
Editorial

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Biographical notes: Dr. Lorna Uden is a Senior Lecturer in the Faculty of Computing, Engineering and Technology at Staffordshire University in the UK. She has published over 100 papers in conferences, journals, chapters of books and workshops. Her research interests include learning technology, web engineering and technology, human-computer interaction, groupware, activity theory e-business, knowledge management, semantic web and Problem-Based Learning (PBL). She is the Editor of the *International Journal of Web Engineering and Technology* (IJWET) and *International Journal of Learning Technology* (IJLT), published by Inderscience, UK. She also serves as an editorial board member for several international journals.

Welcome to the first issue of Volume 3. This issue consists of six papers ranging from design to Web 2.0.

The first paper, 'Determining characteristics of an information support system for designing discovery learning environments' by Pieters *et al.* discusses an information support system for designing learning environments. According to these authors, the content of the information database should line up with the knowledge base of, and the activities carried out by instructional designers. Decisions have to be made regarding the content (information database) and the interface, consisting of a structure (relations between parts of the material) and means of navigation for the development of the information system.

In this paper, they describe the development of an information system that could be used in the authoring system, SIMQUEST. SIMQUEST is an authoring environment for creating learning environments that combine simulations with instructional support-based online guided discovery learning. The information system developed is based on questions that enable designers to select the information they need. The structure of the information follows a mixed structure of hierarchy and network. For navigation of information, the authors adopted the card tray approach, using navigation by tabs, or the use of hyperlinks. The objective of their design is to organise information and interface to adapt the information system to the needs of the designers.

A mock-up version of the information system was developed based on the above-mentioned issues. The idea of providing designers with task-relevant information is a good one and further research should be encouraged to determine how designers access the information system in their design of the learning environments, and how we can provide them with the necessary support in their design.

Probst *et al.*'s paper, 'Towards nutrition education for adults: a systematic approach to the interface design of an online dietary assessment tool', describes an online self-assessment nutrition program. The program allows patients to self-report their dietary intake, creating awareness, and receiving individually tailored dietary advice from their GP via a dietician. It examines how a step-wise approach to interface design allows a multidisciplinary approach to automated dietary assessment to be undertaken. The design uses focus groups with end-users and in-depth discussion between the multidisciplinary team.

Probst *et al.* believe that employment of the internet would allow an increased number of patients access to the assessment tool. This would not only shorten face-to-face diet history assessment for the dietician, but also allow more time to be spent on dietary advice. It would also allow doctors to focus on those patients who are in need of dietary intervention. This has interesting implications for the medical profession if further evaluation is undertaken.

From the design of an online self-assessment nutrition program, we move on to 'The use of online discussion forum for case-sharing in business education' by Lau. Lau's study was to identify predictors towards an online discussion forum for his MBA students. The study examined statements offered by MBA students according to whether they supported or opposed the use of an e-discussion forum for case sharing. Lau uses grounded theory as his theoretical framework for the study. His study found that the majority of the students were in favour of using an e-discussion forum for case sharing.

Six hypotheses were developed from the qualitative data:

- H1 Perceived convenience is positively correlated with satisfaction level with web board for case-sharing.*
- H2 The level of technical difficulties with web board is negatively correlated with satisfaction level with web board for case-sharing.*
- H3 The need for social interaction is negatively correlated with satisfaction level with web board for case-sharing.*
- H4 Age of participants is positively correlated with satisfaction level with web board for case-sharing.*
- H5 Males are more favourably disposed to the use of web board for case-sharing.*
- H6 The satisfaction level with web board for case-sharing is positively correlated with actual usage.*

Lau found that Hypotheses 1 and 2 were consistent with previous empirical studies of online learning. Hypothesis 3 was rejected. This result shows that a lack of personal social interaction did not have significant effects on the participants' satisfaction with using the web board discussion forum for case sharing. The online interaction provided by the web board forum appears to have compensated for a lack of personal social

interaction. The study also shows that satisfaction with web board case sharing has a significant positive relationship with participants (Hypothesis 6). The concepts are interesting and worthy of further study.

The fourth paper is about quality marks. According to Pawlowski in his paper, 'Quality mark e-learning: developing process- and product-oriented quality for learning, education and training', quality marks are a popular method to assure the quality of products and services. A quality mark is an instrument of quality management or quality assurance, providing a certification. The certification testifies the conformance to certain aspects and rules, based on a review process for a certain domain. In this paper, Pawlowski describes an example for a holistic quality mark for e-learning known as *Qualitäts Siegel E-Learning (QSEL)*.

According to Pawlowski, in contrast to existing quality marks, this approach is adaptable to the requirements of educational organisations, integrating different methodologies and benefits of existing approaches. QSEL follows a descriptive, adaptive approach increasing transparency of processes, products and services in the field of learning, education and training. Its aim is to improve the quality of an educational organisation, as well as its products and services (such as courses or learning management systems).

QSEL was evaluated in two different contexts: in the training department of a large industrial organisation and within a higher education department. The evaluation shows that QSEL can be used as a starting point to establish a complete quality management system. It also shows that QSEL can lead to organisational changes and improvements if the organisation is willing to adopt new concepts and change towards a learning, quality-oriented organisation. It would be beneficial to conduct further validations to establish its usefulness as a quality mark for e-learning.

The fifth paper is by Becker and Devine. Their paper, 'Automated assessments and student learning', examines the effects of using a course website to give automated assessment. Its aims were to provide students with sufficient incentives to complete homework assignments prior to class, encourage mastery of basic homework concepts prior to class, save class time reviewing their homework assignments and facilitate assignments of student learning by automating grades. Results of using automated assignments were evaluated in three areas: performance, motivation and efficiency. Performance data was obtained both from actual student grades and grade records from prior semesters. Information about the assessment-performance links as well as motivation and efficiency data was obtained from a survey of student opinion given at the end of the course. All questions were answered on a Likert scale. According to those authors, technology-assisted assessment is a very effective way to improve student learning from homework assignments.

The use of quizzes encouraged students to complete more homework assignments and think more about the assignments before classes. The quizzes required students to know assignment content and think about course questions related to that content before class. Students perceived that the quizzes provided improved preparation for tasks and tests, and their tests and course grades reflected the benefits. They also reported learning more from completing the assignments and feeling more motivated to prepare for class as a result of having to score well on the quizzes.

From assessment of student learning we move to our last paper, 'The Web 2.0 way of learning with technologies' by Rollett *et al.*, Web 2.0 is a new kind of learning technology. This paper explains the background of Web 2.0 investigates the implications of knowledge transfer in general and discusses their use for e-learning. According to these authors, any application that adheres to the eight design patterns can be a Web 2.0 application. A typical Web 2.0 phenomenon is social software. Social software uses the web as a collaborative medium that allows users to communicate, work together and share and publish their ideas and thoughts. All of this bottoms up with an extremely high degree of self-organisation.

At the heart of the framework for knowledge work analysis, of Web 2.0 and of knowledge transfer are conversations: individuals engaging with the community. Web 2.0 applications can be conceptualised as a set of applications that represent suitable containers for ideas. Rollett *et al.* believe that Web 2.0 applications open up a broad range of new applications for educational institutions. They argue that Web 2.0 applications increase self-directedness and responsibility of students, enabling learning beyond the classroom, enhance the critical usage of internet resources and allow for cross-class and cross-school learning. However, there are also limitations. Applications and their functionalities might fit the goals of educational organisations, but it will be hard to transmit essential Web 2.0 attributes such trust, openness, voluntariness and self-organisation into many of the existing institutional contexts. Web 2.0 offers us a promising technology for e-learning. More research should be conducted in this area.