Feedback as dialogue: exploring the links between formative assessment and social software in distance learning

Stylianos Hatzipanagos & Steven Warburton

To cite this article: Stylianos Hatzipanagos & Steven Warburton (2009) Feedback as dialogue: exploring the links between formative assessment and social software in distance learning, Learning, Media and Technology, 34:1, 45-59, DOI: 10.1080/17439880902759919

To link to this article: https://doi.org/10.1080/17439880902759919

Published online: 28 Mar 2009.

Submit your article to this journal

Article views: 843

View related articles

Citing articles: 35 View citing articles
Feedback as dialogue: exploring the links between formative assessment and social software in distance learning

Stylianos Hatzipanagos* and Steven Warburton

King’s College, London, UK

(Received 20 June 2008; final version received 9 February 2009)

The paper explores the relationship between formative assessment and social software. Formative assessment practices though beneficial for student learning become marginalised and constrained in open and distance learning environments in higher education. Feedback is a key factor in formative assessment and learners can benefit from the deployment of emerging technologies and the opportunities for participation and dialogue afforded by social software. This paper explores and proposes a conceptual framework for this relationship. The claim is that the social dimensions of emerging technologies – specifically, blogs and wikis – allow for formative assessment practices to be re-invented or at the very least facilitated by essentially participative and student-focussed interventions. A comparison of these technologies against formative assessment mechanisms identifies the types of processes that these new tools might best support to encourage effective feedback approaches that both empower the learner and enhance their learning experience.

Keywords: computer-assisted assessment; formative assessment; blogs; wikis; higher education

Introduction

There is, according to Rust (2002), a greater variety of assessment practices being used in universities today compared with 10 or 15 years ago, many of which could be justified with reference to what the research literature tells us about the impact of assessment on student learning. The evidence is compelling that nature and form of assessment have a significant impact upon the student learning experience, approaches to learning, motivation, and retention rates (Ridgway, McCusker, and Pead 2004).

As higher education institutions change, two basic types have emerged as dominant: open and distance learning (ODL) and resource-based learning (RBL) institutions. Here, RBL is defined as an integrated set of strategies to promote student-centred learning in a mass education context, through a combination of specially designed learning resources and interactive media and technologies (NCODE 2004).

In higher education, the nature of an institution often dictates how assessment practices have been developed. For example, ODL environments have emphasised the necessity for formative assessment practices. Distance education in general has been proactive in formative assessment practices out of the need to find ways to provide systematic feedback to students in the absence of the immediate contact and interaction

*Corresponding author. Email: s.hatzipanagos@kcl.ac.uk
that students have enjoyed with tutors in a campus setting. However, in both types of environments, the impact of assessment on learning can be moderated by the use of appropriate assessment methods by teaching practitioners, and practices have been supported/complemented by the use of computer-assisted learning resources (Guri-Rosenblit 2005).

Computer-assisted assessment (most commonly in the form of automated quizzes or online objective tests) has been used by academic tutors. In a virtual learning environment (VLE), they can be used to monitor student understanding, and sometimes for course evaluation purposes. Text-based discussion fora (mainly asynchronous) can also be used for self- and peer-assessment purposes.

Computer-mediated communication in learning environments facilitates the creation of learning communities (Hatzipanagos 2006) by the use of email, discussion list conferencing, mobile texting, podcasting, publishing via blogs and wikis, aggregation and newsfeeds, audio, chat, instant messaging and video-conferencing. Two major characteristics of new tendencies in relation to online social tools are a shift towards ‘user-generated content’ where collaborative information is gathered and shared, and the collective intelligence of the users is harnessed (O’Hear 2006).

In formative feedback, dialogue forms the mechanism by which the learner monitors, identifies and then is able to ‘bridge’ the gap in the learning process. Social software is also designed to engender dialogue, and yet the link between these two has not been explored. The paper explores the relationship between formative assessment and social software, that is, software that supports group interaction (JISC InfoNet 2006) in light of the possibilities that blogs and wikis afford.

**Formative assessment**

All forms of assessment should primarily be concerned with providing guidance to the learner (Nicholls 2001). However, while tutors may declare that assessments serve formative purposes, the feedback provided may not have the intended positive impact on learning (MacLellan 2001). A naïve view of assessment is that it logically follows teaching and learning interventions and tests their outcomes (Bostock 2004). Formative assessment aims to go beyond the mere ascription of grades associated with the more traditional, ‘summative’ forms, promoting feedback dialogue between the assessors and students. As studies in this area have emphasised, learners derive greater benefit from receiving feedback, in terms of motivation and learning gains, when the feedback is linked closely to student learning and learning outcomes (Black and Wiliam 1998). This learning-based focus is increasingly viewed as an essential component of good course design since, if properly implemented, it can point to ways in which the course can be adapted and developed to enhance student learning. As Stefani and Nicol (1997) note, short task–performance–feedback cycles can allow students and tutors to regularly share conceptions about the processes and goals of learning. Table 1 (adapted from Bull and McKenna (2004) to accommodate our views on assessment types) presents the perceived dimensions and functions of assessment types.

This focus on formative assessment, including such practices as feedback, self- and peer-assessment, has positive implications for student learning. They can be seen as part of a process, or strategy, that allows students to play a more active role in the management of their own learning (Nicol 1997). In addition, they can play a pivotal role in helping equip the student with evaluative skills that promote the ability to self-assess and self-correct (Sadler 1989; McConnell 2006).
The view of feedback as an active, participative process, contrasts with the notion of feedback as simply being a transmissive process that involves ‘telling’ or passing on information. The latter can be perfunctory and does not assist with students’ learning (QAA 2002). In other words, communication becomes a vital part of the feedback cycle that enables students to actively construct their own understanding of what can be complex and difficult messages to decipher (Higgins, Hartley, and Skelton 2001).

Feedback as dialogue

This understanding of feedback as dialogue is fundamental to the process or ‘closing the loop’ in assessment (Sadler 1989). Communication forms part of the mechanism by which the learner identifies and then bridges the gap between the current learning achievements and the goals set by the tutor. Juwah et al. (2004) have developed a conceptual model of formative assessment that represents a synthesis of current thinking by key researchers, is based on the original model of self-regulated learning by Butler and Winne (1995) and includes work by Sadler (1983, 1989), Black and Wiliam (1998), Torrence and Pryor (1998) and Yorke (2003). The learner is at the centre of this model and an active participant in monitoring their performance. The seven key principles of formative assessment, identified by Juwah et al. (2004), and the descriptors from the literature address issues such as dialogue, motivation, student participation and intrinsic/extrinsic performance indicators. The encouragement of dialogue around learning is viewed as fundamental to effective feedback practices and one that naturally becomes problematic within ODL settings.

In traditional RBL courses, test-feedback cycles and peer-assessment pathways have always existed – within the formal face-to-face classroom and the informal tutor–learner and peer-to-peer interaction. But within an ODL environment, these are reformulated and occluded for learners whose interactions (mostly online) are understood to be constrained by both time and space.

Attributes of feedback

Gibbs’ theory of feedback (2002) highlights the significance of certain attributes. These attributes are related to both the quantity (frequency) and the quality of feedback, as it should focus on learning rather than on marks or the students themselves. Finally, feedback should be timely in that it should be provided quickly enough to be useful to students.
By investigating the broad range of literature in the area of formative assessment, it is possible to discern other attributes that can be summarised under a number of key processes or dimensions (Table 2).

It is particularly worth noting that in formal learning situations, knowledge is produced in the context of power (Giroux 1992). As McConnell (1999) points out, tutors strive to engender a ‘learning relationship’, yet they are nevertheless constantly engaged in a power relationship. Learners should be encouraged to make decisions about their own learning including how they are assessed (Leach, Neutze, and Zepke 2001). One of the questions of this paper is to ask whether emerging technologies offer the potential to promote a more wider democratic approach to teaching and learning, particularly to investigate how they might play an important role in repositioning student/tutor barriers, and allowing students to take ownership of the assessment process.

Assessment activities within open and distance education are used to improve dialogue, interaction and collaborative work, and consequently improve student learning. Because of the restrictions that ODL environments impose, formative assessment practices can benefit from the use of new and emerging technologies through the increased opportunities for participation and dialogue that tools such as social software can offer.
Social software and e-learning

Web 2.0 technologies, particularly those that might be characterised as social software, are becoming increasingly pervasive in e-learning settings, as they are seen to offer benefits relating to widening access, opportunities for personal ownership and collaboration. Anderson (2006) describes a number of dimensions of social software that are likely to support emerging user needs such as the freedom to negotiate the time and place of learning, the content, the pace and the type of relationship with other learners and the teacher.

Social software tools provide a set of low threshold mechanisms for users to engage in self-publishing, sharing and collaborative activity. These second-generation technologies move beyond what can be described as more traditional or first-generation social tools such as discussion fora, discussion lists and internet relay chat (a form of real-time synchronous conferencing), by providing a host of participative and user-driven content production opportunities. Social software can provide a dynamic environment for communication and collaboration that includes social networking spaces, social bookmarking and citation sites, user recommendation systems, and collective knowledge production via wikis and blogging communities (Kervin, Mantei, and Herrington 2009; Wheeler 2009). The first use of the term social software has been attributed to Shirky (2003) and has since been subject to a broad number of definitions, yet one can effectively summarise the key attributes of social software as providing support for:

- user driven content production;
- conversational interaction between people or groups;
- social feedback; and
- social networks.

Social software tools and services are largely built on open standards, are freely available and, according to Anderson (2006), can provide encouragement and support for individuals to learn together while retaining individual control over their time, space, presence, activity, identity and relationship. All these attributes are pertinent to ODL environments. Yet despite the often celebratory rhetoric surrounding the use of social software, it is in reality not free from its own sets of complexities. As Crook et al. (2008) indicate, these can include significant demands on new teacher skills as well as student digital literacy and competencies.

In this paper, we focus on blogs and wikis as the two most prominent examples of the educational use of social software. Both blogs and wikis have become increasingly adopted by institutions and the growing body of evidence on deployments in learning and teaching settings makes them prime for analysis (Kerawalla et al. 2009; Wheeler 2009), particularly when compared to other high-profile technologies such as social network services, exemplified by Facebook, Myspace and Bebo, where research evidence on institutional engagement is as yet sparse.

Blogs

A blog is a personal publishing tool that functions as an online journal. Blogs allow individuals to create posts or entries in reverse chronological order on particular topics and to archive these posts over time. Each post is represented by a web page with a
unique URL, and can be tagged with keywords that allow content to be categorised and referenced by others. In learning and teaching settings, students can use blogs to participate in knowledge sharing, keep a chronological record of their own thinking over time and can facilitate critical feedback by letting readers add comments (Kervin, Mantei, and Herrington 2009). The act of writing posts or blogging can be interpreted in terms of social action (Miller 1984), where blogs represent a site of identity performance and persistence, dialogue, creativity and community formation, via the use of blogrolls (a collection or list of links to other blogs and websites featured on blogs) and RSS newsreader aggregators (news updates from various websites). For students, a blog can be used as a current record of their learning: a place to pose questions, publish work in progress and provide links to relevant web services. The emergence of this new ‘ecology of participation’ continues to blur the boundaries between formal and informal learning spaces (Downes 2005; Warburton 2006) and challenges the dominant model of hierarchical, tutor-centred education to embrace an ideology of openness, dialogue, ownership and democracy. Blogs have been introduced into a variety of educational settings though the translation of what represents a fundamentally informal tool into formal settings has not always been successful (Beuschel 2009).

Wikis

A wiki (from the Hawaiian word for ‘quick’ or to ‘hurry’) is a group publishing tool in the form of a website whose content can be readily edited by anyone that has access to it. Perhaps the best known example on the internet today is Wikipedia (2008) – ‘The Free Encyclopedia’ that has become an artefact of study as a prime example of the phenomenon of collective intelligence. Wikis have recently come to prominence within the educational sphere for collaborative group activities providing a content production and sharing tool that is both democratic (as anyone can edit a wiki page) and simple to use. Klobas (2006) describes wikis as social information spaces that are modelled on shared ownership and investment in a community of shared goals and aspirations. Wikis provide a range of features beyond collaborative page editing that include the ability to maintain a recorded history of content changes that can be used to return to previous page incarnations alongside a discussion sheet that is attached to each page. The openness and visibility of wikis has created new and interesting possibilities for group work and knowledge creation with many wikis being used as research community tools, sites for student shared knowledge production and spaces for emerging communities of practice (Leuf and Cunningham 2001; Wheeler 2009).

Mapping feedback descriptors and processes

This section analyses the dimensions of the two forms of social software and a selection of more traditional, first-generation asynchronous ODL technologies and maps these against the key processes identified from the descriptors of formative assessment described earlier in this paper.

We selected a range of representative first-generation technologies based on their suitability to provide opportunities for participation, dialogue and feedback:

- Electronic quiz: the most commonly used form of quizzes is multiple choice; however, other formats include short answer, true/false, drag and drop, numerical
and matching question quizzes. Feedback can vary; however, it is generally automatic and occasionally adaptive to the needs of the learners, giving hints and tips for further improvement or model answers.

- Email: one of the earliest and still widely used electronic media forms for asynchronous textual communication across the Internet.
- Discussion list or mailing list: an asynchronous discussion, where subscribers post and receive contributions to a discussion in the form of emails.
- Discussion forum: an application that is accessed via a web browser, and may be part of a VLE, that provides a virtual space for holding discussions and posting user-generated content.

For each of the descriptors, we have used indicators to mark those tools that have an impact and added comments to describe how first-generation traditional technologies (email, discussion lists, fora and quizzes) that can be used for formative assessment purposes and social software (blogs and wikis) differ in their relation to these formative assessment descriptors (Table 3).

This mapping exercise provides a valuable starting point in uncovering the underlying features of social software that impact on the possibilities for appropriate and purposeful formative assessment activities.

Tables 3(a)–(d). Mapping the impact of first-generation (self-assessment quizzes, email, discussion lists and fora) and social technologies (blogs and wikis) on the identified key processes in formative assessment as outlined in Table 2. The indicators distinguish between tools naturally suited to the identified feedback process (●) and those that can perform a particular function but are not normally or naturally suited to the role or context of use (●). (a) power and autonomy, (b) dialogue, (c) timeliness and visibility, and (d) reflection.

<table>
<thead>
<tr>
<th>Key processes of formative assessment</th>
<th>First-generation technologies</th>
<th>Social software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic quiz</td>
<td>●</td>
<td>●●●●</td>
</tr>
<tr>
<td>Email</td>
<td>●●●●</td>
<td>●●</td>
</tr>
<tr>
<td>Discussion list</td>
<td>●●●●</td>
<td>●●●</td>
</tr>
<tr>
<td>Forum</td>
<td>●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>Blog</td>
<td>●●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>Wiki</td>
<td>●●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>Comments</td>
<td>Blogs and email represent individually owned tools. Blogs provide a high degree of personalisation, visibility and persistence over time. Both tools raise issues around privacy and control over who can view feedback, for example placed in the comments section of a blog post. As Efimova and Fiedler (2004) point out, blogs offer a synergy between self-organised and community learning. Blogs and wikis as open systems can also act as a record of achievement. This can be a key factor in promoting confidence levels (EDOL Report 2008).</td>
<td></td>
</tr>
<tr>
<td>Key processes of formative assessment</td>
<td>First-generation technologies</td>
<td>Social software</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Responsibility and autonomy</td>
<td>Electronic quiz</td>
<td>Discuss list</td>
</tr>
<tr>
<td></td>
<td>Email</td>
<td>Forum</td>
</tr>
<tr>
<td>3(b) Dialogue:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback is provided frequently and in adequate detail</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Supports dialogue</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Allow students to respond to feedback</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
### Tables 3(a)–(d). (Continued)

<table>
<thead>
<tr>
<th>Key processes of formative assessment</th>
<th>First-generation technologies</th>
<th>Social software</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support questioning</strong></td>
<td>Electronic quiz ×</td>
<td>Email ×</td>
<td>Discussion list ×</td>
</tr>
<tr>
<td><strong>Share assessment criteria</strong></td>
<td>×</td>
<td>×</td>
<td>Wiki</td>
</tr>
<tr>
<td>3(c) Timeliness:</td>
<td>Quantity and timing of feedback</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>The feedback is prompt</td>
<td>Wiki</td>
<td>Wiki</td>
<td>Wiki</td>
</tr>
<tr>
<td>Visibility:</td>
<td>Discern student learning needs/prior knowledge</td>
<td>Wiki</td>
<td>Wiki</td>
</tr>
<tr>
<td>Key processes of formative assessment</td>
<td>First-generation technologies</td>
<td>Social software</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------------------</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>Be able to ‘spot’ unpredicted achieved outcomes (Hussey and Smith 2003)</td>
<td>Electronic quiz</td>
<td>Email</td>
<td>Discussion list</td>
</tr>
<tr>
<td>Appropriateness of feedback: linked to learning outcomes; linked to assessment criteria; focuses on learning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3(d) Reflection: Encourage reflection on work</td>
<td>Electronic quiz</td>
<td>Email</td>
<td>Discussion list</td>
</tr>
<tr>
<td>Compare actual performance with standard and take action</td>
<td>Electronic quiz</td>
<td>Email</td>
<td>Discussion list</td>
</tr>
<tr>
<td>Provide information to tutor to help shape teaching</td>
<td>Electronic quiz</td>
<td>Email</td>
<td>Discussion list</td>
</tr>
<tr>
<td>Develop self-awareness</td>
<td>Electronic quiz</td>
<td>Email</td>
<td>Discussion list</td>
</tr>
</tbody>
</table>
Discussion
Participatory communication-based technologies offer opportunities for dialogue in relation to feedback and self- and peer-assessment. Student autonomy coupled with increased visibility and the expanded opportunities for sharing and reflection are vital aspects of closing the loop within the constrained environment of ODL. In this preliminary analysis of first- and second-generation web technologies, we suggest that first-generation synchronous or asynchronous technologies (such as quizzes, email, discussion lists and fora) appear to suffer from limitations in value when mapped across the dimensions of formative assessment. Across these technologies, we find recurring weaknesses that include scalability issues, low visibility and limited support for autonomy and ownership. The variability of these tools in providing system-wide value to closing the feedback loop makes any single tool choice almost impossible.

By contrast, social software as exemplified by blogs and wikis, appears to have much potential in addressing the formative assessment needs identified in this paper. The analysis and commentary provided in Table 3 shows that these tools have a potential positive impact in the following areas summarised here:

- Power (autonomy and ownership): blogs provide a high degree of personalisation, visibility and persistence over time and offer potential synergies between personal and community-based learning.
- Dialogue: the nature of dialogue changes in blogs and wikis from formal to informal and from closed to open conversations. Blogs add value to a learning group as learners may benefit from observing meaningful communication between peers and tutors. Wikis offer the possibility of sharing consensus on assessment criteria and building these criteria in a cooperative manner.
- Timeliness: the informal and open nature of social software, exemplified by blogs and wikis, allows for the uncovering of the learning processes and in so doing, provide opportunities for interventions that are both timely and dialogic in form.
- Visibility: Individually owned social tools such as blogs may motivate learners to respond to feedback due to the increased visibility of the medium. Individually targeted feedback in blogs is also more likely to engage students in the task–performance–feedback cycle and motivate. Blogs can be deployed as a learning journal or adapted to work as a personal e-portfolio. The high degree of visibility allows blogs and wikis to be records of achievement.
- Reflection: Blogs are vehicles for reflexivity and for raising self-awareness. The essentially informal tone and diary-style of a blog is an ideal setting for stimulating reflection and addressing meta-cognitive processes. A blogging tool offers an open and visible (often public) reflective space where comments from both peers and tutors can be added with ease and immediacy. Wikis can be used to share or distribute exemplars and observe student work over time.

Wikis and blogs, as open systems, raise issues around privacy and control. In addition, they score moderately as tools that can improve the quality of feedback, as the attributes of effective feedback are mainly related to the tutors’ role rather than to a particular technology.
Conclusion

Engagement with social software in open and distance learning can provide the support mechanisms and tools that are required for effective formative assessment. Within such environments, it can have a positive impact on students by encouraging ownership of learning activities and promoting a rich dialogue in relation to feedback and peer- and self-assessment activities which, by their nature, place the student at the centre of the educational process as an active participant in constructing knowledge. In addition, engagement can benefit ODL teaching practitioners by encouraging reflection on assessment practices.

A comparison of current technology-supported, formative assessment mechanisms has identified the types of processes that these new tools might best support to further encourage effective feedback approaches that both empower and enhance the learning experience for the distance learner. Although this paper has addressed only two forms of social software, blogs and wikis, in an institutional ODL landscape, it will be interesting to see whether social network services and innovative tools of communication and interaction will offer further pathways for supporting student learning.

Notes on contributors

Dr Stylianos Hatzipanagos is an academic working at King’s Learning Institute, King’s College, London. He contributes to the development and delivery of King’s Learning Institute’s graduate and undergraduate programmes. His research portfolio includes: formative assessment and e-assessment, computer-mediated communication and computer-supported collaborative work, social software and social networking in an educational context.

Dr Steven Warburton is an e-Learning manager at the School of Law, King’s College, London and a Fellow of the Centre for Distance Education at the University of London. His fields of expertise include: social software in distance education, digital identities on lifelong learning, the use of pattern languages, multi-user virtual environments, formative e-assessment and support for communities of practice.

References


