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LEARNING FROM ASSESSMENT: EVALUATING THE BENEFITS OF DALI (DIAGNOSTIC ASSESSMENT LEARNING INTERFACE)

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Introduction

The DALI Project is a Teaching and Learning Innovation Fund (TALIF) pilot study at the University of Essex. DALI (Diagnostic Assessment Learning Interface) is an add-on to QuestionMark Perception (1), which enables students to see how well they've performed in each topic (a group of questions). It provides learners and instructors with multiple ways to view assessment information in order to gauge progress in specific topic areas.

The DALI interface:

- allows a student to select the score level that they wish to achieve;

- highlights the last topic-based feedback provided to the learner;

- provides statistics associated with any selected topic; and

- displays topic descriptions as learning objectives.

The paper discusses how the project aimed to understand better the use of online assessment with a particular focus on the student experience. Data were collected on matters such as what the students perceive to be the merits and demerits of online assessment, and what motivated or discouraged them from using it. These issues are particularly salient: the National Student Survey has shown assessment and feedback to be a particular concern for students. As the market for e-delivery expands more thought needs to be given to how students learn with e-learning, and the ways in which this should inform the design of e-learning activity, including e-assessment.

Overview of the DALI Project

Interest in online assessment has grown rapidly at the University of Essex and is a key area for development nationally. The University has developed a student portal and is developing personalised assessment resources as part of the FDTL5 SPRInTA Project (2004-06, http://www.essex.ac.uk/sprinta). Previous TALIF projects have developed online assessment to meet specific

departmental needs and concerns, including using formative assessment to support large group teaching and to support threshold testing.

The project also aligns with developments at a national level: Assessment and personalised learning opportunities are included in e-learning strategies from the DfES and HEFCE. In January 2005, the Qualifications and Curriculum Authority published a 'Futures'(2) paper: which also identifies e-assessment as a means of supporting personalised learning, which they argue is a key area for curriculum development in the next 10-15 years.

Alongside this, UK HE funding bodies have articulated the need for research to be undertaken into student uses and experiences of e-learning. The JISC has funded a   strand to the e-pedagogy programme (2004-07) entitled, 'Understanding my learning', which focuses on the learner perspective on the role of ICT in learning: '*Learners have different priorities, preferences and approaches to learning, and different requirements for support. The learning environment needs to reflect these differences. Understanding how different learners experience the tasks, resources and services offered to them is an important precursor to developing effectively personalised systems' (3)*. The DALI Project sought to assess the student experiences and use of online assessment and will incorporate these findings within a good practice guide on online formative assessment to be made available to staff from October 2006.

The DALI Project

The DALI Project aimed to build upon online assessment experience in three departments at the University of Essex. The departments of Accountancy and Financial Management, Electronic Systems Engineering, and Biological Sciences have used QMP in recent years to generate a large number of question items and re-usable databases to support formative testing. The DALI Project Officer worked with academic staff in these departments to add topic-level learning objectives and feedback into the weekly assessments for three courses. These formative assessments were then made available to students in the Autumn term 2005, with evaluation on staff and students perspectives on online assessment in the Spring term 2006.

The DALI Project evaluated both student and staff perspectives on online assessment through the use of a student questionnaire, a student focus group, and a focus group session involving both staff and students (held in the University's i-LAB). The initial student survey was conducted electronically and the findings from the survey formed the basis of an assessment 'think tank', a focus group session which discussed assessment and feedback with students.

When thinking about assessment, 89% of students surveyed either strongly agreed or agreed that being able to identify their strengths and weaknesses was important to them, and 92% strongly agreed or agreed that is was important to be able to track their own progress. 60% of students either strongly agreed or agreed that they used the formative tests for feedback, however 60% of students also strongly agreed or agreed that the feedback could be improved.

An iLAB meeting with staff and students, in January 2006, was particularly

productive, and used the environment to discuss perspectives on assessment, focusing around a discussion of the possible strengths, weaknesses, opportunities and threats of formative online assessment:

Strengths and Opportunities – (Students)

1.   Enables me to identify strengths and weaknesses in a subject

2.   Provides immediate feedback

3.   Great for revision

4.   Available to use throughout the year

5.   Could be used to personalise learning

6.   Builds confidence

7.   It might highlight strengths students weren't aware of

8.   Could be expanded into non-academic areas

9.   Useful for personal development – control own learning

Strengths and opportunities – (Staff)

1.   Once running, low maintenance cost

2.   Feedback can include new material that's not explicit in the course notes

3.   Feedback can included URLs and point to relevant section in lecture material

4.   Easily extended and updated

5.   An effective means of integrating learning and assessment

6.   Reduce workload

7.   Feedback from students (use free-text question at end of test for comments from students)

Weaknesses and threats – (Students)

1.   Failing tests can be demoralising

2.   Not enough feedback is personalised

3.   Access issues

4.   Poor report display

5.   Online testing not used to full potential (too many MCQs)

6.   Decrease in student-staff contact time

7. Possible that students could become expert in tests rather than learning

8. Too assessment oriented – constantly tested. More than one way to learn

9. Increase workload and pressure

Weaknesses and threats – (Staff)

1. Up front cost in time (skills)

2. Authoring good feedback can be difficult and is time-consuming to generate

3. "Distance" - lack of direct contact with students

4. Administrative burden

5. How to engage students? Substitute

6. Cost; continuing support

7. Support logistics

Students' perspectives identified a number of clear benefits and learning advantages to online formative assessment: For example, the students commented on the usefulness of the tests for revision; the ability to identify strengths and weaknesses; and the fact that QMP is not used to its full potential, particularly in the area of personalised feedback (i.e. feedback which draws together data from across an assessment to create a unique learning profile, rather than generic feedback by score band).

Staff concerns often centred on time, workload and support issues. For example, staff worried about the resources needed for in the development of question banks and assessments and the energy required to author effective feedback. Staff also commented positively on the possibilities to extend and update the tests.

The question of feedback was one of the most discussed topics with differences of opinion in how detailed this feedback should be. Students favoured comprehensive feedback that included explanations of why the correct answer is right, and why the other answers might be wrong. Feedback that stated simply whether a response was correct or not was not deemed to be as useful. The staff who participated in the session, were cautious of explaining the right and wrong answers for every question. There was the suggestion that the feedback should instead point the student to sources (for example a URL to assigned reading, lecture notes etc.) that could be of use in answering a particular question. It was felt that this would not only address student concerns but also enhance independent student learning.

Conclusion

The DALI project was a small pilot, which ran across three courses for the period of one term. The findings from the survey, the focus group and the iLAB session have since been incorporated into a staff handbook on online formative assessment, to enable students and staff to derive optimal benefits from the use of online assessment for formative testing.

The project experienced some problems with the DALI interface during the pilot, which are currently under investigation. However, the project was instructive in highlighting the ways in which students approach formative online assessment, and the potential they saw for personalised learning. The University is currently working towards developing an 'intelligent' assessment environment to support interprofessional learning which is capable of generating personalised learning profiles as point for reflection on learning.

References

(1) http://www.questionmark.co.uk/uk/perception/dali.htm

(2) http://www.qca.org.uk/downloads/futures_meeting_the_challenge.pdf

(3) http://www.jisc.ac.uk/index.cfm?name=elearning_pedagogy