
FINDING THE CONDITIONS OF POSSIBILITY FOR ONLINE ENQUIRY-BASED LEARNING

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Abstract: The benefits of enquiry based learning for higher education, for which e-portfolio solutions are increasingly the medium of choice, are clear in the contexts of expansion and widening participation. Successful EBL has two benefits for lecturers. Firstly, the process fosters reflective, critical research skills in students which increase their chances of both academic success and employability. Secondly, the economic advantages of such flexible learning are obvious – a significant reduction in contact time is afforded by such an intervention.

However in this paper we argue that the conditions of possibility for online EBL must be thoroughly explored before the leap can be made, and that we are compelled to resist making easy assumptions about the readiness of first year undergraduates to learn in this way (particularly in an HEI with relatively low entry requirements and a significant number of ‘non traditional’ entrants to the sector). We conclude that there can exist a ‘zone of uncertainty’ between the ‘spirit’ of online EBL students’ experience of it.

The research described involved the delivery of a new module for first year students on a Combined Honours programme, exploring the dialectical relations between academic study, vocational applications and society / the community in a broader sense. The module was designed with enquiry-based outcomes, including students designing their own assessment models and success criteria.

One group of students within the cohort opted for an e-portfolio experience, using Elggspaces (<http://newman.elggspaces.com>), while the main group of students opted for traditional methods of delivering their enquiry-based outcomes. This paper presents, through qualitative discourse analysis, a mixed set of comparable outcomes between these 2 groups and turns our attention to students’ perceptions of both EBL and e-learning. In addition, tracking data for the e-Portfolio group provides a quantifiable insight into how EBL has developed for these students over time. The findings of this study raise questions for those engaged in online EBL about ownership, direction, community and socio-cultural conditions – towards a ‘micropolitics’ of e-learning.

Keywords: enquiry based learning, e-learning, learning contexts, qualitative

Curriculum Intervention

The Combined Honours degree programme at Newman College of Higher Education recruits a wide variety of students within the contemporary English climate of ‘widening participation.’ Many of the students are the first from their family to study at university and the entry requirements for the programme are relatively low in the national context. Undergraduate studentship, then, can be a challenge for this cohort. To address this, a new module was introduced in 2006 – *Study and Work in Social Science and Humanities*. The learning outcomes were designed to foster independent studentship and were contextualized by an enquiry-based assessment outcome with an online option. Whilst this was not explicitly stated to students, the module presents a constructivist approach to enquiry, informed by Wenger (2004) and Savin-Baden (2000).

The notion of constructed knowledge is based on the assumption that knowledge is related to the context in which it occurs and is applied and that students see themselves as creators of knowledge. (Savin-Baden, 2000:30)

The module requires all undergraduates on the programme to work collaboratively, across subject disciplines and independently in response to a range of enquiry themes (such as independent learning, sustainability, knowledge and belief, education and technology, emotional intelligence, graduate employability and the cultural politics of assessment). Students are required to use online forum opportunities to design their own form of assessment in order to demonstrate their understanding of the (dialectical) connections between their academic studies, their future graduate careers and the broader social world in relation to the aforementioned themes.

Online enquiry

Web 2.0 technologies provide new opportunities for constructivist learning and even the possibility of bridging the ‘disconnect’ (Buckingham, 2007 and McDougall, 2007) between younger undergraduates’ use of social networking in the ‘lifeworld’ and their academic studies in the ‘systemworld’. Ramsden (2003) and Entwistle (1998) both suggest that learners are more likely to be motivated to learn beyond the simple acquisition of information and move to deeper learning if they are provided with choices in the way that knowledge is acquired. This form of deeper learning can be closely linked to Enquiry-Based Learning (EBL) which Hutchings (2006: 2) describes in its simplest form as ‘any process of learning through enquiry’.

Web 2.0 technologies potentially provide a self-directed choice of resources that can help a student actively learn. The use of e-portfolios has been of particular interest as these could potentially provide a number of benefits for staff / students:

- Students have a medium for EBL and assessment of this work.
- Teaching staff have an alternative delivery mechanism to offer to students, which helps to widen student engagement/participation.
- Students gain a sense of community and ownership in a lifelong learning environment.

The English government’s e-strategy (DFES: 2005) has commented on the use of e-portfolios within education and it has recognised the requirement for personalised learning spaces with social interaction, which needs to be taken through further/higher education and into employment.

However, the strategy also focuses on institutional summative data needs which could prove to be incompatible with social lifelong learning spaces. Barrett (2004) has commented on this potential incompatibility arguing that the two purposes are in direct conflict with each other. Tosh (2005) is concerned that institutional data requirements have dominated e-portfolio development. This may mean the vision for e-portfolios may never materialise in the way it has been predicted.

The assessment of an EBL task may provide an alternative that allows students enough freedom to learn on the terms that best suit them without institutional data requirements turning it into a tick box exercise. As the student is in control of his/her own learning, this form of assessment should be able to live within a student-centred e-portfolio system where a student decides for him/herself how to use the resource.

The aim of this research have been to trial the use of a specific e-Portfolio resource as a medium for a form of enquiry-based learning which required students to construct their own assessment outcomes, thus extending traditional constructivist approaches.

Elgg

The Elgg e-Portfolio (<http://www.elgg.org>) was selected (see Stanier, 2007 on the benefits of this solution in higher education) and externally hosted on Elggspaces (<http://newman.elggspaces.com>). The resource was branded Newman Blogs – Blogging and e-Portfolios. As one of the features of Elgg is social networking, and EBL could potentially benefit from this, it was decided that the module community would be open to other users. Colleagues within Newman were informed of what the resource provided and were invited to use this within their academic work. As a result, a number of other users and communities were created during this trial. All of these can be accessed from <http://newman.elggspaces.com>. Other external resources were also featured by the use of RSS feeds, which provided additional content for students to interact with.

Quantifying Success of the System

In order to understand students’ perceptions of both this kind of enquiry-based learning and the Newman Blogs experience, three methods of gathering data were used:

- **Student focus group:** 10 of the 29 active users

- **Student Interviews:** 4 of the 29 active users
- **Newman Blogs Data:-** Quantitative analysis - data submitted into Newman Blogs and information gathered from user logs (via statcounter.com service).

Responses to EBL

In the focus group, the following words were offered as immediate responses to the open-ended, constructivist approach to assessment:

“Unique, different, terrifying, confused, challenging, fun, reflective, unsure, interesting, crap.”

Asked to summarise how this module is different to others, responses were largely positive:

“Its eye opening, its all interrelated, generic, you get to work together with people from other subjects and it covers things that are relevant to all your other modules.”

“It makes the college feel like a home cos you get to see all the lecturers from other subjects and the other students instead of just being in your subject all the time.”

However, when the group was asked to reflect on the negative responses to the module posted by other students on the blog, a range of barriers were identified:

“We can see why you are doing it and why you want us to analyse what we are doing and think for ourselves, not just accepting what we are told by lecturers and just regurgitating what other people think but there isn’t enough direction.”

“But if you told us what to do, it wouldn’t be enquiry, would it?”

“People in the first year just want to get through with pass marks, all this creative, reflective stuff isn’t where your head is at.”

Asked specifically about the challenge of designing ones own assessment:

“Really we are trying to guess what’s inside your head, you want us to be creative and think outside the box but if you could just show us some examples of what you want...”

“You can’t force people to be reflective, but it seems like that’s what you are trying to do.”

“Its too simple – you are limited by your own ambition.”

A discourse of respect for the ‘spirit’ of the module emerged from the focus group, set against a ‘realism’ discourse with a much more pragmatic air – the ‘not where your head is at’ remark implies a naivety on the part of academics at the college, and the ‘limited by your own ambition’ statement is more confessional. This would appear to support the suggestion that students in their first year of undergraduate study do not demonstrate sufficient cultural / academic capital for a more ‘embedded’ or deep form of enquiry-based learning, that they do not at this stage have the ‘conditions of possibility’ for such a journey.

Familiarity and Ownership

All four students who engaged with the interview process were already familiar with resources similar to Newman Blogs. Two of the interviewed students clearly see Newman Blogs as a resource owned by the college. This means that they do not feel as though they can talk openly in the resource as tutors had access to it. The quote below demonstrates this:

Interview 1:- *“People see Newman Blogs and WebCT as academic whereas they see Myspace as a fun thing to do that they don’t have to think about... even though when we were taught, [in the workshop] I do remember you saying that it is not just for your academic and you can talk about other things.”*

This interviewee also expressed the opinion that if the resource was not so closely associated to Newman College by its name, then the perception of this being a college resource may be altered.

However, for the third interviewee, the question of ownership raised a more positive response:

Interview 3:- *“Yeah, you have [got ownership] because you can create your own space, whereas with WebCT, you just follow instructions. There is very little input into it [WebCT], you are just receiving information and you can’t really contribute to WebCT. I think it’s had its time.”*

Compared with other websites that have a social networking element, one interviewee highlighted the fact that they had not been exposed to phishing scams where a user’s account details are obtained by a third party and all of their information is changed within the resource:

Interview 4:- *“There is a problem with Myspaces that it is always getting fized [hacked or phished] or whatever that word is, erm, when they like take over your account and change all your stuff and that.”*

In addition, another interviewee expressed the feeling of security in relation to Newman Blogs, as it is directly associated with the college.

Interviewees also expressed the opinion that networking around the e-portfolio resource is not to the same extent as with sites such as Myspace. This is linked to the perception that Newman Blogs is owned by the college rather than the individual.

However, an interviewee also stated that they have had the opportunity to network with people that they would not normally talk to:

Interview 1:- *“It’s been interesting as you have been able to read peoples comments who are not in your circle of friends... .. so it was good to see like someone my age, somebody like a bit different to me ... and then somebody who is like a lot older than us and see their point of view.”*

The interviewees were asked why they thought only a limited number of students were actively posting within Newman Blogs:

Interview 1:- *“...he [Julian] might of said your directed time task if you are on Newman Blogs is to do something or if not, write something.”*

Interview 2:- *“You can come away from the module and think, well OK I have got to write up about something but I’m not really sure what and there isn’t one person setting the tone each time, every time... and there is no-one checking up on you if you don’t do it. If you don’t write on the blog, then no one is going to tell you off for doing that.”*

Online EBL

The following responses were provided when students were asked whether the resource had been useful for EBL:

Interview 1:- *“I just like to know what other people think... I know what I think and I like to see if I am on the same tracks as anyone else to see whether it is just me going off on one, ...I suppose it is going to be helpful because people can air their problems on there as well. So if people have got stuck with the assessed part and things, then they can always ask the other person on the network, which I think is probably helpful.”*

Interview 2:- *“ I think it has the potential to work well, but I think in the situation it has not worked so well because of the small amount of people contributing.....right at the very beginning when we were talking about learning styles, it worked very well then because you can see how different everyone was.”*

Interview 3:- Unless you have got a group of people willing to use it... Unless you have got that, you are not going to get a whole effect working properly.”

At various points during interviews, students stated that part of the problem with Newman Blogs was the fact that there were not enough people within the system to interact with. For the interviewees, the resolution of this problem was linked to potential benefits the resource may provide beyond the life of the module:

Interview 1:- ” If it became open to, it was more like socially aware, like with more students and things, then I would probably use it [when PL401 module finishes]. It might work [college wide] say like if like you could kind of comment on the social calendar of events of the college.”

Interview 3:- ”It’s just like a notepad, it’s just like a storage site and a short discussion. Whereas the next one on needs to be a larger interaction.”

Using Newman Blogs for Assessment

Students were briefed to design their own assessment for this module, but there was no compulsion for them to use an online context. During the interviews students were asked whether they would be using Newman Blogs for their assessment work. Out of the four interviewees, two students expressed an interest, one student wanted to use an alternative (Myspace) and the final student wanted to do this electronically, but was unable to do so as other students within her group preferred another delivery method.

Disability and Assistive Technology

Interviewee 4 utilised assistive technology to access Newman Blogs. Specifically, the interviewee needed to use Read Write Gold to read text on the website pages and Dragon Naturally Speaking in order to input text verbally into the website. As stated by the Chartered Institute of Personnel and Development (2004, 7), this was a good opportunity to see whether the Newman Blogs resource was ‘up to the challenge’ of providing a realistic service for individuals with disabilities that was not just an ‘exercise of cutting training costs’.

When asked how easy it was to use the software, interviewee 4 replied by saying:

Interview 4:- “At first, I had loads of problems with it ... but then I don’t know how, somehow I managed to work it.”

However, after managing to get the software to work within the resource, the student experienced difficulties in identifying module content.

During the interview, it also became apparent that this particular student was more comfortable interacting with other students using an online communication method.

Interview 4:- “I think other people feel more comfortable talking to me on there [Newman Blogs] because then they aint got the hyperactivity and constant distractions that they have if they are sitting next to me. Because it helps others, then consequently it would help me because it helps them to understand me therefore I get lesser frustrated.”

Online Statistics

While running Newman Blogs, a number of differing statistics were generated from students accessing and submitting information into the resource. To review the statistics in full, please refer to the appendices. These can be found by going to:

<http://www.newman.ac.uk/elearning/ebl/EBLPaper-Appendices.doc>

Interpretation

The interview data indicates that this resource could prove to be a useful asset for students completing EBL tasks. However, the following points need to be considered:

- **Content Submission.** As not enough students have actively submitted, the potential benefits of the system are reduced as there are fewer people to interact with.
- **Micro Tasks.** The first year students who have taken this module had not been exposed to EBL prior to this module. At the start (Oct06 - Nov06), micro tasks were completed by the students and this encouraged a significantly larger number to participate in submission (see appendix J). These micro tasks constituted 'shallow EBL' (Hutchings, 2006), which the students felt more comfortable with. Three months into the module, students were left to use the resource for 'deep EBL' (Hutchings, 2006) and this is where the drop-off in submission started. This would seem to indicate that the students were not ready for self-directed EBL. This is supported by comments within the student interviews.

Increased activity was seen towards the end of the module and this was mainly due to two sub-communities created for the assessed component of the module. This increased activity in terms of page views is highlighted in appendix H.

Out of the initial set of volunteers, 29 users actively used the system which constitutes 15.43% of the entire user-base. This percentage of users has generated (Oct06 – May07) 16.56% of all postings, 25.65% of all files uploaded and 32.78% of all comments within the resource. In addition, page views for the PL401 community (appendix G) have consistently been around the 20% mark for each month of analysis.

This indicates that compared to the other communities in this limited trial, these EBL students have been more active than the average user (outside of the EBL trial). This would indicate that the EBL students have found slightly more use within the resource than other individuals.

Social Networking

Interviewed students who were all actively posting within Newman Blogs felt that unless there was critical mass within the resource, they would not get the full benefit from it. With 29 students who have actively submitted into the resource and only a handful of these students doing so regularly, interaction needs to be increased. However, the viewing benefits should not be ignored.

Appendix I demonstrates that the module community has been viewed 57 times more than people have submitted information. This shows that a number of students were gaining a networking benefit from reading information. (which may have also resulted in conversations offline).

The potential for networking has been demonstrated within the web site around discussions within the blog concerning class disruption. This produced the highest amount of commenting and viewing between the students on the module.

Assessment

Out of the 29 active students, 2 groups (3 in each group) have decided to use the resource for an assessed presentation. This would seem relatively low, given the total number of students. Considering the interview and web site statistics, this may have been due to the following:-

- When microtasks were given to the students, interaction was at a high level for the first two months of use (appendix J). At the start of this year, students were left to use the resource for deep EBL activities and a drop off in use was noticed, this would seem to show a lack of readiness for this within Newman Blogs.
- As the assessed element of this course required students to work in groups, a consensus has to be reached across the entire group to use Newman Blogs

- Two students preferred using resources such as Facebook and Myspace for work submission. These resources provide greater social activity and ownership.

Location of Page Views

During the trial of the resource, we encouraged all users to make content available for public viewing in order to stimulate greater interaction. As a result, content from the resource was available externally from the college. Even with a relatively low amount of content submitted, the resource was found by individuals internationally (Appendix A).

Public viewing gave a higher potential for interaction with the resource outside of Newman, and as Appendix F shows a number of learning organisations have been viewing content within the resource.

A few possible reasons for access from other academic organisations are:

- Friends of students accessing from their own campus.
- Staff within other institutions exploring the use of e-portfolios
- Staff/students performing research work online

However, with this openness, unwanted interactions may occur. As demonstrated in the interview responses, students expect/believe that there will be a certain security benefits if the system is operated by Newman College.

Ownership

Two out of four students interviewed perceived the resource as being owned by the college, One student was unclear and the 4th student felt as though they had ownership over the resource. Newman Blogs does not currently support the export of e-portfolios, which may cause issues for students when they leave the college unless they keep their e-portfolio within the resource upon leaving our institution. However, the Elgg system is constantly being developed with new features and a new release is due allowing one to export e-portfolio information to a zip file. Even with a zip export function in place, the college should still consider maintaining e-portfolio's of former students within the resource, as it will allow current students to gain benefit from individuals who have moved on to a work based environment. This would also help to highlight ownership to a new user.

Potential

For the resource to provide a framework for facilitating more sustained, embedded enquiry-based learning, the following should be taken into account:

- **Critical Mass of Use:** to allow students to carry out EBL and also social interactions, a greater volume of students needs to be engaged in the resource. If a sense of community and ownership is needed, then it would seem logical that each student might be given an account when starting at the institution.
- **Initial Social Interaction Focus:** the resource should initially have a focus on social interaction. This will give greater ownership for lifelong learning. After this initial social introduction, academic related tasks can be included using EBL where students have more control over their own learning. As it has not been introduced on a course, the resource will be less likely perceived as something that has to be completed as part of their module.
- **Shallow EBL Tasks:** students have struggled to understand deep EBL learning tasks being introduced within their first year of study, as this will more than likely be the first experience of EBL. It would be better to engage them in shallow microtasks where the tutor takes an active role in leading the students. Deep EBL should then be introduced in the 2nd/3rd year of study.

- **Branding:** branding the resource as Newman Blogs has probably contributed to students using reflective blogging to a greater degree. It may also have contributed to it being perceived as a college resource. However, branding should not lose all academic aspects as this can help with the perception of security.
- **Open Access vs Walled Garden:** within the trial, any user without an account can view and comment on submissions. This had noticeable benefits of widening participation with individuals outside the college, notably from many other academic institutions. This not only widened the potential for EBL, but also had a secondary benefit of promoting the college to external organisations.

However, easier access comes at a price, and if the resource was implemented college-wide, unwanted interactions with students may become commonplace. It is important that any perceived security benefits within the resource are maintained. Users do have control over who is allowed to see what within the system, but this may not be perceived as enough security by the users.

A walled garden approach could be taken, but this may not help to engender a sense of ownership. If this is the case, then alternative social networking sites such as Myspace and Facebook will be used over anything Newman College provides.

It would seem that Newman has the opportunity to provide a Social Networking/e-Portfolio site that users feel secure in using for academic work and feel as though they have ownership over for lifelong learning, but the issue of security and ease of access needs to be balanced perfectly.

Conclusions

The benefits of Enquiry-Based Learning for Higher Education, for which e-portfolio solutions are increasingly the medium of choice, are clear in the contexts of expansion and widening participation, affording a reduction in lecturer contact time and fostering reflective, critical and constructive skills which enhance independent studentship and employability in equal measure. However, academics must bear witness to the conditions of possibility for online EBL before embarking, as we did, on optimistic, embedded enquiry routes with first year students who may lack the various forms of capital (cultural, creative, technical) necessary to embark on such a journey.

Our pilot intervention has provided us with two forms of rich data. Firstly, in relation to e-learning we know that we must facilitate open access networking, with the attendant risks, beginning with social space and energising academic dialogue within this (not the other way around). Secondly, we know that we must engage with and assuage the anxiety felt by students over 'where your head is at' in the first year of undergraduate study. We have made the mistake here of trying to mobilise an embedded version of enquiry-based learning without providing stepping stones from 'micro' versions first. In other words, in being seduced by both technology and the lure of what we will call 'assumed engagement', we have been distracted from the importance of scaffolding the "co-construction of shared knowledge" (Jennings, 2006: 109). Whilst there are very positive outcomes here, for both e-portfolio development and the 'spirit' of EBL (which students appeared to appreciate) we conclude that there is much work to be done in response to the 'micropolitics' of e-learning.

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