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Usage Guidelines

How technology can facilitate students' reflective practice

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Reflective practice, engaging with experience, reflecting-in and reflecting-on action (Schön 1983) develops new understanding and leads to persona-l and professional development (e.g. Moon, 1999). Reflective practitioners are able to self-regulate and monitor their progress. Reflecting on what was learned can help students become more aware of their own thought processes (McCrindle and Christensen 1995), but reflecting on how it was learned, metacognition (Flavell 1978) offers far greater benefits. There exists mounting evidence for the benefits of metacognition in relation to enhanced performance and academic success (e.g. Coutinho 2007; Dunning *et al*. 2003). However, despite the costly time investment incurred by recording reflections in journals, reflections are more often retrieved from memory than from the written word. Thus the retrieved reflection is subject to the fallibility of human memory (e.g. Baddeley 1999, p.275): distortion, embellishment or forgetting. Furthermore, despite evidence demonstrating that when learners know reflections are to be read, graded or assessed by others, the incentive is to demonstrate knowledge and hide ignorance or doubt (Boud and Walker 1998), students' reflections in HE are typically assessed. Dewey's original purpose of reflection was to consider and strive to overcome weaknesses. In fact, Boud (1999) highlights the dichotomies between the nature of reflection and the nature of assessment, and questions the value and integrity of assessing reflective practice at all.

To address these issues and in fulfilment of a Curriculum Fellowship (2008-2009), I developed a resource using a simple spreadsheet. The resource, entitled *Meta-Reflection: Reflecting on Reflections (Meta-Reflection)* was situated on the University's virtual learning environment (VLE), myCourse. The overall aim was to help students develop reflective practice skills with the focus on learning and by placing it on the VLE problems associated with human memory are eliminated.

The *Meta-Reflection* resource was designed to guide students through the reflection process, to make recording reflections simpler by means of prompts (column headings) on the spreadsheet. Thus input for each reflection (horizontally on the spreadsheet) was prompted by 'topic', 'what do I already know?' through to 'what have I learned?' and 'how can I apply this in future?'. The expectation was that by guiding them through the reflective process, students would be encouraged reflect. Because of the nature of spreadsheets, students were automatically exposed to previous reflections as reflections over time are visible, vertically. Thus users could simultaneously monitor their progress on each reflection horizontally and progress over time vertically, leading to a deeper understanding of the learning process of reflecting on reflections (*meta-reflection*, Dewey 1939b) in a cyclical fashion as described by Schön (1983). Furthermore, the software's sorting facility allows reflections on a particular 'topic' to be viewed alongside similar reflections allowing students to monitor their progress easily and frequently. This provides an advantage not available in traditional reflective practice media (journals and logs).

Ten undergraduate Psychology students from Southampton Solent University (SSU) (Year 1) were recruited to investigate the effectiveness of the resource in achieving its aims. Each student completed a semi-structured questionnaire prior to participating in a focus group designed to elicit a common understanding of reflective practice. In order to reduce any possible disadvantage to any participant, a cross-over design was adopted. Students were randomly

allocated to one of two groups (A and B) and instructed that reflections would not be monitored or assessed. Group A used the resource for 6 weeks then stopped; Group B used the system for the following 6 weeks. Although there are obvious issues with order effects, each student was able to compare their reflective practice when they were using the system with when they were not. Following this data collection period, individual interviews were conducted and findings suggest a positive evaluation of the system. Notwithstanding the small sample size, I concluded that using an online system to structure reflective practice empowers and ultimately enhances undergraduate learning through the development of their metacognition.

The *Meta-Reflection* resource can be used a stand-alone development tool, or as a basis for structuring more free-flowing reflections. It is available, on myCourse, PSY159, to anyone who wishes to use it from SSU.

It is generally recognised that shared learning increases involvement in learning, improves thinking and deepens understanding (Chickering and Gamson 1987). Thus to incorporate a shared learning element, and encourage a reflective learning community, I was awarded a second Curriculum Fellowship (2009-2010). In fulfilment of this award, I added a database to the existing spreadsheet to enable students to share some or all of their reflections from the spreadsheet described above, with others. Thus the new development allows individual students to learn from others' experiences as well as helping others learn from theirs. This ongoing project is entitled *Reflection and Learning: Sharing Experience (ReaLiSE)* and is also available on myCourse.

A study was conducted to investigate this enhanced system. Thirty-one undergraduate Psychology students from SSU (Year 1 and 2) volunteered to participate. Most attended an introductory session when the rationale was explained and instruction on using the spreadsheet and the database was provided. Following this session, students were at liberty to reflect on the spreadsheet a minimum of once a week; there were no obligations or constraints related to uploading to the database. In order to encourage openness and consideration of weaknesses as well as strengths reflections were not monitored or assessed. Participants were invited to attend individual interviews, but unfortunately, uptake was slow and only two interviews have been conducted to dat. However, I intend to follow this up in the Autumn term. Analysis of the reflections is underway and initial indications are that the system was again well received.

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