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AEA – Assessment and Evaluation Approaches

Effective Multi Platform Spoken Learning and Assessment

Gavin Cooney, Learnosity, Ireland

This session seeks to explore the evolution of spoken learning and assessment across different technology platforms.

Today, students have good access to technology and largely feel very comfortable using a variety of devices such as iPhones, iPads, iPods, computers and mobile phones which are all are all part of the everyday lives of many learners.

This session will explore the challenges of traditional language assessment and outline a technology solution that enables spoken assessment across a range of devices. The technology is used to stimulate authentic conversation by using targeted questions in a voice response methodology. The solution uses 'record and upload' to allow for spoken assessment in low Internet bandwidth exam centres. The solution also delivers a mobile MCQ practice test application that seeks to address the need for anytime, anywhere learning.

This presentation will share insights from various projects around the world including those using iPad, iPod and mobile phone technology in formative and summative assessment.

One of the projects that will be presented is that of the Open University (OU). The OU is the United Kingdom's only university dedicated to distance learning. With more than 250,000 students enrolled, including around 30,000 aged under 25, and more than 50,000 studying OU or OU-validated courses overseas, it is the largest academic institution in the United Kingdom and Europe by student number, and qualifies as one of the world's largest universities. Since it was founded, more than 1.6 million students have studied its courses.

In 2009 the OU embarked on a project with Learnosity to support distance mobile learning in language courses. Increasingly more of the OU's students are using course material whilst on the move and this has led a rethink in terms of improved teaching and learning provision.

As part of a research project to explore the potential of phones to provide a more "flexible approach to course study[1]" the OU's Department of Languages created Learnosity Voice activities based on the content of DVD-Rom activities currently provided on the OU's French Intermediate course (L120). Grammar drills, dialogues, oral presentations, pronunciation and intonation activities and listening comprehensions were adapted for use on Learnosity Voice.

The project gathered its findings from regular online student user questionnaires and oral feedback.

The French Intermediate student group scored Learnosity Voice very highly in terms of usefulness with 86% of responses in the Extremely Useful or Very Useful categories.

Predicting Success: Using an Online Self-Diagnostic Test

Dietmar Kennepohl, Athabasca University, Canada

For decades a great deal of effort has been spent predicting the potential success of students entering university-level introductory general chemistry primarily with the objective of reducing the rate of failures in the course. Athabasca University (AU) Canada's Open University with over 38,000 students has the mission to reduce barriers to university-level education. As an open university, students are not required to have formal prerequisites to register in entry-level courses, but they are still expected to perform satisfactorily once they enter. One immediately realizes the challenges this brings, especially considering that AU faculty and staff also wish to reduce failure rates in general chemistry. Furthermore, there is a strong moral obligation among teaching staff to adequately advise and inform students attempting the course to ensure that students have a reasonable chance to pass the course and obtain the education they seek and deserve. Student advising and early identification of at-risk students would be beneficial to both the institute and the prospective student.

To advance this, we have developed a simple online self-diagnostic tool to allow students to independently and quickly measure their potential of success in a first-year general chemistry course. The online tool is publically available (www.athabascau.ca/courses/chem/217/am_i_ready) and employs well-established performance predictors in areas such as student educational background, conceptual basics, critical thinking, mathematical skills, and problem solving skills. Unlike entrance requirements or placement examinations, which are often used as gating mechanisms for entering a course(s), this tool is used without obligation by individual students who receive virtually instantaneous online assessment of potential success and some general advice.

AU already employs several online self-diagnostic tests in other disciplines such as English, mathematics and computing science in its "Am I Ready for …" series of assessments. The latter two focus on carrying out skills inventories or generally assessing literacy in the discipline. However, the English diagnostic is used as a placement examination to direct students to one of three AU courses. In all cases (including chemistry), the diagnostic is online and provides immediate feedback, which is useful and greatly appeals to students. The chemistry self-diagnostic differs from the other three in two fundamental ways. First, it is very course specific (CHEM 217), whereas the other three are disciplines that could be considered as part of the general education component of any undergraduate student. Second, the chemistry diagnostic uses multiple strategies to predict future performance, whereas the others rely primarily on current content knowledge.

The aim of this chemistry study is to compare scores between the self-diagnostic test taken before the student starts the course with actual student performance in the course. The instrument of the self-diagnostic test employed the historically more powerful predictors and the questions were modeled on questions that performed well in previously published tests. From the correlation that we have found between the self-diagnostic test and student's final grades in the course, we can determine with considerable certainty their potential course performance. The Pearson correlation coefficient (R) is 0.749, which suggests a very strong linear trend. A t-test ($p < 0.001$) confirms this value is significant. Over the years, we have developed a table of score ranges to stratify potential future course performance and related strategies, including revision, upgrading and remedial work, that we would recommend. The student is given his/her raw score from the self diagnostic test along with this table containing general comments and suggestions organized by score ranges. This helps to inform the learner in their decision to attempt the course.

CON – Intelligent Content and Semantics / Content Authoring and Creation

Emotional Competencies of Teachers Using E-Portfolios

Iolanda Bernabé-Muñoz, Universitat Jaume I, Spain

This work proposes a training and action research programme in emotional education for student teachers in primary and secondary schools and university teachers using e-portfolios.

Objectives
Through an action research methodology and by using the e-portfolio as a learning and evaluation tool, the main research objectives study these six specific areas related to teachers' emotional competencies:

1. *The emotional education concept.*
   Theoretical foundations of emotional education. Emotional education objectives. Emotional education contents. Methodology. Evaluation in emotional education. Intervention contexts. Emotional intelligence, emotional competence and emotional education. Values in education.

2. *The tutor's role as an emotional education agent.*
   Social and emotional development of students, teachers and other staff members. Emotional education in the inclusive school.

3. *Evaluation in emotional education.*
   Evaluation models. Evaluation process. Evaluation tools for emotional education.

4. *Psycho-pedagogical support for teachers.*
   Preventing stress among teachers. Developing emotional competencies in teachers. Initial teacher training in emotional education. Teacher training in emotional education.

5. *Psychology of emotions.*
   Development of emotional education programmes at school. Group dynamics techniques for emotional education. Motivation and creativity in education. Motivation and emotion in learning.

6. *Design and evaluation of emotional education programmes.*
   Context analysis. Identifying needs. Programme design. Starting the programme. Evaluation.

Creating Universal Accessible E-Learning Content for Vocational Training

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Introduction

ELoQ is the acronym for "e-learning-based logistics qualification" and sums up the main goal of the project: realizing vocational education in the field of logistics for adolescents with disabilities through e-learning-based activities. As the target audience of the project is apprentices with disabilities, the e-learning methods and activities used within the project have to be fully accessible and thus usable for both disabled and non-disabled apprentices. The apprentices will be qualified in the field of storagement logistics, comprising tasks like conveying goods, working in the goods receiving department, warehousing goods and picking and packaging.

One big challenge was to identify tools that support the creation of e-learning content that is accessible for people with disabilities. Today a lot of e-learning content is created using tools like PowerPoint or other mainly visual tools, following an approach called "Rapid E-Learning". The advantage of such tools is that they have a rather low learning threshold and are available both for domain experts and content developer. But these tools also have the big disadvantage that – despite the possibility of creating accessible presentations or text documents – the content is often not accessible for people with disabilities.

We therefore evaluated the accessibility of several tools for e-learning content creation and decided to use AContent for our project. AContent was developed by the Adaptive Technology Resource Centre (ATRC) at the University of Toronto with accessibility as a main goal. It is available under a license that allows modifications and provides a WYSIWYG approach, which ensures its usability for both experts and novices. We translated the interface and modified the content editor to make the software suitable for our needs.

Universal Accessibility of E-Learning Content

The project ELoQ develops and provides e-learning in compliance to the German disability legislation, especially the BGG (Behindertengleichstellungsgesetz – Law on Equal Opportunities for People with disabilites) and the BITV (Barrierefreie Informationstechnik Verordnung – accessible information technology enactment). Accordingly, accessibility can be defined as follows:

"Accessible are structural and other facilities, transportation, engineering goods, systems of information processing, auditory and visual information sources and communication facilities designed and other areas of life, when they are usable for disabled people in the usual way, without much of a burden and, in principle, without external help."

In accordance with this understanding, universal accessible e-learning is usable by and accessible for everyone, for apprentices with and without disability, for those who acquire their training in vocational training units or in vocational schools. The impact of this understanding of accessibility not only takes the accessibility of the information technology into account, but also requires educational scenarios, learning materials, teaching aids and learning activities that are suitable for a versatile range of apprentices, regardless of their cognitive abilities, any disability or motivation.

What makes e-learning content accessible?

The basic for accessible e-learning content is the so called POUR approach, which was originally developed by the WAI. The acronym demands that content has to be:

- Perceivable: Learners need to be able to perceive learning content, no matter that they might have problems seeing images, videos or text, or hearing audio. This

Curriculum Browsing: Using the Semantic Web as a New Way of Presenting Educational Information

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In January 2011 The *Dutch Ministery of Education* commissioned a research & development project supporting the implementation of the then newly published Dutch National Achievement Standards For Language And Math Skills (Referentiekader Taal en Rekenen) in primary and secondary education. The aim of this project was to develop an experimental online tool for education professionals offering them comprehensive access to these standards and associated other information such as relevant learning trajectories, background information on language and math ('body of knowledge') and learning object repositories. The tool should for example be able to support teachers in solving everyday teaching problems in the classroom presenting concepts, expertise and examples from all of these information areas in an integrated and well structured way.

Project Partners
The main project partners were:

- *Freudenthal Instituut*, the Dutch research centre for Math education
- *Expertisecentrum Nederlands*, the Dutch research centre for Language education.

The project was executed in close cooperation and with great support of *Kennisnet*, the Dutch organisation for application of ICT in education and it's (and SURF's) innovative Educational LinkedScape project. In this project Kennisnet applies semantic web concepts and tools in the development of practical information solutions for education.

Also involved in the project was the Dutch centre for curriculum development, *SLO*. SLO was responsible for the end user tests that were conducted on the prototype.

Research Goals
The focus in this project was on *RDF* (Resource Description Framework, the leading information standard for the semantic web) as a means of creating linked open data resources that are well structured and easily accessible and expandable. RDF promises to bring the traditional technique of metadata description of educational resources to a next level.

The main research question of the project was:

Can we structure and publish the National Achievement Standards For Language And Math Skills and associated information sources such as the national curriculum and databases of learning objects as linkable open data in such a way that end users can navigate this semantic web in a useful way and find solutions to their everyday teaching problems?

The RDF prototype for Language and Math that was created in the spring of 2010 was a proof of concept. Was it possible to integrate all these heterogeneous language and math information resources from different parts of education into one coherent online information environment? And in what ways could this environment be made easily navigable for end users such as teachers who are competent but not really experts in the areas concerned? In other words: is it possible to grasp the complex narrative information structures that define curriculum and translate them into comprehensible end user views?

This broad research problem was broken down into four operational questions:

1. Content: which information sources are necessary to create a rich enough semantic environment?

Extending the Functionality of the VLE: Engaging Students with E-Portfolios and New Learning Approaches

Guy Pursey, Maria Papaefthimiou & Karsten Øster Lundqvist, University of Reading, UK

The University of Reading has been promoting the use of e-learning and more particularly e-portfolios in the last four years. One of our main objectives is to put the student at the centre of learning by providing them with support and an infrastructure that will allow them to excel. The University uses Blackboard as its VLE and the e-Learning Team have looked at ways of improving functionality to this end in the past. Within the JISC-funded DEVELOP Project (July 2010-February 2012), widgets have been designed using HTML/JavaScript to further this improvement through interaction with Blackboard's very basic e-portfolio tool.

E-portfolios are seen as a way of collecting evidence of student achievement and subsequently promoting the reflection thereon for personal and professional development. The work over the last four years has revealed that students encouraged to create and maintain e-portfolios need guidance within and around the provisional Blackboard Learn tool to truly exploit its potential. One of the aims of the DEVELOP Project undertaken at Reading has been to provide this guidance by developing widgets that enhance the e-portfolio tool on offer.

One widget enables students to build a portfolio with all the pages as specified by their tutors/lecturers. This widget also guides the user through the various steps needed to share and maintain their portfolio. A feedback widget allows tutors to provide feedback on specific parts of the students' portfolios while an export widget would allow students to download their portfolio in a standards-compliant form. By providing students with ready-made structures and templates, easing the delivery of feedback, and enabling students to take their work away for future use, the project has endeavoured to make the technology less of a hindrance and more of a help.

By also allowing students to navigate learning resources and content particular to their interest, the project has taken a similar approach with course materials and hopes to encourage more student-centred approaches to teaching. To this end the DEVELOP project created a tool that enables tutors to tag content as or after they add it to their course, encouraging a process akin to discovery through a subsequently more flexible navigation of the Blackboard Learn course site.

The project has been working closely with a number of academic staff, with use case scenarios and a rapid prototyping approach, to develop the widgets that will deliver these enhancements. Both informal discussions and formal piloting of the tools have informed further development and allowed for an evaluation of the success of this approach. The presentation at Online Educa 2011 has provided an opportunity to showcase this work, both in demonstrating how the tools work and in discussing the approaches, both technical and pedagogical, that were taken.

One of the immediate effects that the project has had has been to open up the discussion around e-portfolios and around course structure and associated pedagogy within Blackboard Learn and get teaching staff thinking about how approaches to delivery and the facilitation of learning might be altered.

Many questions remain: have the DEVELOP widgets enhanced the University of Reading's VLE, Blackboard Learn? And in doing so, have they actually promoted more student-centred learning or simply provided more avenues for the delivery of traditional teaching methods? We have also to address the question for which there may be no real empirical answer: should we be guiding students through reflection in this way and how much do ready-made structures and templates actually hinder what might be considered truly reflective activity?

Mighty Mahara!? The Role of Self-Organised Learning Within the Context of Mahara E-Portfolio

Thomas Strasser, Vienna University of Education, Austria

Practical examples from student teacher courses at Vienna University of Education. A technical steeplechase or supportive methodological perspective?

Digital, self-organized learning can be considered challenging in the field of student teacher training since it represents a new cultural technique. By teaching such techniques to student teachers, new forms of control and self-control will be developed (cf. Meyer in: Meyer, et. al.)

Self-organized learning can also be seen as a strategy to include the EU's concept of Life Long Learning in teacher training sequences and a challenge for tertiary education (cf. Hornung-Prähauser, 2010).

Self-organized learning shows:

- the development towards a responsible learner, who develops self-determination, self-responsibility and autonomy in the learning process.
- the development of decision-making processes and/or autonomy in thinking and acting (e.g. the skill to know where to find a certain source of knowledge, differentiate between useful and obsolete knowledge, etc.).
- the development of learning competency.
- the support of social competency (cf. Dimai 2005 in: Hornung-Prähauser, 2010).

An evident medium to support the free choice of learning paths and learning goals (cf. Reinmann in: Meyer) is the approach of an ePortfolio. In the context of academic discourse, it can be seen that ePortfolios imply a certain beneficiary potential: "ePortfolios can support the self-determined, self-controlled and self-responsible development of the competencies of a learner [...]" (Reinmann in: Meyer, p. 35).

This demonstration seeks to illustrate the implementation process of the ePortfolio Mahara at Vienna University of Education. In the context of a scientific project, several steps are documented which were necessary in order to initiate a constant use of the portfolio in practical student teacher courses for EFL on various levels (elementary and secondary schools).

Apart from providing a brief report on the technical implementation of Mahara (and its challenging obstacles) at Vienna University of Education, the author will try to explicitly emphasize to what extent ePortfolios support personal development, social skills and professional credo among student teachers.

Furthermore, the aspect of self-organized learning within the ePortfolio-context including various asynchronous communication processes is highlighted and critically-reflected.

An additional focus of this demonstration will be on student teachers' creative outcomes concerning the use of ePortfolios in the actual classroom (i.e. how student teachers didactically implement ePortfolio-teaching-sequences for their pupils in practice in order to enforce collaborative learning using an internationally accepted tool [i.e. ePorfolios in general, not exclusively Mahara] representing the "Zeitgeist" and needs of 21st century learners).

The final part of this demonstration deals with evaluative feedback of student teachers and members of the institution (i.e. Vienna University of Education) concerning the reception of user-friendliness and learning outcomes of Mahara.

CUL – New and Existing Learning Cultures

How Cultural Differences Affect the Way People Respond to Technology-Based Learning Programmes

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The principles that are generally used to design technology-based learning solutions (including e-learning and webinars) are derived from psychological theories originating mainly from research carried out in North America and Western Europe (Moore et al., 2006; Goodfellow & Lamy, 2009; Hewling, 2008). It is therefore important to think about whether these learning design models are therefore relevant to students who have different sets of cultural values. The use of Information and Communication Technologies (ICTs) to deliver tertiary education courses and training programs is increasing, and there are a growing number of learners who are participating in e-learning courses designed and delivered by members of a cultural group other than their own. As education and training programs are delivered into other countries, a number of social and cultural issues arise, such as working in another language and conflict between teaching and learning cultures (Gunawardena & McIssac, 2004; Moore, Shattuck & Al-Harthi, 2006; Murphy, Gazi & Cifuentes, 2007).

During the last twenty years a significant body of work has developed that allows us to describe and categorise cultural values from around the world. Researchers such as Gert Hofstede (Hofstede, 1980; Hofstede & Hofstede, 2005), Edward Hall (1976, 1990) and Fons Trompenaars (Trompenaars & Hampden-Turner, 1998), amongst others, have described the importance of differing attitudes to such things as power relationships, individualistic or collective priorities, attachment to the past, present or future and time management in managing international or culturally diverse workforces. But how do these cultural differences affect people's reactions to learning using computers, especially in a global online learning environment? Until this particular UNHCR study, there has been little systematic work done to explore this (Yang, Wang & Drewry, 2009), and certainly none that have sampled such a large number of people from such a wide range of cultural backgrounds.

UNHCR, the United Nations' refugee agency, has a keen interest in technology-based learning. Operating in crisis situations in countries around the world, with a workforce of over 6,000 people drawn from all the UN's member states, it is constantly having to train people in new skills in remote and dispersed locations. It is therefore investing heavily in the use of e-learning solutions, offering both self-paced modules, access to webinar events and solutions relying on mobile telecommunications equipment.

It is working with Concordia University in Montreal, Canada, to study its staff's reactions to, perceptions of and preferences for technology-based training. It has conducted a study to show how different cultures like to use e-learning using a cross-sectional Web-based survey with open and closed ended questions. The survey was conducted during the summer of 2011 and had more than 600 respondents from more than 100 countries. This study also included other variables that might be more significant than, or might mediate the effects of cultural effects. Such variables include, prominently, prior experience with e-learning, position held within the organization,

ETH – Ethical Considerations in Education

The Challange for Supervision: Mass Individualisation of the Thesis Writing Process with Less Resources

Ken Larsson & Henrik Hansson, Stockholm University, Sweden

Introduction

In higher education the number of students is constantly increasing at a rate that is not matched by added institutional resources. In Sweden the total number of students in the higher education has increased from 15.000 during the 1930s to more then 300.000 in 2002. This increase in number of students implies that the average student may be less qualified and therefore require more supervision in their thesis work (Husén, 2002). Today the number of PhD students in Sweden is equal to the number of upper secondary students in 1950's. The non-completion rate of thesis at bachelor level in Sweden in 2004 was 35%, so one out of three students never completed their education (Swedish Statistical Office 2004). There is a similar international trend as reflected in the OECD statistics in 2008 where 31% of the students who started an education did not complete their degree. Locally we see the same trend, at the Department of Computer and Systems Sciences at Stockholm University, 30% of those enrolled for the master theses during the period 2001 – 2006 did not finish. There may be several reasons for this drop-out rate, like opportunities to get a job before exam, changed interests' in life and more, but we do believe that reduced resources in the form of available hours for supervision and assistance leave students on their own and therefore motivation drops.

A related problem is the supervisors work hours, where on an average professors and assistant professor in Sweden regularly has a workload of 120% of fulltime, mostly unpaid work in supervising and teaching. This is both because of an increasing number of students and an increasing administrative burden as the administrative staff has been reduced. About 17% of the work is spent on administrative tasks for teachers and supervisors (HSV 2010). On average a fulltime teacher/supervisor has 30 fulltime students in Sweden per semester. There is a vide variation between different subject areas where specialised institutions like medical schools and schools in performing arts have a average of 15 – 20 students per fulltime teacher. Universities with large departments in humanities and social science have an average of 40 – 45 students per full time teacher (HSV 2010).

For the student it is often a big step to transform from a learning style of information processing to a learning based on knowledge creation. The process is usually very different from what the student has experienced during the education up to starting the graduation work. In this new and often unfamiliar process the student is expected to master the art of independent thinking, reflect, test and redo, defend and in depth give arguments in depth for the work conducted (Creswell, 1994 and Cohen et al, 2005). Up until the thesis work begun you as a student only has to read the material and act as a knowledge repeater, now you are expected to produce knowledge. For most students this process is time consuming, time that the supervisor is getting less and less of, and mostly it is a matter of communication.

The student who are working on a thesis share many of the problems that faces a distance student as the work is done alone (usually) and the student is required to manage his/her own project