**DDA Update...ALERT case study**

**Victoria Boyd**  
University of Durham  
v.a.boyd@durham.ac.uk

**Juliette Pavey**  
University of Durham  
juliette.pavey@durham.ac.uk

**Barbara Newland**  
Bournemouth University  
bnewland@bournemouth.ac.uk

ALERT (Accessibility in Learning Environments and Related Technologies) is a two-year HEFCE funded project under the Strand 2 initiative for ‘Improving Provision for Disabled Students’. The project is run jointly by the Universities of Durham and Bournemouth and is also supported by the NDT (National Disability Team). A series of themed guidelines have been developed from case studies with staff and disabled students. These guidelines are aimed towards use by academic and student support staff, such as learning technologists and disability support staff, and are scheduled to be completed by July 2005.

ALERT considers the role that a VLE (Virtual Learning Environment) plays in supporting the attainment of pedagogical objectives by disabled students, rather than focussing on the technical implications. The project uses information collected through the case studies to reflect the experiences of staff and students who use the VLE for communication or lecture support material delivery, and places them in the context of research literature and practice.

The case studies span a wide breadth of disabilities and academic subjects. Each student case study is complemented by the perspective of a member of staff who taught on one of the courses in which the student was enrolled, making it possible to represent the roles of both in the VLE. This also enables analysis of subject specific differences in VLE use, according to the nature of materials being used and varying interactive activities and assessment.

The themed ALERT guidelines refer to a number of integral aspects of VLE use, including the remote delivery of lecture support materials, assessment, synchronous and asynchronous discussion. Each of the guidelines are separated into pedagogical, practical and strategic content areas, reflecting the nature of the topics discussed. By way of illustration both the themes and pedagogical, practical and strategic groupings are used to contextualise this maths-specific case study.

**Case study**

One of the ALERT case studies involved a student and member of staff in Maths. The student had dyslexia, and though was not one of the interviewees who used the VLE so regularly, still had strong opinions on its use, extensibilities and limitations.

**Pedagogy:** To outline some of the pedagogical considerations of VLE use, the remote delivery of lecture support materials will be discussed. Providing lecture support materials (such as Word documents, PowerPoint presentations, PDF, web resources, multimedia and other forms of documentation) through a VLE in advance of a face-to-face session provides students with a reference point for new concepts and terminology. This affords students more time to listen in lectures, encouraging a deeper level of learning by making sense of information [2] and puts less emphasis on note taking.

> “I definitely learn best if I know the whys and wherefores of why something works, rather than just learning mindless facts… especially with Maths, you can…up to a certain level, you can learn everything as a black box and never actually understand what’s going on.”  

[ALERT Student]
For students such as the ALERT Maths student, whose dyslexia means slow reading and writing speeds, prepared materials offer the ability to do preparatory work for a lecture, and also to work at a comfortable pace. Receiving materials in a digital format also increases flexibility to the end user, and can encourage improved problem solving, thinking and communication skills [5]. Furthermore, the potential to visualise a problem and have a written record helps with cognition and is a valuable resource for revision.

“It’s like when people give examples to anything, or try to explain something verbally, if they don’t write it down, then I’ve got no chance of understanding it. Once I see it, I can usually grasp it very quickly. I think it’s part of dyslexia, you don’t have the short term memory to hold lots of information at once.”

[ALERT Student]

Practical: Consistency of use of a VLE highlights practical implications of its use. The issue of consistency in navigation, appearance and the way in which information is organised in a VLE is a universal theme to emerge across all the case studies. Intuitive, obvious and relevant content are cited as imperative by students, especially those who, like the ALERT Maths student, may have short-term memory problems or slow reading speeds.

“My reading speed is so slow that anything’s really painful...if it’s (layout) more simple... the better it is, cos there’s less confusion and you can concentrate on the content rather than lots of bells and whistles”.

[ALERT Student]

Similarly, dead links and outdated content can cause confusion.

“I can think of Maths, they have 3 different modules, like core modules, and I think each one has a different layout of the order of the buttons and what actually is there, so, I sit there for ages just looking, thinking which one do I want. And then you go to one and it doesn’t actually link up to what you think it should”.

[ALERT Student]

Strategic: Considering the use of asynchronous discussion or discussion boards can illustrate strategic implications of VLE use. Collaboration between members of staff at a departmental and institutional level is instrumental in both promoting and developing inclusive practice with regard to VLE use. Institutional policy will, for example, govern how summative assessment might be carried out, whilst departmental practice will impact upon the timing, positioning and purpose of the use of discussion boards. Encouraging extended use of discussion boards can provide a way for students to contribute to discursive exercises without the constraints of face-to-face interaction [1].

“Other people need to see the benefits ...when you’re teaching 250 students, in terms of questions and answers when problems are set, I see making postings on discussion boards useful because you can give everybody the same deal”.

[ALERT Staff]

Though some staff are still wary of the impact of advance provision of lecture support materials on attendance, in a recent evaluation of the duo VLE at Durham only 2% of students stated that this would discourage them from attending lectures [3].

“I think there are clearly some positive benefits for those lecturers that have put their lecture notes online, the students to actually listen during lectures...and naturally, for those people who do put notes online, the students with disabilities have access to those early and they can print them off or do whatever they want to do with them”.

[ALERT Staff]

VLE Recommendations: The ALERT guidelines also include VLE recommendations to help staff to implement the pedagogical, practical and strategic suggestions, for example:

- Put all materials in the VLE at the beginning of a course with timed release.
- Provide the opportunity for online socialisation in discussion prior to academic debate to enable students to become familiar and confident with using the technology.
- Supplement VLE based quiz activity with additional support, e.g. dedicated discussion areas to raise issues.
- Make it clear to students the importance of writing meaningful subject headings in threads.

Discussion and action points: The ALERT guidelines conclude with reflective discussion points aimed at encouraging members of staff to consider their own practice and to collaborate with peers in taking a considered approach to VLE use.

An example of the discussion questions is provided below from the guideline relating to the provision of lecture support materials:

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Full text available in the MSOR Connections May 2005 Vol 5 No 2 issue.
**Pedagogical:** Why do you think making learning support materials available in advance of a lecture helps disabled students’ learning?

**Practical:** When do you make your learning support materials available through the VLE? What is your reasoning behind this?

**Strategic:** Do you work with colleagues in producing learning support materials?

**Conclusion**

Minor changes to existing practice can have a far-reaching impact on supporting disabled students’ learning through a VLE. Though staff and students in Maths may have experienced problems in the past with notation, the advancement of the software and addition of features such as ‘virtual whiteboards’ allows for a high degree of customisation. Many staff have developed pioneering and invaluable online resources, but now a further stage of quality assurance in terms of consistency and standardisation is vital to ensure a parity of experience for disabled students. By forming communities of practice [6] and taking a considered approach to VLE use, by reflecting and aligning practice with departmental and institutional policy and by listening to feedback from students, staff have the ability to provide a more inclusive experience for all students [4].

**References**


