



Open Research Online

The Open University's repository of research publications and other research outputs

Exploring students' understanding of how blogs and blogging can support distance learning in Higher Education

Conference Item

How to cite:

Kerawalla, Lucinda; Minocha, Shailey; Conole, Grainne; Kirkup, Gill; Schencks, Mat and Sclater, Niall (2007). Exploring students' understanding of how blogs and blogging can support distance learning in Higher Education. In: ALT-C 2007: Beyond Control: Association of Learning Technologies Conference, 4-6 September 2007, Nottingham, UK.

For guidance on citations see [FAQs](#).

© [\[not recorded\]](#)

Version: [\[not recorded\]](#)

Link(s) to article on publisher's website:

http://www.alt.ac.uk/altc2007/timetable/abstract.php?abstract_id=1148

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

Exploring students' understanding of how blogs and blogging can support distance learning in Higher Education.

Authors:
Lucinda Kerawalla

Address for correspondence:
Computing Department,
Open University
Walton Hall
Milton Keynes
Bucks MK7 6AA
Email: L.J.Kerawalla@open.ac.uk
Phone: 01908 652599

Shailey Minocha

Computing Department,
Open University
Walton Hall
Milton Keynes
Bucks MK7 6AA
Email: S.Minocha@open.ac.uk

Grainne Conole

Institute of Educational Technology
Open University
Walton Hall
Milton Keynes
Bucks MK7 6AA
Email: G.C.Conole@open.ac.uk

Gill Kirkup

Institute of Educational Technology
Open University
Walton Hall
Milton Keynes
Bucks MK7 6AA
Email: G.E.Kirkup@open.ac.uk

Matt Schencks

Virtual Learning Environments Programme
Open University
Walton Hall
Milton Keynes
Bucks MK7 6AA
Email: M.Schencks@open.ac.uk

Niall Sclater

Virtual Learning Environments Programme
Open University
Walton Hall
Milton Keynes

Bucks MK7 6AA

Email: N.L.Sclater@open.ac.uk

Exploring students' understanding of how blogs and blogging can support distance learning in Higher Education

Abstract

We focus on exploring students' understanding of how blogs and blogging can support distance learning in Higher Education. We report on the findings from a survey of 795 distance learners at the UK Open University, and interviews with course designers whose courses utilise blogs. Despite enthusiasm from educators, the survey revealed that students are not enthusiastic about the potential for blogging activities to be built into their courses. Analysis of students' open-ended comments revealed that some students have positive expectations about blogging facilitating the sharing of material and ideas, for example, whilst the majority expressed concerns about subjectivity. We also discuss some empirically derived guidelines that we have generated that will enable educators to provide the appropriate scaffolds so that students can appropriate blogging tools for their own individual learning needs.

Introduction

We focus on exploring students' understanding of how blogs and blogging can support distance learning in Higher Education, with a view to informing course design and implementation. In recent years, new Web 2.0 technologies such as blogs and wikis have harnessed the social networking and community-building potential of the online environment (O'Reilly, 2005). These innovations enable sharing and collaboration between geographically remote users and offer the opportunity for new forms of student-centred pedagogic practices (Instone, 2005). There is widespread opinion that reading other students' blogs and writing your own blog can be beneficial for learning (e.g. Weller, 2007). However, previous research (e.g. Sade, 2005) reports that there can be significant challenges when using blogs in educational settings. Analysis of the challenge has tended to focus on students' technological abilities and/or their level of compliance with activities that have been designed by their teachers. It appears that little attention has been paid to exploring *students'* preconceptions about whether blogs and blogging could support their learning. In the current project, we took a step back from investigating students actually blogging and explored the pre-existing perceptions that students have when they start a course that may include blogging activities. We report on the findings from a survey of 795 distance learners at the UK Open University, and interviews with course designers whose courses utilise blogs. We also discuss some empirically derived guidelines that we have generated to enable us to begin to address some of the issues raised.

Defining blogs and blogging

As part of the background to this research, a literature search was carried out to identify the ways in which blogs were being used and to identify any associated issues. This has made us aware that the terms 'blogs' and 'blogging' are often used interchangeably. We differentiate between blogs and blogging here; blogs are the static end-product of the activity of blogging. It is possible that students may have experience of reading other people's blogs, and/or experience of creating a blog (blogging) for themselves, or neither of these. Previous attempts to categorise a blog as, for example, a 'personal journal' or a 'filter blog' (Herring, Scheidt, Bonus and Wright, 2004) have been criticised as being unclear (Boyd, 2006). Boyd (2006) defines blogging as "a diverse set of practices that result in the production of diverse content on top of what we call blogs" (p1), which suggests that 'blogs' and 'blogging' can mean different things to different people. Undoubtedly, students' preconceptions about the utility of

blogs and blogging to support their learning will be shaped by their level and type of experience.

Previous research

There have been several studies illustrating the potential for blogging to support learning. For example, students can use blogs to gather resources (Huann, John and Yuen, 2005) and share their materials and opinions with others (Williams and Jacobs, 2004). Also, blogging can support meaning-making (Fiedler, 2003) through reflective learning. Moreover, the development of knowledge communities through the exchange of hyperlinks (eg Oravec 2003), can foster the development of learning identities and reduce feelings of isolation (e.g. Dickey 2004).

Despite these positive examples of how blogs can be used to support learning, the perception of many students is more cautious. Krause (2004) reports haphazard contributions to blogs by his students, minimal communication between them, and found that posts demonstrated poor quality reflection upon the course materials. Williams and Jacobs (2004) introduced blogs to MBA students and although he reports overall success, he encountered problems with poor compliance as, for example 33% of the students thought they had nothing valuable to say in their blog. Similarly, Homik and Melis (2006) report only minimal compliance to meet assessment requirements and that students stopped blogging at the end of their course. Other issues include students plagiarising from each others' blogs, the need for students to have developed skills in choosing which hyperlinks to include in their blog (e.g. Oravec, 2003), and an ability to manage the tension between publishing private thoughts in a public space (Mortensen and Walker, 2002). These findings suggest that students are often task-focused and outcome oriented, that often they find it difficult to understand the rationale behind the requirement to blog, and that they are unable to recognise how blogging could enhance pre-existing practices. It appears that the ideals of educators can be difficult to implement in practice.

Theoretical perspective

As discussed above, it is difficult, if not impossible, to define the terms 'blog' and 'blogging', as blogging practices and products are extremely varied. Fielder (2003) argues that there is nothing intrinsic about a blog that directly facilitates learning. Essentially, a blog is a blank canvas surrounded by a selection of built-in tools that can be used in a variety of ways. Blogging is a contextually situated activity that is mediated by, for example, the tools available, students' opinions about its utility, course requirements and students' writing skills. We have adopted a cultural psychological approach to our research that proposes that learning is a social activity that is situated and mediated by tools that fundamentally shape the nature of that activity (e.g. Cole, 1996, Wertsch, 1991 and Vygotsky, 1979). Therefore, the focus of analysis becomes "the individual functioning together with a mediational means" (Wertsch, 1991, p 92). Here, we are focusing on students' perceptions of how they could function, together with blogging tools, to enhance their learning. If blogging is to be used in education, it is important for us to understand students' perceptions of its utility as this will enable us to provide them with suitable scaffolds so that students can appropriate the tool for their own individual learning needs.

The Open University context and our research focus

The UK Open University (OU) is currently implementing a £5m programme in which an integrated virtual learning environment (VLE) will be developed to meet the online learning needs of its 200,000 distance learners. The VLE will enable all courses to be designed to

incorporate blogs, wikis and podcasting, as well as other asynchronous and synchronous tools.

The first aim of the study was to explore students' levels of familiarity with blogs and blogging and to understand their perceptions of the utility of blogging to support their learning. The second aim was to understand the pedagogical objectives behind OU course designers making blogging available on their courses. This would enable us to identify any discrepancies between students' and teachers' perceptions so that we can generate guidelines to facilitate students' appropriation of blogging tools. The research questions we sought to answer were as follows: 1) what degree of blogging experience do students have? 2) Do students want to have blogging as part of their course? 3) In what ways do students think blogging is (not) a useful learning tool? 4) Is there a disparity between what course designers *think* blogging is useful for, or *would like* blogging to be used for, and students' opinions of usefulness?

We report part of the findings of a survey completed by 795 OU students which was designed to ascertain their level of experience of blogs and to gather their opinions about how blogs (and other tools) could support their learning. We also report on interviews with course designers who are currently using blogs on their courses. Finally, we propose some suggested guidelines for both students and course designers.

Methodologies

Given the mismatch between the perceived educational value of blogs and the actual reported use of blogs in practice, we wanted to gather evidence of both students' and teachers' experience, perceptions and expectations of blogs to support learning.

Survey of students

A survey was developed by the Online Collaboration and Communication Project of the OU's Virtual Learning Environment Programme and sent to 1,893 OU student volunteers. The sample was stratified based on the OU population for gender, age, and region. The mean age of the students was 43.5 years (range 18-82 years). Fifty-nine percent were female and 41% were male. The survey was sent out on the 4th October 2006 and responses were gathered online until 23 October 2006. There was a 42% response rate (n=795). Most of the students had experience of learning on distance education courses where email and conferencing (primarily text but also some audio) had been used. The survey was designed to ascertain student attitudes and opinions towards asynchronous online conferencing, email, blogs and wikis. All questions required students to select their response by clicking on a radio button, (e.g. 'yes' or 'no', or Likert scales such as 'not at all', 'slightly', 'in-between/no opinion', 'fairly', or 'very much'). We were keen to enrich our data so some questions gave students the opportunity to elaborate upon their responses by typing their own open-ended comments into a text box (e.g. 'could you expand on your answer, giving reasons?').

Interviews with course designers

Semi-structured interviews were carried out with one faculty member from each of five course teams that each developed an OU course that gave students the option to blog. Four of the courses were at Masters level and were designed for professional educators in the field of elearning, and one course was for pre-undergraduate students with minimal or no experience of internet tools. Interview questions were designed to address the following areas: the rationale for introducing blogs, whether blog content would be assessed, whether blogging was compulsory, uptake levels and whether there were any plans to evaluate the success of blogging activities. The interviews were audio recorded.

Analysis

The survey generated both quantitative and qualitative data. Radio button responses were collated electronically and analysed in SPSS. We explored the qualitative data (typed comments) by adopting a grounded theory approach (Glaser and Strauss 1967). Comments were manually coded in Excel and emergent themes were identified. We found that some students gave more than one response e.g. 'I think blogs are good for sharing ideas and make me feel less lonely'. Comments like this were allocated two codes ('sharing' and 'reduces isolation', in this case). The occurrence of each code was then counted so as to give an indication of the frequency of each type of comment.

Those codes that were in favour of the technology in question (e.g. 'sharing') were categorised as being 'positive'. Some students gave 'negative' responses e.g. 'blogs are subjective, how do I know that they are right?'. Other students gave 'conditional' responses to some questions, e.g. 'a blog would be good *if* it were moderated'.

Similarly the themes from the course team interviews were extracted, collated and compared.

Findings

Survey findings: quantitative data

Survey responses indicated that 53.3% of students had read a blog and that only 8% of students had their own blog, suggesting that experience was mainly secondary. 17.3% had commented on other people's blogs and 23% of students thought that the commenting feature on blogs is 'slightly' or 'not at all' useful, 42% had 'no opinion' and 35% thought that commenting is 'fairly' or 'very' useful.

The whole sample were asked if they could see a role for blogs in their studies and only 18% said that they thought blogs would be 'fairly' or 'very' useful. Responses to this question were then filtered to include only those respondents who had said that they had their own blog (n=62). It is interesting to see that these students, who it might be expected would see a role for blogs in their studies, were not particularly enthusiastic for them either. Only 22% of blog owners could see a great use of blogs in their studies.

Students were asked 'how much would you like to use a blog provided by the OU as part of your studies?' Thirty five percent said 'not at all', 13% said 'slightly', 34% had 'no opinion', 12% said 'fairly', and 6% responded 'very much'

Students were asked 'how much would you like to use a blog provided by the OU for personal use?'. 52.6% said 'not at all', 8.7% said 'slightly', 28.3% had 'no opinion', 8% said 'fairly', and 2.7% responded 'very much'.

Responses to the question 'can you see a role for blogs in your studies?' were cross tabulated with responses to a question assessing frequency of accessing asynchronous online forums. Irrespective of the frequency with which students accessed forums, most felt that a blog would not be helpful.

Chi-square analyses revealed a significant relationship between responses to the question 'would you like to see a greater use of conferencing on courses?' and responses to *both* 'can you see a role for blogs in your studies?' ($X^2=112$ df=16 $p<0.001$) and 'how much would you like to use a blog provided by the OU as part of your studies?' ($X^2=144.5$ df=16 $p<0.001$).

Examination of the observed and expected frequencies for this data suggests that in both cases, there is a relationship between not seeing a role for blogs and not wanting greater use of conferencing. There is also a relationship between seeing a definite role for blogs and wanting a lot more conferencing.

There was also a significant relationship between not seeing a role for blogs and not finding an OU email account useful, and a relationship between seeing a role for both blogs and finding emails useful ($X^2=69.6$ $df=16$ $p<0.001$). A similar pattern of dependence emerged for wikis; there was a significant relationship between perceiving there to be a role for blogs and wanting 'very much' to use wikis, and a relationship between not wanting blogs and 'not at all' wanting to use wikis ($X^2=227$ $df=16$ $p<0.001$).

Survey findings: qualitative data

Students were invited to comment upon their responses to three questions about blogs. However, comments were very similar across all three questions so those related to the question 'how much would you like to use a blog provided by the OU as part of your studies?' will be considered here. 188 students made 197 comments in response to this question. Response types, with frequencies and examples, are in Table 1.

Positive responses

Table 1 reveals that all of the positive responses refer to the students' own (potential) study blog and how it could help them. Conversely, nearly half of the negative comments suggest that students may find the content of other peoples' blogs unhelpful (e.g. it is trivial and/or subjective). This suggests that blogs are perceived to be most useful when the blogger has control over the content and when they can communicate, through the blog, with other students.

Some of the positive responses suggest that many students perceive blogs to be *repositories* of material (i.e. ideas can be put there and/or events can be recorded there). The focus of these comments appears to be more on the end product (the blog) rather than on the process (blogging). The students' comments suggest that they have not considered how the process of blogging can help them to *create* the ideas and opinions that are recorded in their blog. Very few students mentioned, for example, how blogging tools could enable linking to web-based resources and how writing, in their blog, about the content of a resource can be reflective and aid the development of ideas.

It was also suggested that blogging could provide social support as well as support with learning. One student wrote that, "*because I am dyslexic I would like to communicate with others with the same problem. Also I am shortly to become a carer for my 95 year old mother when she comes to live with me*". This student could see blogging as helping her to feel supported and motivated in both her study and life as a whole.

Table 1: Responses to the question ‘would you like a blog provided by the OU to support your studies?’

<i>Direction of response</i>	<i>Category of response (with example)</i>	<i>% of total comments</i>
Positive	Non-specific positive endorsement (“ <i>It would be good</i> ”).	21.8%
	Useful for sharing experiences, opinions, ideas etc: (“ <i>Might be useful as support, when the going gets tough you can share other people's experiences</i> ”).	12.2%
	Reflection, recording the process/stages of idea development: (“ <i>Might be useful for tracking own progress e.g. this week I was stuck on X and next week I solved it</i> ”).	3%
	Reduce isolation: (“ <i>It might help replace the interaction you would expect by attending a campus uni</i> ”).	1%
		Total = 38%
Negative	What for?: (“ <i>I can't see how this would help me with my studies</i> ”).	16.3%
	Not sure what blogs are and what they do and/or would like to have a go to find out: (“ <i>I would have to see how they might be applicable</i> ”).	11.7%
	Would take too much time: (“ <i>I envisage that this could take up valuable time for dubious benefit</i> ”).	11.2%
	Existing communication technologies make blogs extraneous: (“ <i>I'm happy with what is already provided and don't see the need for blogging to be involved</i> ”).	6%
	Content is trivia: (“ <i>I find blogs in general self obsessive and quite frankly mostly embarrassing</i> ”).	4%
	Other (small number of students): (Content too subjective, lack of privacy, poor organisation of material)	3%
	Don't like the medium: (“ <i>I use an A6 hardback notebook and pen that rarely crashes</i> ”).	2.6%
	Total = 54.8%	
Conditional	It would depend on the course: (“ <i>Depends on the type of course I was studying</i> ”).	5%
	If they were moderated: (“ <i>It would really depend on the quality of the posts and/or moderation</i> ”).	2.2%
		Total = 7.2%

Negative and conditional responses

Some of the students’ negative comments suggest that blogs can be conceptualised as being an information resource compiled by others, that students can access and draw material from. The following excerpts illustrate this point (our emphasis added):

“I would certainly read it to see what it was like”.

“If they give information or research material then I would use them”.

“Assuming that, in this instance, the content [provided by others] will be subject to review/vetting as appropriate”.

These comments probably reflect the fact that, as discussed above, most experience of blogs is gained by reading those created by others. It is interesting to note that these students did not seem to consider whether they would like to create their own blog.

Closely tied to this conceptualisation of blogs as being compiled by others, is the perceived problem of blog content being subjective or unreliable. This is a legitimate concern that can apply to a lot of the material available on the Internet. However, if a student made their own blog, with their own ideas, the issue of subjectivity may be less problematic.

There were a number of students who said that they did not know how blogging could support their learning. One wrote that *“it appears that I am lacking in imagination here as I have not really got an idea about how Blogs (sic) can be at all relevant to studying”*, and another suggested that *“it might detract from getting on with the work!”* Crucially, the latter comment considers blogging to be separate from work. This point is also exemplified in comments that suggest that the student would have no time to blog: *“I work full time and study evenings and weekends...I would be concerned that blogs would distract me rather than aid me”*. This student seems to consider blogging to be an extra activity instead of one that could become part of their study in the evenings and at weekends, which illustrates the importance of course designers justifying the usage of blogs to their students. Overall, many students appear to have a wholly understandable but nonetheless profound lack of awareness of how blogging can support learning.

Interview findings

Analysis of the interviews with course designers suggests that their pedagogical objectives were to provide students with an opportunity to explore blogging. The Masters students were encouraged to try blogging and to consider whether it could become a useful part of their professional teaching practice. On the Masters courses there was a strong expectation that blogging could aid reflection and the sharing of ideas with other students, and some of the course materials suggested blogging activities of this nature. Blogging was optional and the material assessed only if the student chose to use it in their assignments. Blogging was compulsory in the pre-undergraduate course and various activities were assessed. This was because the course aim was to introduce students to new technologies through participation in structured activities (e.g. posting to a blog and making a hyperlink).

Discussion

We have found that the OU students in our sample had varying degrees of experience of blogs and blogging, with around half having read a blog and a small minority (8%) having their own blog. These findings suggest that many students will need advice about the role of blogging tools and how their use of them could benefit their learning. Responses to the question ‘would you like a blog provided by the OU to support your studies?’ reveal that there is a profound lack of enthusiasm (from 82% of the sample) for blogging as part of courses. Arguably, the most interesting finding is that 88% of blog *owners* cannot see a role for blogs and/or blogging in their studies. These findings suggest that, although educators recognise the potential for blogging to support learning, most students do not agree. It seems that Boyd’s (2004) definition of blogging as including a “diverse set of practices” is not interpreted, by many students, to include activities to support formal learning.

Our analysis of the students' open-ended comments revealed that nearly 38% could be categorised as being in favour of blogs. The disparity between this finding and those discussed above may be due to the fact that some students who selected a radio button to indicate that they had 'no opinion' then wrote a comment that could be categorised as being in favour of blogs. This gives rise to the question of whether or not the suggested benefit was perceived to be of any substantial additional value. These findings suggest that students need to be made aware of, or to discover for themselves, whether and how they could benefit from blogging, over and above their use of existing technologies to support their learning.

Some of the negative comments expressed concerns about the quality of blog posts as they may express "subjective opinions" and the information may be "inaccurate". However, we have noted that these comments refer to the content of *other peoples'* blogs. We argue that these issues are important also to bear in mind when constructing *your own* blog. Students will need advice and guidance about how to select resources to add to their blog and which RSS feeds to subscribe to, for example. These information management skills are as important, if not more important, as posting text to a blog.

Interviews with course designers revealed that Masters students were given an opportunity to explore blogging for themselves and to decide whether it could help in their studies and professional lives. Only one pre-undergraduate course used structured blogging activities, as the aim of the course was directed more towards learning how to use blogging tools. The difference in the approaches of these two types of course is important as it illustrates that the maturity of the learner has to be borne in mind when thinking about blogs, from both technical and learning perspectives. It may mean that the perceived gulf between students' and teachers' views of blogs and blogging may be variable. Some OU students in the survey had never heard of a blog, whilst others had their own blog, suggesting that guidelines need to be developed to meet the needs of a wide range of abilities.

Findings from the current study have enabled us to generate the following suggested guidelines:

1. Students will need easy-to-understand manuals about how to use the features of the blogging tool provided, and accompanying explanations of what the tool enables them to achieve and why they might want to explore it.
2. They may need advice about how blogging could replace some of their current study activities, and the advantages it offers over pre-existing methods and technologies. If blogging is to be adopted, students should be encouraged to make it an integral *part of* their learning and not an additional time consuming activity. Students may therefore need to think about what their current approach is, and whether/how blogging can enrich or remediate it.
3. Students may need a variety of modelled activities, with accompanying rationales for their utility, which they can explore for themselves.
4. Students may need to be made aware of how blogs could be used as distinct from email, forums or wikis, within the pedagogy of each individual course.
5. Blogs could be used to discuss and share existing course materials and/or additional resources that are found on the web. In both cases, students may need to be directed to resources and advice about how to manage this material e.g. archiving and assessing its relevance and accuracy. Students may need to be directed to external freeware to

aid their archiving and use of RSS feeds to keep track of new posts to other blogs or web pages.

6. Tutors may find that regular moderation of the content of students' blogs, by posting comments about the suitability of weblinks or the accuracy of understanding of course materials, for example, may help overcome concerns about the subjectivity and accuracy of content.

This research has made an important contribution to understanding the potential of blogs and blogging in online learning and should be of interest to both educators and students. We are continuing to work towards the development of additional empirically derived guidelines. To this end, we are currently engaged with some Masters students who were on a course where blogging was optional. We are analysing the content of their blogs and carrying out follow-up interviews with the students. We are also undertaking similar research activities with some OU students who have started their own blog independently. We hope that this will enable us to identify the ways in which students find blogging useful, and the activities they engage in. Later this year, we plan to explore PhD blogs. This variety and combination of methods will enable us to gather different perspectives and to triangulate our findings. Future work, together with that discussed above will increase our understanding of the type and amount of support that educators and students may need when utilising blogs and blogging in courses.

References

- Boyd, D. (2006) *A blogger's blog: exploring the definition of a medium*, Reconstruction 6.4. Accessed 22 Feb 2007 from <http://reconstruction.eserver.org/064/boyd/shtml>
- Cole, M. (1996) *Cultural Psychology*. Camb. Mass: The Belnap Press of Harvard University Press.
- Dickey, M. (2004) The impact of web-logs (blogs) on student perceptions of isolation and alienation in a web-based distance-learning environment, *Open Learning*, **19**, 3, 279-291.
- Fiedler, S. (2003) Personal webpublishing as a reflective conversational tool for self-organized learning, in T.Burg (ed), *BlogTalks* (pp190-216). Vienna, Austria.
- Glaser, B. G., & Strauss, A. L. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine Publishing Company.
- Herring, S., Scheidt, L., Bonus, S. and Wright, E. (2004) Bridging the Gap: A Genre Analysis of Weblogs, *Proceedings of 37th Hawaii International Conference on System Sciences*, (Hawaii).
- Homik, M. and Melis, E. (2006) Using Blogs for Learning Logs, *Proceedings of ePortfolio*, (Oxford, UK).
- Huann T., John O. and Yuen J.(2005) *Weblogs in education*, *IT Literature Review*. Retrieved 22nd Feb 2007 from http://edublog.net/astinus/mt/2005/09/weblogs_in_educ.html
- Instone, L. (2005) Conversations beyond the classroom: blogging in a professional development course, *proceedings of ASCILITE conference* (Brisbane, Australia).
- Krause, S.D. (2004) When blogging goes bad: a cautionary tale about blogs, email lists, discussion, and interaction. *Kairos*, **9**, 1. Retrieved 8/2/07 from <http://english.ttu.edu/kairos/9.1/binder.html?praxis/krause/index.html>
- Mortensen, T. and Walker, J. (2002) Blogging thoughts: Personal publication as an online research tool. In A. Morrison (ed) *Researching ICTs in Context*, InterMedia Report; Oslo, Norway.

- Oravec, J.A. (2003) Blending by blogging: weblogs in blended learning initiatives, *Journal of Educational Media*, **28**, 2-3, 225-233.
- O'Reilly, T. (2005) *What is web 2.0?* Retrieved 22nd Feb 2007 from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>
- Sade, G. (2005) Weblogs as open constructivist environments, proceedings of *BlogTalk Downunder* (Sydney, May 19-22.).
- Weller, M. J. (2007) *Virtual Learning Environments - using, choosing and developing your VLE*, Routledge.
- Wertsch, J (1991) A sociocultural approach to socially shared cognition. In L.Resnick, J. Levine and S. Teasley (eds), *Perspectives on Socially Shared Cognition*, Washington: American Psychological Association.
- Williams, J. and Jacobs, J. (2004) Exploring the use of blogs as learning spaces in the higher education sector, *Australasian Journal of Educational Technology*, **20**, 2, 232-247.
- Vygotsky, (1979) *Mind in society: The development of higher psychological processes*. M. Cole M, V. John-Steiner, S. Scribner and E. Souberman (eds and trans). Cambridge, MA: Harvard University Press.