

The International JOURNAL *of* LEARNING

Empowering Classroom Teachers to Create
Multimedia Learning Objects

David Heldsinger
Robyn Smith
Cecily Knight

VOLUME 13

INTERNATIONAL JOURNAL OF LEARNING
<http://www.Learning-Journal.com>

First published in 2007 in Melbourne, Australia by Common Ground Publishing Pty Ltd
www.CommonGroundPublishing.com.

© 2007 (this paper), the author(s)
© 2007 (selection and editorial matter) Common Ground

Authors are responsible for the accuracy of citations, quotations, diagrams, tables and maps.

All rights reserved. Apart from fair use for the purposes of study, research, criticism or review as permitted under the Copyright Act (Australia), no part of this work may be reproduced without written permission from the publisher. For permissions and other inquiries, please contact <cg-support@commongroundpublishing.com>.

ISSN: 1447-9494 (print), 1447-9540 (online)
Publisher Site: <http://www.Learning-Journal.com>

The INTERNATIONAL JOURNAL OF LEARNING is a peer refereed journal. Full papers submitted for publication are refereed by Associate Editors through anonymous referee processes.

Typeset in Common Ground Markup Language using CGCreator multichannel typesetting system
<http://www.CommonGroundSoftware.com>.

Empowering Classroom Teachers to Create Multimedia Learning Objects

Developing Learning Objects

David Heldsinger, Central Queensland University, Australia

Robyn Smith, Central Queensland University, Australia

Cecily Knight, Central Queensland University, Australia

Abstract: Education reform in Queensland is enacted in innovative ways in teacher education programs. Key features of Central Queensland University's Bachelor of Learning Management, 'workplace readiness' and 'futures orientation' are encapsulated in the area of e-Learning. Knight, Knight and Teghe (2006, p.32) suggest that for learning to be futures oriented, "ICT's are simply one of the change agents as tools for learning" rather than an isolated component of education. In the BLM course e-Learning Manager, students develop ICT skills that provide a platform for creativity, innovation and entrepreneurial activity in a 'knowledge society'. In doing so they learn how teaching practices and learning content can be mapped into the digital environment by creating their own Learning Objects. This paper outlines how the digital environment can be used to create powerful forms of learning through creating multimedia learning objects using readily available resources within classrooms.

Keywords: Multimedia Skills, Learning Objects, Digital Environment, Teacher Education, Classroom Environment

Reconceptualising learning in a technological world

THE PURPOSE AND ideals of education in Western society have undergone many changes since the industrial era (Hargreaves, 1998; Turner-Bissett, 2001). Postman (1995) asserts that our structures of learning have become more utilitarian. Siemens (2006, p. 24) suggests:

The fundamental need of learning in our society has changed. Due to rapid growth of knowledge, the act of learning has shifted from acquisition to assimilation, from understanding of individual elements to comprehending an entire space, and, thereby, understanding how elements connect.

Siemens (2006, p. 4) claims that learning is now "a network phenomenon influenced by socialization and technology". There is no doubt that in the rapidly changing educational technology world of blogs, wikis, podcasting, PLEs (personal learning environments) etc, teacher educators face a number of challenges as they endeavour to prepare teachers with relevance for the present and future world.

Traditionally, those wishing to undertake a teacher education program enrolled in a Bachelor of Education program. At Central Queensland University, a new teacher education degree has been developed to reflect the changing role of teachers.

The Bachelor of Learning Management is established as a leading design for pre-service programs (Ingvarson, Beavis, Danielson, Ellis, & Elliott, 2005). It is comprised of four domains: *Networks and Partnerships*, *Professional Knowledge*, *Pedagogy*, and *Futures*. The course *e-Learning Manager* sits within the Futures domain and is complemented by two courses entitled *Futures* and *Entrepreneurial Professional*.

Smith and Lynch (2006) contend that the term 'learning management' is a symbolic name change reflecting the future work of a 'teacher', with the term 'management' emphasizing the skills of designing and engineering effective learning environments. Smith and Lynch (2006) also discuss the term 'futures orientation' as a particular disposition of instructional designers, referring to their skills in engineering and managing alternative learning environments that reflect twenty-first century life and work. Regardless of the educational sector one is working in, the Learning Manager is a learner as much as the facilitator. A futures orientation incorporates many skills, and this discussion about e-learning is focused on building capacity to apply learning design to new technologies in order to achieve learning outcomes.

ICTS for Learning

E-Learning has recently seen an escalation of interest in primary, secondary and tertiary educational sectors. The internet in particular has experienced



significant growth as a mode of delivery of educational programs in these sectors. A 2006 national survey by the Australian Bureau of Statistics: Children's Participation in Cultural and Leisure Activities, was conducted with children aged 5 to 14. The survey found that

"In the 12 months to April 2006, an estimated 1,730,700 (65%) children aged 5 to 14 years accessed the Internet either during or outside of school hours. This represents 70% of the total number of children who used a computer. The proportion of children accessing the Internet was the same for both males and females (65%). Internet access varied across the age groups with 19% of children aged 5 years accessing the Internet compared with 90% of 13 year olds."

The report also notes that "The most common activities undertaken using the Internet at home were school or educational activities (82%), followed by playing on-line or Internet based games (51%)."

(<http://www.abs.gov.au/Ausstats/ABS@.nsf/e8ae5488b598839cca25682000131612/0b14d86e14a1215eca2569d70080031c!OpenDocument#>)

One of the electronic 'tools' developed for use on the internet and gaining in popularity is the Learning Object or RLO (Reusable Learning Object). The Learning Object takes the form of a game. Wagner (2006) believes that "games have become a full-fledged educational tool, merging play with learning in a way that speaks to the digital generation's technical literacy". A number of studies undertaken by The Le@rning Federation (TLF) (<http://www.thelearningfederation.edu.au/tlf2/showMe.asp?nodeID=891>) have focused on the

benefits of learners using Learning Objects. One of the studies listed is a longitudinal study by Freebody (2006). The purpose of the study is to summarise the results of a field review of early-stage implementation of the online curriculum content developed to date by The Le@rning Federation (TLF).

The study found that

1. "1. There continues to be strongly positive responses to use of TLF's learning objects from teachers and students with respect to perceived benefits to both learning outcomes and engagement in learning.
2. This pattern of response applies across all teacher and student demographics; there are no correlations between ratings of the learning objects and any of the respondent variables in the surveys.
3. Multilevel modelling shows considerable variation in the pattern of responses by teachers

and students within and between learning objects, and some variation related to curriculum areas.

4. There are major variations in awareness and usage of learning objects in schools, and also in the extent to which learning objects are integrated into learning programs.
5. There is evidence of potentially new learning environments being put to 'old' pedagogical work."

Another study by Clarke and Gronn (2004) reviews the online content produced by The Le@rning Federation in classroom contexts in the Catholic Archdiocese of Melbourne. Key messages which emerge from this study are:

"- Students highly appreciate the opportunity to learn Mathematics with these digital resources. Not only do they find the materials engaging, but more importantly, they recognise the learning design principles embedded in them (interactivity, cognitive supports, ability to repeat activities, immediate feedback, ability to work at their own pace) as helpful to their learning. Nevertheless, they want the learning objects they use aligned to their age and cognitive abilities.

- Most teachers too recognise The Le@rning Federations online curriculum content as helpful for teaching and learning Mathematics."

The Le@rning Federation has become a key body in promoting Learning Objects. It was established as a result of agreement between education Ministers in Australia and New Zealand to collaborate in developing online curriculum content for all Australian and New Zealand schools. (<http://www.thelearningfederation.edu.au>)

While the Learning Federation is producing valuable Learning Objects, there are other factors that are also important. The opportunity to tailor-make Learning Objects for the learning environments of partner schools and the cost factor are aspects that need to be considered. One of the main purposes of the course e.Learning Manager is to provide pre-service teachers with the skills to not only be users of Learning objects but to be developers of Learning Objects. They in turn can then encourage their students in classrooms of the future to develop these skills.

Learning Objects have mainly been constructed with expensive, dedicated multimedia software such as Macromedia Flash. This is a vector-based package which uses the .swf file format as a compressed product. According to online encyclopedia, Wikipedia, Flash animation was first prominently used in 1979 by John Kricfalusi to create the

animated television characters *Ren & Stimpy* (http://en.wikipedia.org/wiki/Flash_Animation). It appears that prospective multimedia programmers will subsequently overlook the more accessible Microsoft PowerPoint with its limited multimedia features unless shown its full potential.

Kearney and Schuck (2006, p. 189) note:

Over the past decade, digital video editing software has developed from an expensive, rather clumsy tool, to a cheaper, user-friendly tool with many capabilities that facilitate learner control. This development has given rise to a host of new applications in education, including the ability of students to capture, edit and generate their own video to support, extend, or change pedagogy and curriculum outcomes.

In view of this, an outcome of the course e.Learning Manager is to bring meaningful multimedia authoring to students with limited ICT skills, by exploiting the full potential of PowerPoint and other Microsoft Windows tools.

Defining Learning Objects

Haugey and Muirhead (2005, p. 471) believe "The definition of a learning object has become more complex as software engineers, instructional designers, content specialists, researchers, and educators have all sought to turn the notion of reusable digital resources into reality". Wiley (http://en.wikipedia.org/wiki/Learning_Objects) lists a definition in online encyclopedia Wikipedia that a learning object is "any digital resource that can be reused to support learning". Pithamber (2003) notes "It is evident that Learning Objects are the most meaningful and effective way of creating content for e-learning" but he suggests that "There is a need to reengineer the design and development process of LOs. In this regard the developers - programmers, academics, graphic designers, and multimedia experts - should embrace a multidisciplinary and cooperative model of development to create knowledge that is appropriate for the emergent network society" (<http://jodi.ecs.soton.ac.uk/Articles/v03/i04/Polsani/>).

In the course e-Learning Manager, students are introduced to the construction of multimedia learning objects using readily available Microsoft PowerPoint, Microsoft Paint and Microsoft Sound recorder. This perception of learning tool is consistent with the description listed by The Department of Education Tasmania, (n.d.) which describes learning objects as "anything from a PDF or Word documents to complex multimedia simulations and learning sequences that use, for example, video and audio" (<http://www.ltag.education.tas.gov.au/Planning/>

learnseq/ict/objects.htm).

ICTs and effective Learning Management

To ensure that learning managers have effective strategies to embrace the future, there is a need to develop in Learning Managers, a disposition for instinctively using ICT when planning alternative learning environments. These ICT strategies would include blending learning environments, developing transdisciplinary approaches to learning experiences and strategies to engineer alternative learning environments.

Learning Managers would need to be able to use ICTs to:

- Design and create e.learning environments.
- Explore new technologies.
- Embrace new ideas and actively integrate ICT into their practices.
- Participate in communities of practice.
- Reflect and evaluate on practice to inform future experiences.
- Embed a pedagogical approach to e.learning that confirms the purpose of each e-learning activity.

The Instructional Design Process

Learning Objects are created by preservice teacher education students completing the course e.Learning Manager during their second year of study in the Bachelor of Learning Management program. An important aspect of the course is that the Learning Objects are designed in collaboration with schools. Several schools nominate to be partner schools and planning sessions are firstly held between school and university teaching staff. Examples of Learning Objects are shared and teaching staff nominate ideas for the Learning Objects they would like designed for their school. Preservice teachers then meet with school staff for more refined planning so that they understand the purpose and audience for the various Learning Objects that they will be creating. Specifications given to the preservice teachers state that the Learning Object created needs to incorporate the following four components:

1. Develop an action plan outlining the resources, the timetable for development, anticipated barriers and solutions, and the specific skills required in the making of the Learning Object.
2. Design a solution to the issue/problem under investigation in the form of a Learning Object using PowerPoint.
3. Develop the resource/product that showcases that solution and donate that to the school for which it was developed.

4. Devise a report that documents the design, development and the feedback received from the school site.

The design process of the e-Learning course incorporates cross-curricular elements and uses the design process set out in the Queensland Studies Authority Technology Syllabus (2003). The syllabus lists the design process as 'The Technology Process'. This process consists of four stages: Investigation, Ideation, Construction and Evaluation.

1. Investigation Stage

During the Investigation stage, preservice teachers are exposed to the concept of Learning Objects. Activities during this stage include:

1. Introduction to the Learning Federation which produces online curriculum content to encourage student learning and support teachers;
2. Visits to their respective partner schools to establish how the construction of the Learning Object will support specific learning and teaching;
3. Gathering data to familiarise themselves with the pedagogy for the particular learning experience planned. This is done in consultation with university staff and staff at the partner school to develop a learning approach specific to the school site;
4. Examining similar design challenges. These include Learning Objects produced by the Learning Federation as well as commercially produced learning 'games' and programs.

An important aspect of the tutorials is familiarising preservice teachers with issues related to copyright and school policies. In the area of copyright, educators face a dilemma as they are confronted by the new age of technology which allows them to transfer, duplicate and digitalize instructional materials quicker and easier than ever before. In general terms educators are allowed to make 'fair use' of materials for instructional purposes but it does not permit unethical reproduction of images, audio and text. This is an area that educators and students alike need to constantly monitor and check with copyright officers to ensure that they are adhering to the current laws and regulations of the day. Some of the material used during the tutorials cover:

1. Copyright information and disclaimer directly related to the Queensland Studies Authority (QSA). (<http://www.qsa.qld.edu.au/yourqsa/policy/copyright.html>)

2. Australian copyright management company Copyright Agency Limited (CAL) (<http://www.copyright.com.au/>) and in particular the online publication, By the Book or BUY THE BOOK (http://www.copyright.com.au/reports%20&%20papers/TT02_ByTheBook%5B1%5D.pdf).

This publication addresses copyright basics such as definitions related to copyright, respecting copyright, the Educational Statutory Licence and getting help with copyright

Individual school sites also have set practices pertaining to the use and storage of digital information and as part of the design process, preservice teachers must ensure that they follow the set processes established at their particular site.

2. The Ideation Stage

In this stage, a number of workshops are presented whose main purpose is to skill students in multimedia design tools required to construct the learning object. Each workshop consists of an overview of the skill (presented online or as a video presentation) and a practical session during which students 'trial' their acquired skills. The workshops are particularly intended to skill students in the use of multimedia authoring tools which are available in Windows and Microsoft Office.

a. Workshop 1 addresses image editing using the Microsoft Windows Paint program. It has been noted that a number of students still start university with limited graphics and multimedia skills. These are school leavers as well as mature aged students. Most students are aware of the Paint program in Windows but they tend to use the very basic tools available on the palette. The most popular are still the spray can, the paint bucket, the pencil and the eraser. Very few students use image editing tools such as flip/rotate, stretch/skew, inverting colours and changing page attributes.

The majority of first year students are familiar with PowerPoint. However, a large number of students still restrict themselves to the "design templates" in PowerPoint. Multimedia effects are mainly these custom animation tools, transitions and the PowerPoint sounds such as: Applause / Arrow / Bomb / Breeze / Camera / Cash register / Chime, etc. A percentage of school leavers do come with extensive multimedia skills, particularly those who have specialised in multimedia courses during years 11 and 12. However, most of these courses use dedicated multimedia software such as the Adobe suite rather than the common Microsoft PowerPoint. Multimedia software is very expensive and in most cases beyond the budget for the regular classroom or computer lab.

b. Workshop 2 addresses gif animation. According to online encyclopedia, Wikipedia, GIF (Graphics Interchange Format) is an 8-bit-per-pixel bitmap image format that was introduced by CompuServe in 1987 and has since come into widespread usage on the World Wide Web due to its wide support and portability. (http://en.wikipedia.org/wiki/Animated_GIF)

The idea is to get the students to think beyond basic Microsoft clip-art, word-art and elements such as these. The Microsoft Gif Animator (GIFAnimator.exe) is an accessory of the Microsoft FrontPage program.

c. Workshop 3 addresses custom PowerPoint animation. The workshop presents a comprehensive insight into the various animation options, transitions, hyper-linking and the embedding of multimedia objects. Particular emphasis is placed on the development of motion paths.

d. Workshop 4 introduces basic sound editing. There are a number of very effective, free programs available. These are not used because they would detract from the objective to function with available windows and Office applications. In an exercise related to the linking and embedding of sound files, students investigate the positive and negative qualities of the following sound files: Windows Media Audio (.wma), MPEG-1 Audio Layer 3 (.mp3), Waveform audio format (.wav) and Musical Instrument Digital Interface (.midi).

Workshop investigations produce discoveries such as: wma, mp3, midi and wav can all be used as linked files in PowerPoint slides; only wav files can be embedded in the PowerPoint slides; the audio track in Movie Maker displays a wave structure which does ensure easy editing but has the disadvantage of only exporting sound files as .wma; and wav files larger than 50000kb cannot be embedded

3. The Production Stage

The production stage involves students employing acquired multimedia authoring skills to develop a learning tool that reflects the design brief presented during the ideation stage.

The agreed criteria are that the Learning Object will:

- Support learning and teaching at the partner school;

References

Australian Bureau of Statistics. (2006). *Children's Participation in Cultural and Leisure Activities*. Retrieved February 19, 2007 from (<http://www.abs.gov.au/Ausstats/ABS/@@nsfe8ae5488b598839cca256820001316120b14a86e14a1215eca2569d70080031c!OpenDocument#>)

- Teach a skill, concept or an attitude;
- Constitute a multimedia experience incorporating graphics, sound and animation
- Ensure active student involvement;
- Provide constructive feedback.

4. The Evaluation Stage

a. This final stage involves groups showcasing their constructed Learning Objects to their peers during a Showcase Forum. During this presentation they invite critique related to the Learning Object.

b. The Learning Objects are then presented to the partner school to be trialed by the class.

Conclusion

This paper has outlined the process of construction of Learning Objects in a teacher education course. Feedback from preservice teachers suggests improved skills and confidence related to the use of ICTs. Teachers from the partner schools have also reported the usefulness of the tailor made Learning Objects for the classroom. However, future work needs to address some challenges presented in the course. Three notable issues are:

1. The size of the PowerPoint is approximately 450 times larger. An example of a graphic (red circle) in Adobe Flash occupied 209 bytes compared to 93,184 bytes in PowerPoint;
2. PowerPoint lacks a timeline similar to other multimedia authoring programs. This makes coordinating animation with sound effects very difficult;
3. Only WAV sound files can be embedded into the PowerPoint slides. Compressed sound files such as WMA and MP3 can only be linked to 'actions' in the slides

As one pedagogical approach to supporting future teachers, the development of Learning Objects in the course e.Learning Manager offers a means of preparing preservice teachers who are 'workplace ready' and 'futures-orientated' (Smith & Lynch, 2006). This implies they are aware of the need to stay engaged in debate, dialogue and critique relating to the constantly changing educational technology world.

- Clarke, O and Gronn, D. (2004). *Learning by Design: TLF Mathematics and numeracy learning objects in classroom contexts in the Catholic Archdiocese of Melbourne*. Retrieved December 5, 2006, from http://www.thelearningfederation.edu.au/tlf2/sitefiles/assets/docs/brochures_reports/research/learning_by_design.pdf
- Copyright Agency Limited. (n.d.) *By the Book or BUY THE BOOK*. Retrieved February 19, 2007 from (http://www.copyright.com.au/reports%20&%20papers/TT02_ByTheBook%5B1%5D.pdf)
- Department of Education Tasmania. (n.d.). *What advantages do learning objects bring?* Retrieved September 29, 2006 from <http://www.ltag.education.tas.gov.au/Planning/learnseq/ict/objects.htm>
- Freebody, P. (2006). *Early-stage use of The Le@rning Federation's learning objects in schools*. Retrieved October 30, 2006, from http://www.thelearningfederation.edu.au/tlf2/sitefiles/assets/docs/brochures_reports/Freebody_TLF_report_stage2.pdf
- Hargreaves, D. (1998). *Creative professionalism: The role of teachers in the knowledge society*. United Kingdom: DEMOS.
- Haugey, M. and Muirhead, B. (2005). The pedagogical and multimedia designs of learning objects for schools. *Australian Journal of Educational Technology*, 21(4), 470–490.
- Ingvarson, L., Beavis, A., Danielson, C., Ellis, L. & Elliott, A. (2005). *An Evaluation of the Bachelor of Learning Management at Central Queensland University*. Canberra, Australian Government Department of Education, Science and Technology. Retrieved September 26, 2006, from http://www.acer.edu.au/research/documents/BLM_280905.pdf
- Kearney & Schuck (2006). Spotlight on authentic learning: Student developed digital video projects. *Australian Journal of Educational Technology*, 22(2), 189–208.
- Knight, C., Knight, B., Teghe, D. (2006) Releasing the pedagogical power of information and communication technology for learners: A case study. *International Journal of Education and Development using ICT*, 2(2), 27–34.
- Marzano, R., and Pickering, D., Arredondo, D., Blackburn, G., Brandt, R., Moffett, C., Paynter, D., Pollock, J., Whisler, J. (1997) *Dimensions of Learning: Teacher's manual*. Aurora, Colorado: ASCD Publications.
- Pithamber, R. (2003). Use and Abuse of Reusable Learning Objects. *Journal of Digital Information*, 3(4). Retrieved 30 November, 2006 from <http://jodi.ecs.soton.ac.uk/Articles/v03/i04/Polsani/>
- Postman, N. (1995). *The end of education: redefining the value of school*. New York: Alfred A. Knoff.
- Queensland Studies Authority (2003). *Technology: Years 1 to 10 Syllabus*. Spring Hill, QLD, Australia: QSA Press.
- Queensland Studies Authority (2004). *Copyright information and disclaimers*. Retrieved February 19, 2007, from <http://www.qsa.qld.edu.au/yourqsa/policy/copyright.html>
- Siemens, G. (2006). *Connectivism: Learning Theory or Pastime of the Self-Amused?* Retrieved December 5, 2006, from http://www.elearnspace.org/Articles/connectivism_self-amused.htm
- Smith, R. and Lynch, D. (2006). *The Rise of the Learning Manager*. Frenchs' Forest, NSW: Pearson Education Australia
- The Le@rning Federation. Retrieved October 30, 2006, from <http://www.thelearningfederation.edu.au/>
- The Le@rning Federation. (n.d.). *Research, trials and reports*. Retrieved October 30, 2006, from <http://www.thelearningfederation.edu.au/tlf2/showMe.asp?nodeID=891>
- The Le@rning Federation. *Research, trials and reports*. Retrieved October 30, 2006, from <http://www.thelearningfederation.edu.au/tlf2/showMe.asp?nodeID=891>
- Turner-Bissett, R. (2001). *Expert Teaching: Knowledge and Pedagogy to Lead the Profession*. London: David Fulton.
- Wagner, J. (2006). *The School of Second Life*. Retrieved October 30, 2006, from <http://www.edutopia.org/1709>
- Wikipedia. (n.d.). *Flash animation*. Retrieved October 21, 2006, from http://en.wikipedia.org/wiki/Flash_Animation
- Wikipedia. (n.d.). *GIF*. Retrieved October 21, 2006, from http://en.wikipedia.org/wiki/Animated_GIF
- Wikipedia. (n.d.). *Learning Objects*. Retrieved October 21, 2006, from http://en.wikipedia.org/wiki/Learning_Objects

About the Authors

David Heldsinger

David Heldsinger is a lecturer at Central Queensland University with 2 decades of professional experience in primary and secondary mathematics, science and ICT. His early work in schools in poor areas abroad, where resources were extremely limited, has built a lasting passion for developing his own highly effective teaching aids from available resources. In his current work with pre-service teachers, he has combined this passion with his love for ICT and developing ICT skills of adult learners, and uses student developing of their own multimedia learning objects, as part of their ICT education. His recent research interests are focussed strongly on building of ICT skills, e.g., a recent collaborative study focussed on providing information to guide development of systemic syllabi and curricula, explored Year 4-7 teachers' and students' use of ICT at home and at school.

Robyn Smith

Robyn Smith (Dip Teach, B.Ed, MLM) Lecturer at Central Queensland University, Mackay Campus. Robyn has been a registered teacher since 1980 with the Queensland College of Teachers and has worked in a variety of school settings for an extensive period of time with Education Queensland and taught from years 1 to 7 in the primary sector. Throughout her employment period with Central Queensland University she has been afforded the opportunity to demonstrate her capacity to deliver the principles of the Bachelor of Learning Management through lecturing, tutoring and research. Key areas of interest include the creation and delivering

of materials for the Futures suite of courses :- e-Learning Manager, Futures and Professional Knowledge suite. A recent research topic that she has undertaken as part of her Masters studies investigated the 'Sociological study of students attitudes and perceptions of ICT (Information and Communication Technology) in learning environments – A Case Study.'

Dr Cecily Knight

Dr Knight has had 25 years experience in a range of teaching and administrative positions in early childhood, primary and tertiary settings in Queensland and NSW. Her interest is in learning and teaching with special interests in social-emotional development and ICTs for learning. Her doctoral studies were in the area of children's social-emotional development. She has been involved in some major research projects in recent years. In 2002-2004 she was one of 4 researchers in an \$822, 000 collaborative project between Department of Families, Education Queensland, and Central Queensland University. In 2004-2005 she was joint recipient of a \$101, 000 Merit grant which explored the effects of a computer mediated communication approach on regional school communities' capacity to recognise and address "at risk" issues. Dr Knight has 19 publications in refereed journals and book chapters. For the last 8 years she has taught in the teacher education program at Central Queensland University and has taken a leading role in curriculum development. She has also held a significant leadership position as Sub-Dean for the School of Education & Innovation on CQU's Mackay campus.

THE INTERNATIONAL JOURNAL OF LEARNING

EDITORS

Mary Kalantzis, University of Illinois, Urbana-Champaign, USA.

Bill Cope, University of Illinois, Urbana-Champaign, USA.

EDITORIAL ADVISORY BOARD

Michael Apple, University of Wisconsin-Madison, USA.

David Barton, Lancaster University, UK.

Mario Bello, University of Science, Technology and Environment, Cuba.

Pascal Brown, Unitec New Zealand, New Zealand.

Robert Devillar, Kennesaw State University, USA.

Melinda Dooly, Universitat Autònoma De Barcelona, Spain.

Manuela du Bois-Reymond, Universiteit Leiden, Netherlands.

Ruth Finnegan, Open University, UK.

James Paul Gee, University of Wisconsin-Madison, USA.

Kris Gutierrez, University of California, Los Angeles, USA.

Roz Ivancic, Lancaster University, UK.

Paul James, RMIT University, Melbourne, Australia.

Carey Jewitt, Institute of Education, University of London, UK.

Andreas Kazamias, University of Wisconsin, Madison, USA

Peter Kell, University of Wollongong, Australia.

Michele Knobel, Montclair State University, New Jersey, USA.

Gunther Kress, Institute of Education, University of London.

Colin Lankshear, James Cook University, Australia.

Daniel Madrid Fernandez, University of Granada, Spain.

Milagros Mateu, NASA, USA.

Sarah Michaels, Clark University, Massachusetts, USA.

Denise Newfield, University of Witwatersrand, South Africa.

Ernest O'Neil, Ministry of Education, Addis Ababa, Ethiopia.

José-Luis Ortega, University of Granada, Spain.

Francisco Fernandez Palomares, University of Granada, Spain.

Ambigapathy Pandian, Universiti Sains Malaysia, Penang, Malaysia.

Miguel A. Pereyra, University of Granada, Spain.

Scott Poynting, University of Western Sydney, Australia.

Angela Samuels, Montego Bay Community College, Montego Bay, Jamaica.

Juana M. Sancho Gil, University of Barcelona, Spain.

Michel Singh, University of Western Sydney, Australia.

Richard Sohmer, Clark University, Massachusetts, USA.

Pippa Stein, University of Witwatersrand, South Africa.

Brian Street, King's College, University of London, UK.

Giorgos Tsiakalos, Aristotle University of Thessaloniki, Greece.

Gella Varnava-Skoura, National and Kapodistrian University of Athens, Greece.

Cecile Walden, Sam Sharpe Teachers College, Montego Bay, Jamaica.

Nicola Yelland, RMIT University, Australia.

Wang Yingjie, School of Education, Beijing Normal University, China.

Zhou Zuoyu, School of Education, Beijing Normal University, China.

Please visit the Journal website at <http://www.Learning-Journal.com> for further information:

- ABOUT the Journal including Scope and Concerns, Editors, Advisory Board, Associate Editors and Journal Profile
- FOR AUTHORS including Publishing Policy, Submission Guidelines, Peer Review Process and Publishing Agreement

SUBSCRIPTIONS

The Journal offers individual and institutional subscriptions. For further information please visit

<http://ijl.cgpublisher.com/subscriptions.html>. Inquiries can be directed to subscriptions@commongroundpublishing.com

INQUIRIES

Email: cg-support@commongroundpublishing.com