for commitment to, and investment in, scholarship in learning and teaching.

Technology enhanced learning is integral to GCU's Learning, Teaching and Assessment Strategy (LTAS), the CPD framework and the Caledonian Scholars and Associates initiative. A blended approach has been adopted in which the best of traditional classroom-based teaching is enhanced and enriched, rather than replaced, by the most appropriate use of technology (Bonk et al, 2006). The aspiration is to,

...provide a high quality, inclusive and flexible learning and teaching environment which makes the best use of technology enhanced learning, creating a bold, innovative and distinctive approach. (GCU LTAS, 2008)

The Caledonian Scholars and Associates initiative aims to address the twin priorities of enhancing scholarly activity in learning and teaching and developing a more consistent, evidence-based approach to technology enhanced learning.

Implementation

The initiative was launched and facilitated by the Caledonian Academy⁷, a central department with responsibility for educational development, blended learning, scholarship and research. Initially two calls were issued each year for Scholar and Associate applications with 7 or 8 awarded successfully at each round, in order to ensure the establishment of a critical mass of activity across the University. This has now been achieved and the call for applications has been moved to an annual basis. All applications must be aligned with the University LTAS and School/Departmental priorities, approved by deans and relevant senior staff as appropriate, and local mentors identified. Applications are peer reviewed by international experts, with final decisions on acceptance made by the pro vice chancellor for learning and teaching based on their recommendations. The criteria for Caledonian Scholars and Associates are aligned with the evidence required for career progression through the learning and teaching route and are explicitly identified in promotion documentation.

A relatively small amount of University funding has been made available for Caledonian Scholars (£2k over two years) and as an additional incentive, workload remission of up to 5 hours per week can be negotiated with School senior management. The number of Scholars accepted at each call is normally limited to a maximum of 7 or 8 due to the level of funding and time resource available. Successful Scholars are expected to be experienced staff who can evidence the following attributes and experience:

- A proven ability to provide leadership and influence peers in the area of learning and teaching, and/or enhancing the student experience
- Be recognised as an opinion leader within their School/Central Department on issues related to learning and teaching
- A desire to engage with a distributive leadership model to contribute to the University's continuing professional development in learning and teaching
- An ability to interpret and identify areas for improving learning and teaching practice in line with the University and/or School/Central Department current LTAS priorities.
- An understanding of the pedagogy of adult learning, and knowledge of available and emerging teaching and learning methods and assessment practices
- A proven record of achievement in educational design, teaching, learning and assessment strategy development, educational technology and/or curriculum development.

Extending the original Australian Faculty Scholars model, a new role of Caledonian Associate was also created in order to encourage less experienced staff who had an interest in becoming more involved in scholarly activity

⁷ Following an internal restructure, leadership of the initiative has shifted to the new Centre for Learning and Academic Development

but who perhaps lacked the confidence to undertake an in-depth, two year action research project. Caledonian Associates do not receive funding, but they are entitled to negotiate workload remission of up to 3 hours per week and access ongoing support from the Caledonian Academy team as well as the wider community of Scholars and Associates.

Initially, applications were invited from individuals with a teaching or student-engaged role. This has now evolved to include colleagues working together as joint Scholars or in small teams of Scholars and Associates. The projects undertaken normally use an action research methodology and are linked to the distributive leadership approach. To date there have been 38 projects involving 38 Scholars and 16 Associates spread across all discipline areas, focusing on topics such as assessment, employability, induction and internationalisation. Re-usable learning objects in health, online induction in biology, virtual worlds in cyberpsychology, blogs and wikis in media journalism and online communication in law are just a few examples of projects to date. Although not a requirement for application, technology enhanced learning is strongly encouraged and features in all but a handful of projects. Indeed it seems that by not insisting on a technology focus, the growth of interest in innovation through technology appears to have been nurtured, with several of the Scholars and Associates adapting their projects to include technology following encouragement from other Scholars, colleagues and their students.

In addition to monthly meetings, the growing network of Caledonian Scholars and Associates is supported by an online community where information and resources can be shared and regular blog updates posted. Information on relevant conferences, events and funding calls is made available, and participants are encouraged to bid for additional small grant funding to help ensure the sustainability of their projects. The emphasis has remained strongly on the principles of distributive leadership throughout, with Caledonian Scholars and Associates gradually gaining confidence in their roles as influential change agents and opinion leaders.

Evaluating the impact

Two reviews of the initiative have now taken place. The first was conducted in 2009 at the end of the first year of operation by an external, international reviewer in order to ensure a level of objectivity. Data were gathered from in-depth interviews with participants, with the analysis also drawing upon the reviewer's experience of evaluating the Australian Faculty Scholars network.

Feedback was highly positive, with obvious support for the opportunities presented by the initiative.

[We have] a huge amount of praise for the project. We've really appreciated all the support...we've been encouraged to look for dissemination opportunities and to use the networks to build capacity.

The report concluded that,

The Scholars and Associates Program has proved beneficial to participants in a variety of ways in the initial phase. The Scholars were keen to talk about and reflect on their experience, and many useful suggestions were offered for future Program activities. Further value could be realized by harnessing the creative ideas of those involved. Encouraging their leadership as co-creators of future iterations of the Program would be a true reflection of the distributive leadership concept in action. (Gunn, 2010b:7)

The second evaluation was conducted internally the following year, mainly through focus groups with participants and discussions with a range of stakeholders, including the external reviewers who continually provided valuable insights and suggestions to inform the initiative as it evolved. Again, feedback was positive, although a number of challenges were also acknowledged. The findings highlighted the following issues:

Benefits:

- The distributive leadership model which underpins the initiative was seen as relevant and valuable.
- The competitive application process and the involvement of external experts in the reviewing process was welcomed as it helped to confer credibility and status to the initiative
- The 'two tier' system of Scholars and Associates was considered useful as it gave less experienced staff the opportunity to engage with evidence-based practice and action research at an early stage in their careers

Challenges:

- Participation in the initiative can be influenced by the extent to which informal CPD is encouraged and supported in Schools and Departments.
- Variance in approach is evident in the way Schools and Departments address the recommendation for workload remission for Scholars and Associates.
- The role of the School/Departmental mentor is not always clear

A number of changes have already been made in response to these two evaluations including a move towards more strategically focused calls for applications, acceptance of team applications and encouragement for new Scholars and Associates to build on and extend the work of others. School level support issues are also in the process of being addressed as part of a university-wide restructuring exercise.

The initiative has succeeded in gaining participation from staff in all 6 Schools and Learner Support with a particularly high level of engagement from health and life sciences disciplines (figure 1). It was highlighted during a recent Quality Assurance Agency institutional review of the University as a valuable case study and an authentic example of the distributive leadership approach in action.

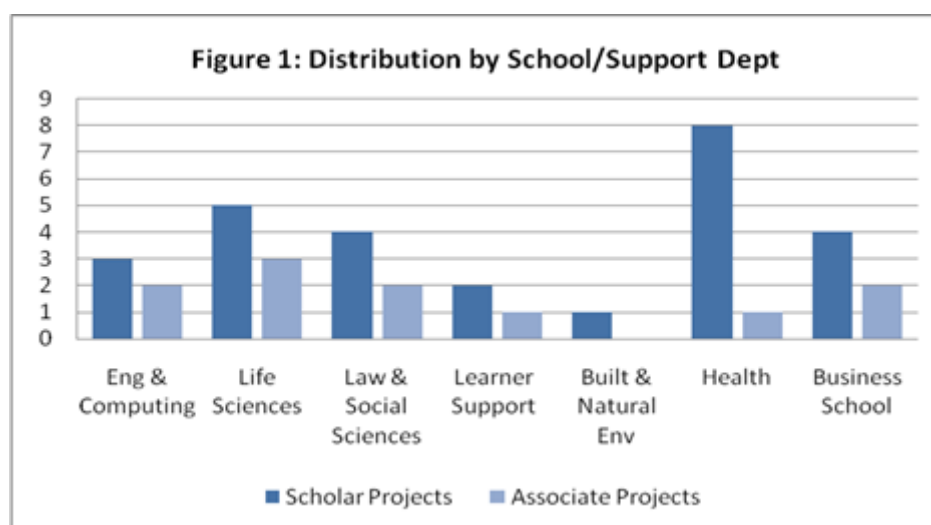


Figure 1: Distribution of projects by School/Support Department

Outcomes

Caledonian Scholars and Associates are required to submit interim and final reports incorporating literature reviews, methodology and outcomes. Findings to date indicate that projects have generally been effective in enhancing the student experience, and valuable recommendations to inform continuing research, scholarly activity and improved practice within modules and programmes have been proposed. In addition, a significant number of national and international conference presentations have been made and papers published in peer-

reviewed journals, thus raising the scholarly profile of the individuals concerned and the reputation of learning and teaching at the University. Several Scholars and Associates have been successful in gaining additional small grant funding to extend their projects, both externally through the HEA subject centres and internally through the locally available funding streams.

A key aspect of the Caledonian Scholars and Associates initiative is its alignment with career progression for academics through the learning and teaching route. Several applications for promotion by Scholars and Associates have been successful in the last 2 years, including 3 to senior lecturer and 1 to professor in the most recent (2010/11) promotion round. In addition, a small proportion of Scholars are aligning their projects with doctoral studies. A significant number of Scholars and Associates are either previous graduates of the postgraduate certificate in learning and teaching or current students, demonstrating a clear alignment with progression through the CPD framework. A Caledonian Scholar was the winner of the recently launched (2011) Principal's Award for Teaching, and received particular commendation from the Principal for the creative use of a range of learning technologies. Overall, there is growing evidence of closer links between research, scholarship and academic practice, and a University-wide recognition of their value.

In addition, significant advances are being made in shifting the culture from a technically driven agenda to a more scholarly appraisal of the potential of technology enhanced learning. Literature reviews, action research and a greater awareness of latest thinking in the field are leading to thoughtful, evidence-based approaches which benefit students and teachers alike. Robust approaches to research methodology and data analysis ensure the development of informed and reflective pedagogical practice.

This is evidenced in a variety of ways. One project which focused on the creation of reusable learning objects (RLOs) in health went beyond the original aims by developing a collaborative model for the development of RLOs which can be adapted for use in different disciplinary contexts, and which is attracting interest at a national level through conference presentations. Similarly, a project which focused on induction in the biological and biomedical sciences has drawn on the literature and experiences elsewhere to develop a series of online resources and interactive communication tools for new students which will have an impact beyond the original discipline area. An unexpected by-product has been the involvement of students in developing a series of 'help' videos for the University's virtual learning environment which will be made available to all new students in the coming academic year. A number of the Scholars have also become members of the University's Blended Learning Implementation Group and are actively influencing the development of blended learning across the institution.

Future Development

As the Caledonian Scholar and Associate initiative approaches the end of its third year of operation, consideration is being given to its future evolution. Crucially, there is a need to create continuing opportunities for building capacity in scholarly activity and distributive leadership beyond the completion of Scholar and Associate projects to ensure sustainability (Gunn, 2010a). Whilst it is clear that the distributive leadership model is relevant and effective, it is also evident that given the limited time available for Scholars and Associates to implement their projects during the academic year, leadership activities often only become truly effective on completion of the action research projects. To encourage continuing engagement, a clear pathway for ongoing development is required which builds leadership capacity in learning and teaching while simultaneously strengthening links with personal career development through the learning and teaching route. This is also central to the more advanced stages of the HEA Professional Standards Framework.

The University is now developing a Senior Scholar role specifically aimed at those participants who have successfully completed their Scholar projects or who have demonstrated leadership in advanced learning and teaching activity through a range of other CPD activities. Details have yet to be finalised, but Senior Scholars will have an ongoing remit for embedding innovation in learning and teaching, to further enhance the culture of

scholarship in learning and teaching across GCU in line with strategic objectives and continue to build strategic leadership capacity in learning and teaching through cascading their expertise to colleagues .

Conclusion

It is recognised that effecting transformational, cultural and attitudinal change takes time and sustained effort (Garrison, 2011). The university-wide impact of the Caledonian Scholars and Associates initiative is only now becoming increasingly visible following its launch three years ago. During that time, there has been a gradual shift from localised project outcomes to a wider understanding and acceptance of the potential of the distributive leadership model as a means of systematically embedding and rewarding evidence-based practice across the institution. Technology enhanced learning has undoubtedly gained ground as a mainstream learning and teaching activity, underpinned by a growing evidence base and promoted by committed opinion leaders and change agents. Whilst the initiative is facilitated centrally, ownership of projects remain with the participants, their departments and schools, bearing out findings from previous technology-focused transformational change projects that local 'buy-in' is an essential factor in ensuring longer term sustainability (Nicol, 2009; Mayes et al, 2009). The effort expended by Caledonian Scholars and Associates has been acknowledged by peers and by University management, and in several cases, rewarded through promotion, additional funding, student-led teaching awards and an enhanced external profile.

The initiative has not been without its challenges however, primarily with regard to time commitment and internal structural changes. Nevertheless, the ongoing commitment of senior management within the institution to support and expand the initiative is itself evidence of its success to date, as is the fact that this remains a competitive process, providing a valuable stepping stone in scholarly activity for less experienced staff and a means for experienced staff to raise their profile further and improve their prospects for career advancement.

University priorities will inform the future focus and development of the initiative, but the active involvement of staff at all levels within the institution as the living embodiment of distributive leadership principles should ensure an ongoing commitment to scholarly pedagogic practice, evidence-based technology enhanced learning and a high quality student experience.

References

- Anderson, I., Bullen, P., Alltree, J. and Thornton, H. (2008), CABLE: an approach to embedding blended learning in the curricula and across the institution, *Reflecting Education*, 4, 1, 30-41
- Bates, A.W. and Sangra, A. (2003) *Managing Technology in Higher Education*, San Francisco: Jossey-Bass
- Beetham, H. and Sharpe, R. (Eds) (2007) *Re-thinking Pedagogy for a Digital Age*, Routledge, Abingdon
- Bennett, N., Wise, C., Woods, P., & Harvey, J. A. (2003). *Distributed leadership: Full report* (A review of the literature): National College of School Leadership. <http://www.ncsl.org.uk/media/F7A/87/bennett-distributed-leadership-full.pdf>
- Biesta, G. (2007), Why "what works" won't work: evidence-based practice and the democratic deficit in educational research. *Educational Theory*, 57: 1–22.
- Bonk, C.J. and Graham, C. R. (Eds) (2006), *The Handbook Of Blended Learning: Global Perspectives, Local Designs*, Pfeiffer, San Francisco.
- Boyer, E. L. (1990) *Scholarship Reconsidered: Priorities of the professoriate*. Princeton, NJ: The Carnegie

- Foundation for the Advancement of University teaching.
- Conole, G., Dyke, M., Oliver, M. and Seale, J. (2004) Mapping pedagogy and tools for effective learning design, *Computers and Education*, 43, 17–33
- Creanor, L. and Walker, S. (2010) Learning Technology in Context: a case for the sociotechnical interaction framework as an analytical lens for networked learning research, in Dirckinck-Holmfeld L., Hodgson V., Jones C., de Laat M., McConnell D. & Ryberg T. (Eds), *Proceedings of the Seventh International Conference on Networked Learning*, Aalborg, Denmark
<http://www.lancs.ac.uk/fss/organisations/netlc/past/nlc2010/abstracts/Creanor.html>
- Findlow, S. 2008. Accountability and innovation in higher education: A disabling tension? *Studies in Higher Education* 33, no. 3, 313-29.
- Garrison, D.R. (2011) *E-Learning in the 21st Century*, New York:Routledge
- Gunn, C. (2010a) Sustainability factors for e-learning initiatives, *ALT-J, Research n Learning Technology*, 18 (2), 89-102
- Gunn, C. (2010b) *Caledonian Academy Scholars and Associates: Feedback from participants*, GCU Internal Report.
- Higher Education Academy (2006) *The UK Professional Standards Framework for teaching and supporting learning in Higher Education*
<http://www.heacademy.ac.uk/ourwork/universitiesandcolleges/accreditation/ukpsf>
- Hockings, C. (2005) Removing the barriers? A study of the conditions affecting teaching innovation, *Teaching in Higher Education* 10, 3, 313-26.
- Jenkins, A. (2009) *Research-Teaching Linkages: enhancing graduate attributes*, the Quality Assurance Agency for Higher Education
<http://www.enhancementthemes.ac.uk/documents/ResearchTeaching/QAA292Overview260509.pdf>
- Keppell, M., O'Dwyer, C., Lyon, B. and Childs, M. (2010) Transforming distance education curricula through distributive leadership, *ALT-J, Research in Learning Technology*, 18 (3) 165-178
- Knight, P. T., & Trowler, P. R. (2001). *Departmental leadership in higher education*. Buckingham: SRHE & Open University Press.
- Lefoe, Geraldine E., Smigiel, H. and Parrish, D. (2007) *Enhancing higher education through leadership capacity development: Progressing the faculty scholars model* <http://ro.uow.edu.au/asdpapers/56>
- Lefoe, G. (2010) Creating the Future: Changing Culture Through Leadership Capacity Development, in Ehlers, U-D & Schneckenberg, D. (Eds), *Changing Cultures in Higher Education*, part 1, 189-204, Springer Verlag, Berlin, Heidelberg
- Mayes, J.T., Morrison, D., Mellar, H., Bullen, P. & Oliver, M. (Eds) (2009) *Transforming Higher Education through Technology Enhanced Learning*, the Higher Education Academy,
http://www.heacademy.ac.uk/resources/detail/learningandtech/transforming_he_through_technology_enhanced_learning
- Mills, G. E. (2000) *Action Research: A Guide for the Teacher Researcher*. Prentice Hall, New Jersey
- Nicol, D. (2009) *Transforming assessment and feedback: enhancing integration and empowerment*, Quality Assurance Agency for Higher Education,

http://www.enhancementthemes.ac.uk/documents/firstyear/First_Year_Transforming_Assess.pdf

- Parrish, D. & Lefoe, G. (2008), *The Green Report: The Development of Leadership Capacity in Higher Education*, CEDIR, University of Wollongong, <http://www.altc.edu.au/project-distributive-leadership-learning-uow-2006>
- Prosser, M. (2008), The Scholarship of Teaching and Learning: What is it? A Personal View, *International Journal for the Scholarship of Teaching and Learning*, 2, 2 <http://www.georgiasouthern.edu/ijsofl>
- Reason, P. and Bradbury, H. (Eds) (2001) *Handbook of action research: participative inquiry and practice*, London: Sage
- Saunders, M., Machell, J., Williams, S., Allaway, D., Spencer, A., Ashwin, P., Trowler, P., Fanghanel, J., Morgan, L. and McKee, A. (2008), *Centres of Excellence in Teaching and Learning programme 2005-2010: Formative evaluation report to HEFCE*, by the Centre for Study in Education and Training/Institution of Educational Technology, http://www.hefce.ac.uk/pubs/rereports/2008/rd08_08/
- Smith, K. (2011) Cultivating innovative learning and teaching cultures: a question of garden design, *Teaching in Higher Education*, 16, 4, 427-438
- Stiles, M. and Yorke, J. (2006) Technology Supported Learning: tensions between innovation and control, and organizational and professional cultures, *Journal of Organizational Transformation and Social Change*, 3 (3), 251-267
- Vardi, I. and Quin, R. (2011) Promotion and the Scholarship of Teaching and Learning, *Higher Education Research and Development*, 30,1, 39-49
- Visual Learning Lab CETL, University of Nottingham (2010), Final Report to Higher Education Funding Council for England
<http://www.nottingham.ac.uk/visuallearninglab/documents/65828vllcetlfinalselfevaluation.pdf>
- Watson, D. M.(2001) Pedagogy before Technology: Re-thinking the Relationship between ICT and Teaching, *Education and Information Technologies* 6, 4, 251–266

Acknowledgements

I would like to acknowledge the considerable contribution of colleagues in the development, implementation and evaluation of the Caledonian Scholars and Associates initiative, especially Alison Nimmo, Senior Lecturer in the Centre for Learning and Academic Development, Glasgow Caledonian University; Associate Professor Geraldine Lefoe, Academic Development Unit, University of Wollongong; Emeritus Professor Dr.Betty Collis, University of Twente; and Dr Cathy Gunn, Centre for Academic Development, University of Auckland.

Author contact details:

Linda Creanor l.creanor@gcu.ac.uk

Please cite as: Creanor, L. (2011). Scholarship, leadership and technology: a case study of embedding evidence-based practice. In G.Williams, P. Statham, N. Brown, B. Cleland (Eds.) *Changing Demands, Changing Directions. Proceedings ascilite Hobart 2011*. (pp.295-306).

<http://www.ascilite.org.au/conferences/hobart11/procs/Creanor-full.pdf>

Copyright © 2011 Dr Linda Creanor.

The author(s) assign to ascilite and educational non-profit institutions, a non-exclusive licence to use this document for personal use and in courses of instruction, provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ascilite to publish this document on the ascilite web site and in other formats for the *Proceedings ascilite Hobart 2011*. Any other use is prohibited without the express permission of the author(s).