Journal of Learning Design
DESIGNING FOR EFFECTIVE LEARNING

Editorial

Welcome to Vol. 3, Issue No. 3 of the Journal of Learning Design.

With great excitement, we bring you this special issue of the Journal of Learning Design focussing on Science Education and published in conjunction with the inaugural Queensland University of Technology, Faculty of Science and Technology (FaST) "Science Educators' Symposium", held on 1st October 2010 at QUT's Gardens Point campus.

This special issue, edited by Assoc Prof Dann Mallet and Stephanie Beames, includes a selection of papers from presenters appearing at the Science Educators' Symposium as well as academics from within the Science Disciplines of QUT's Faculty of Science and Technology. We are committed to promoting a culture of significance and importance of research into university-level teaching and learning and, as such, we are especially pleased to note that some of these QUT academics are publishing for the first time in a journal devoted to teaching, learning and education.

The speakers at the FaST Science Educators' Symposium have been brought together to provide a unique professional development day, to promote improvement in the quality and constructive alignment of teaching and learning in Science at university undergraduate level, and to facilitate implementation of innovations in assessment and laboratory and online teaching. We have invited six outstanding speakers, each with a strong background in the sciences, and who are excelling in the field of University Science Education, to share their successes in this challenging and dynamic sector. This event is intended to be of particular relevance to teachers of large undergraduate units.

Our keynote speaker at the Science Educators' Symposium and author of the lead article in this issue of JLD is Professor Geoffrey Crisp, Australian Learning and Teaching Council National Teaching Fellow (2009), HERDSA President and Director of the Centre for Learning and Professional Development at the University of Adelaide. Prior to moving his focus to online education and academic development, Geoff lectured in Chemistry for around 18 years at the Universities of Melbourne and Adelaide. Geoff's contribution to this issue is centred on practical methods for the design and delivery of sophisticated online assessment tasks.

Another speaker at the Symposium is also presenting a paper in this special issue. Dr Danny Bedgood is a senior lecturer in chemistry at Charles Sturt University who teaches introductory, general and inorganic chemistry, undertakes research into the chemistry of olive oil processing and quality and the teaching and learning of chemistry. Danny's paper - co-authored with his ALTC partners - discusses the ALIUS project and how the development of teaching skills can support the goals of the project.

A further four papers make up this special issue on Science Education. Associate Professor Pauline Ross of the University of Western Sydney, who undertakes research on estuarine habitats, presents an opinion piece on inquiry-based learning in biology. Dr Gillian Isoardi, a researcher of daylighting and photometry at Queensland University of Technology, discusses in her contribution to this issue the results of a survey-based study of international field trips and students in QUTs Master of Lighting program. Dr Perry Hartfield is also a senior lecturer at QUT in the Cell and Molecular Biosciences Discipline. Perry's contribution in this issue concerns case-based activities to reinforce constructivist teaching for upper level biochemistry courses. Finally, Dr Ron Epping is a senior lecturer and researcher in biochemistry and molecular biology at

Queensland University of Technology. Ron is an active innovator in teaching and learning in the life sciences and in this issue presents a report on the innovative use of the Blackboard learning management system in the assessment of students' laboratory skills.

We have great confidence that colleagues teaching across the sciences will find at least one of the papers contributed in this special issue of the Journal of Learning Design to be of interest and relevant to their own teaching practice. We encourage readers to not be confined to reading only the papers in their particular area of interest, but rather to consider the concepts discussed, the positive outcomes and improvements observed, and the important lessons learned by the researchers in all areas presenting research in this issue. In this way, we can all take what has already been proven as useful and apply it in own own fields, or fashion something more applicable to our own fields of teaching, spreading good practice far and wide. Finally, as scientists, we encourage you to go about your teaching and your teaching research in a scientific way. As teachers, we would ask that you become as familiar with the theories of learning as you are with the theories of your discipline. Apply the scientific method, undertake ethical experiments, gather and analyse data, collaborate with others, and of course publish, publish, publish!

We commend these papers to you.

Please select Vol. 3 No. 3 from the menu.

Assoc Prof Dann Mallet

Stephanie Beames

Guest Editors