Cohort III Pre-meeting Preparation
Inter/National Coalition for Electronic Portfolio Research
San Francisco, CA February 27 and 28, 2009

Research Question

How can we use e-portfolios to help students to reflect upon and improve their learning?

Context

We introduced the e-portfolio tool, 'PebblePad', to an undergraduate (social science) and a postgraduate course in education (e-learning and multi-media) in January 2007. Our aim is to assess the benefits of the tool for student reflection and learning. At the undergraduate level, the study is longitudinal. Data collection began as the students entered their first year of study in 2006/7 and will finish when these students graduate in June 2009. At the post-graduate level, the research follows two cohorts of students in the transition from undergraduate to post-graduate professional learning.

Research tools are both quantitative and qualitative, with the bulk of the data collection occurring in two phases: March-May 2007 and January-March 2009. At the undergraduate level in particular, each of these phases coincides with a key stage: transition to higher education and preparation for exit to further study or employment. At the postgraduate level, key stages are the transition to post-graduate learning and from certificate to diploma at this level.

The research design is common to both u/g and p/g courses and data have been collected from questionnaire surveys, focus groups and interviews of students together with analyses of their reflective work. Tutor focus group interviews have also taken place. Analysis of the data has been undertaken for the Phase 1 of the research but is not yet completed for Phase 2.

The data are being interrogated in two ways, each set of data (u/g and p/g) being analysed independently in the first instance and then a comparison made to draw out key themes and issues.

Research Findings

<u>Phase 1</u>

Overleaf is a table outlining the key findings from Phase 1 for each course. Our inferences from comparing our findings are:

- The affordances of electronic tools such as e-portfolios for students may be unanticipated (and unintended) by those introducing them.

- E-portfolio alone will not promote increased communication and collaborative working practices unless these practices are part of the pedagogic design of the course.
- E-portfolio has great potential as a tool for integrative learning but this kind of learning has to be scaffolded for students in the curriculum and teaching design.
- Further investigation is needed into the factors that affect how learners and teachers take-up, engage with and adopt new tools for learning and teaching.

Phase 2

As noted above, data-gathering from Phase 2 of the study is not yet complete for the undergraduate course. Data are currently being collected in the form of a questionnaire of all exiting students who have used PebblePad since their first year. This questionnaire focuses on student use and evaluation of the tool and will be followed by in-depth interviews and focus-group meetings with students and tutors to uncover their perceptions of, and practices around, reflective learning.

Data have been analysed for the postgraduate course and **preliminary** findings from the latter are as follows:

Context

The course in question is a part-time professional postgraduate international course in technology enhanced learning. Reflection and reflective practice are integrated into assessment tasks for each module, and across the course in the form of professional development planning (PDP), allied with academic tutoring. These learning and teaching activities are supported by a range of technologies including: weblogs and wikis in the institutional virtual learning environment (VLE), *Blackboard*, used for formative and collaborative learning; and summative e-portfolios created in *Pebblepad*. In addition a small, but growing, number of students have requested to be allowed to use blogs and wikis that are created in open source and/or web 2.0 social networking tools.

Formative assessment tasks include maintaining an individual and team study log and commenting on others. Summative assessment includes: reflective e-portfolio (including reflection on personal learning and team work) for the certificate module; and a reflective analysis on a workplace project in the diploma module.

Methodology

The study examined the place of reflection in two key modules, one at postgraduate certificate level (Digital Media Applications) and one at

postgraduate diploma level (Project Studies). Data was collected via: desk analysis of postings in the VLE and the e-portfolio, including students' peer review and shared commentary by students and tutors; a questionnaire to 28 students (50% completion); student focus group (4 students); tutor focus group (3 tutors); and 3 semi-structured interviews with students.

Findings

- The language used to discuss, describe and recognise (identify) reflection and reflective practice is ill-defined in the course and the institution
- Reflecting in a study (University) context is affected by confidence, concerns about being diplomatic and sensitive to the feelings of others, feelings of risk in disclosing personal information, fear of loss of face with fellow students, and anxiety about misinterpretation of text-based communication.
- Reflecting in a work-based context is affected by organisational culture and the student's place in the hierarchy.
- How to identify experience, reflect on it, and learn from it is not clear to students or tutors
- Structured and guided reflection can enhance students' ability to understand and develop personal learning strategies.
- Structured, guided and reciprocal reflection can promote team work and problem solving, and this can be strengthened by peer and tutor feedback
- Reflective thinking helps students to discern personal strengths and weaknesses and areas of professional interest and development, and this can be strengthened by peer and tutor feedback.
- Reflection can add a sense of authenticity to study activity when the student draws upon the workplace and professional practice, and this can be strengthened by peer and tutor feedback.
- Students value the reciprocal reflections by tutors (e.g. where they also keep a blog and/or an e-portfolio) in which they model good reflective practice
- The effectiveness of collaborative and shared (peer) reflection is dependent on reciprocity and trust and is affected negatively by the lack of it.
- Tutors and students are not clear about the operation and affordances of technological tools for reflection, although students have identified how video and audio might help to capture reflection-in-action.
- Current institutional tools are seen as clunky, old fashioned and dependent on text (rather than rich media) and not matching the expectations of students who have experience of open source, social networking Web 2.0 tools.
- The vast majority of students are willing or very willing to use e-portfolio in their future study.
- The vast majority of students are willing or very willing to use e-portfolio to support their future professional work practice.

- 34% of respondents have used Web 2.0 tools outside the VLE.

Implications for practice

- Learning to reflect is a key skill that needs to be scaffolded at key points in the course in a way in which students are clear about the purpose of reflection, and through which the linguistic means, and technical know-how are achieved.
- The difficulties that are experienced in sharing private thoughts in public spheres need to be considered carefully and students counselled on being aware of others and keeping themselves safe.
- Staff development in how to promote reflection, assess reflective practice, and select and apply appropriate technology is essential.
- Education should have a greater voice in commissioning new tools for learning and teaching that address the findings of this study
- Reflection and reflective practice should be built in at the course design stage, rather than added on, in order that this is truly integrated across the course and within modules. Where this is not possible courses should be redesigned.

Application of the Results

Our research raised a number of issues which have been used to interrogate the learning experiences of our students and our teaching practices. Through an iterative process of investigation, evaluation and pedagogic change, results from Phase 1 of our research have been followed by a re-design of our approach with a greater emphasis on intentional learning and teaching. For example, the reluctance of first-year undergraduate students to work collaboratively has been addressed by the introduction of more group work into two of our first-year modules. On the postgraduate course the difficulty that students faced in synthesizing their formative reflection (blogs) in the summative e-portfolio, was partly addressed by sharing previous students' work (with their permission).

Our results have been applied in other ways. As noted earlier, the e-portfolio was introduced to around 400 students in one part of the Faculty of Development and Society in January 2007. This Faculty represents rather more than a quarter of Sheffield Hallam University, with approaching 30,000 students. Our initial evaluation of the tool was followed by a presentation to the Faculty Leadership Group, making a pedagogic and business case for the adoption of PebblePad by the Faculty. This was accepted in April 2008. Following this, substantial work has been carried out to promote and pilot the use of e-portfolio to support on-course learning and the development of students' reflective skills for lifelong learning and employment. The use of e-portfolio within the Faculty has risen substantially over the last two years and there are currently around 2,000 students and tutors from a range of degree courses using it. Numerous conference presentations have been given, both in the UK and the US, some of

these by invitation, and SHU is developing a reputation as being at the leading edge in the use of reflective e-portfolios for student learning. (For example, we are currently being used as a case study for The Joint Information Services Committee (JISC).