

Using a wiki to improve learner engagement in higher education

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The aim of this article is to review the pedagogic benefits of the web 2.0 tool, the wiki, for the purpose of improving engagement among learners in higher education. It reviews key educational theories and recent studies into technology enhanced learning. It summarises research into the learner experience on the use of the wiki. The conclusions are that while some students value the flexibility of this tool, their online engagement may be restricted by emotive issues but where these are overcome, a higher level of evaluative skill is demonstrated and critical learning can take place.

Introduction

The issue of engagement among learners in higher education is well recognised by teachers. The issue may not be a new one but the features of the modern student community and the modern tools for learning and teaching provide different aspects to this challenge, and some new possible solutions. It is proposed that the tools of technology enhanced learning, if married to educational pedagogy, can provide ways of improving engagement that are more effective for the diverse community of higher education learners. This article reviews pedagogic theories around engagement and motivation and reports on empirical research of the learner experience with an online wiki.

Developments in pedagogic theory

Key writers have analysed the vital role of engagement and motivation in higher education (Marton & Saljo, 1984; Ramsden 2003; Biggs & Tang, 2007). Engagement makes learners more personally involved with their learning, builds up their understanding and 'develops expectations that give confidence for future success' (Biggs & Tang, 2007, p.33). These writers have all stressed the importance of these aspects in the achievement of a deeper approach to learning as greater connections are made and the intentions of the learners change into a desire to evaluate and adapt. Ramsden (2003, p.97) believes that the conditions required for engagement include the provision of an opportunity for 'the art of enquiry' and the opportunity for control by the learner over their learning environment. It may be seen from these studies that a symbiotic relationship exists between engagement and motivation. Engagement comes from an intention, or motivation, to understand and evaluate and the results of this engagement operate in a cyclical fashion in turn to increase the level of future engagement. Early behaviourist research into conditioning, followed

up by Marton and Saljo (1984), identified the effects of the various types of motivation. They identified the value in intrinsic motivation, defined as an 'interest in what is being learned and the feelings of pleasure derived from it' (Entwistle, 2009, p. 20) and found that a fear of failure in the classroom or assessment is more likely to produce a surface approach to learning.

Biggs recognised the value of engagement in his analysis of the significance of collaboration, or what he called 'peer managed teaching/learning activities' (Biggs & Tang, 2003, p.59) in encouraging deeper learning. He saw how learners engaged more, and at higher cognitive levels, with the subsequent development of superior meta-cognitive skills, when collaborating with their peers than when compared to passive listening. He suggested that the inter-relationship between engagement and motivation produces an interpretation of knowledge, a development of communication skills and an increase in intrinsic motivation from the interest arising from interaction with peers and the friendships that arise out of greater collaboration. Entwistle (2009) uses his own strong background in psychology to identify the value of collaboration as its contribution to the transfer of information from its receipt by the short term memory. He describes how the size of the short term memory is extremely limited. The learner needs to develop skills of engagement and collaboration, to work on the information received, in order for it to be transferred into long term memory for future use. Only with transfer to the long term memory is a memorable, deeper understanding of complex ideas made. He contends that traditional face to face tutorials only give the learner one short brief chance to comment on the materials, activating only their short term memory, and thus limit their opportunity for engagement and deep learning.

Many of the studies on peer working and collaboration have a grounding in the concepts of social constructivism (Vygotsky, 1962) and the substantial heritage of Piaget (1950) and Bruner (1966) describing the student's role in the creation of knowledge. Constructivism suggests that we learn by examining existing knowledge and understanding, some of which we bring with us unconsciously, and by our assimilation of this input, we change our understanding as well as ourselves. The work of Lave and Wenger (1991) into the notion of learning as 'situated' within communities of practice became very popular; the concept that social groups create shared knowledge through effective collaboration. Leask and Younie (2001) investigated how the communicative aspect of technology adds to this process. They hypothesized that 'communal constructivism' could involve communities of teachers or learners across physical boundaries that can extend knowledge and understanding, assisting by making learners 'stakeholders in their own learning' (p.130).

Yet these concepts are not without opposition. They have fuelled the pedagogic debate about the legitimacy of the 'wisdom of the masses' rather than that of the expert. There is concern about anti-social behaviour and the inequality of participation or 'lurking' amongst the diverse learning community in the early 21st century where expectations and obligations are perceived very differently between teachers and learners and amongst the learner themselves. Such diversity adds to the pre existing differences described in Gardner's (1983) work on multiple intelligences that can produce learners who perform highly in one area, such as factual memory but poorly in others, such as empathising with other people. Such intrapersonal intelligence would have significant importance in the ability to

collaborate. So the issue for the practitioner is how to design curricula activity that produces deep, rigorous learning and encourages learner engagement?

Empirical research was carried out using a technological solution via the use of a wiki, that is a collaborative web site made up of pages that learners can edit and create themselves, described by O'Reilly (2004) as the 'architecture of participation'. Since the Dearing Report (1997) the use of information technology has been seen as a key skill and the HEFCE strategy (2005; 2009) identified advantages for technology enhanced learning in efficiency, enhancement and improved access. The use of the wiki suggested a mechanism for giving greater control over their learning to the learners. Studies have investigated its potential to facilitate collaboration and creativity in learner response and thereby encourage engagement (NACCCE, 1999; Leach, in Craft *et al.*, 2001). Maharg (2007) believes that the wiki also has the potential to provide immediate formative feedback and greater experiential learning (Kolb 1984) as the learner has time to reflect upon the material, and to add their own view. Wheeler *et al.* (2008) believes that it could provide a dynamic online social environment in place of a digital arena that too often can be dry and uninspiring. It may also provide a practical mechanism for Illich's (1970) controversial plan to take education out of the classroom.

There appeared to be some support from prior learner experience research on the wiki that produced comments such as '[it was] fun to discuss with others' (Schachtner, 2009, part VI), that learners valued looking at the work of others (Cubric, 2007), that the immediacy of the feedback was welcomed and learners felt that their evaluative writing skills improved (Wheeler *et al.*, 2008). It may be seen that an opportunity was created for developing social ties as well as a less intimidating environment than the classroom for the wary learner. The issue of enjoyment in learning also recalls the work of Krathwohl *et al.* (1964) on the affective domain and more recent studies (e.g. Boyle, 2007). This work gives significant importance to feelings and values in the achievement of successful learning and teaching. It is believed that such work should gain increasing attention in future studies on motivation and engagement, particularly in the field of technology enhanced learning which has the potential to produce a variety of accentuated emotional reactions.

The objective of this study was to examine the transferability of these claims within one post graduate legal module. In particular, the objective was to investigate whether evidence could be gathered that the use of a wiki affected the level of engagement, motivation and subsequent approach to learning. The wiki contained different tasks that were aligned to the learning outcomes of the course, including the use of diagrams and digital media. The complexity of the tasks increased throughout the year so that initial tasks merely invited comment on an academic article but progressed after eight weeks to the construction of a legal argument. As the study wanted to review the development, or not, of intrinsic motivation, contribution to the wiki was voluntary, although with the encouragement of the tutors, and learners were informed that the tutor's contribution would be limited. The wiki was run in addition to a standard face to face provision.

The results were encouraging in that 80% of learners made a significant contribution to the wiki. More importantly, the quality of responses showed a much higher level of critical involvement with the task than was seen typically in face to face tutorials. Comments appeared to demonstrate a recognition of the valuable

elements of academic work and a willingness to express a personal opinion. Contributions included:

In my opinion a good piece of legal writing to be persuasive must be coherent, straight forward, consistent and supported by quotes, references, statues or other important relevant information (Learner A)

[a good] article combines coherent argument backed up by stated fact given through practical examples witnessed in case law, using named authorities (Learner B)

These appeared to suggest that the learners were becoming discriminating consumers of academic writing that could be carried forward to their role as academic producers. Contributions seemed to suggest a critical connection with the subject matter, for example:

As a consumer I would be happier to enter into a contract if I knew that there were set of rules which protected me (Learner C)

I would be in favour of this style of argument and liked the way that the first part of the document was clearly set out (Learner D)

It was noted that there was very little comment on the contributions of others. When questioned about this, learners still displayed anxiety as some admitted to remaining shy about having their comments available for others to see and having a fear of 'looking foolish'. When asked about the value of the wiki to their learning, most respondents, even those who did not contribute, agreed that the wiki would help with their learning as they felt that they liked to see the opinions of others. Some felt that it would make them more confident about expressing their own opinion. Some expressed a sense of satisfaction with handling technology and its contribution to their ability to manage higher education within their lives:

I found it very useful and a good additional learning tool – could be filled in at your own pace (Learner E)

However, a few felt frustrated as they wanted more teacher comment showing that some are still relying on the teacher as the source of their learning. There did not appear to be a strong correlation with the favourability of the responses and the familiarity with technology declared by the learner, as even those who said that they did not use technology a great deal liked the idea of the wiki. It may appear that response to the wiki was not linked to prior IT experience but possibly to their own needs in their learning.

A reflection of the teacher was that the cohort of learners was more prepared to ask questions over previous years in the face to face sessions suggesting that there was some skills development and greater engagement with the module from the use of the wiki although it is difficult to assess in this first year of the study how much this was due to the use of the wiki and how much was merely chance of this cohort. The tasks that were set on the wiki were very similar to talking points in face to face tutorials but appeared to produce a greater opportunity to discuss critical skills in an incremental approach. There was an increased level of engagement with activities when specific wiki tasks had been allocated across the cohort thus some level of teacher organisation is recommended.

Conclusions

The learning process needs to become more effective in developing learners' critical skills for their development within the knowledge society. Learners may be anxious about the consequences of failure and anxiety leads to disengagement from deeper learning. Teachers recognise the importance of engagement and motivation in encouraging learning and are trying many methods to build confidence and awareness. Learners say that they value the discussion of ideas with their peers, and there is clearly much evidence of this happening online in the social environment, but a lack of critical skills, associated with much anxiety, is hindering this in the learning context. Learners need to gain experience of safe academic collaboration, to be aware of the contribution of others and of the need to revise their own work subsequently. The wiki appeared to stimulate a higher volume of engagement, and at a higher cognitive level, than had been experienced in face to face tutorials. Time and flexibility may have permitted learners to create their own contribution in this online format although the creation of collaborative communities appears to be rather further away. Future tasks in the wiki will include this element more explicitly. The role of the wiki was seen as supportive to face to face learning and as a method to build skills incrementally.

It is recognised that the use of technology enhanced learning is now reviewed in a more critical light than the early years of the 21st century. Research in the last 12 months (Beetham *et al.*, 2009; Mayes *et al.*, 2009; Melville, 2009) has taken a more realistic view of its impact and the need to avoid a 'naive technological determinism' (Ramsden, 2003, p.151). This study suggests that the benefits of technology enhanced learning should now be investigated for its effect on motivation and engagement via its flexibility, adoption to change and provision of control to the learner. There is also an economic argument (Rossett, 2002) that advocates for valid blended learning to provide targeted education away from the mass market 'shovelware' approach towards the acquisition of a flexible skills set and 'just in time' learning that allows the learner and worker to re-train to match their skills to the available employment. The current harsh economic pressures creating growing student debt and moves to more flexible learning formats, such as distance and part time, support an interest in these different methods.

Technology touches a large part of our lives. It is a working tool like the roller ball ink pen and the pocket calculator. Learners value the any time, any place access that it brings. There may be an opportunity to blend these benefits with the crucial feature of education being the enjoyable exchange of ideas between people so that a wiki may assist in building the necessary skills to make learning more engaging and effective.

Glossary

Wiki: a web site made up of pages that can be edited by multiple users to create a collaborative work and can demonstrate a history of edits.

Web 2.0: use of the internet that emphasizes user generated content and collaborative effort.

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A reflection on Coles' Using a wiki, by Dr Rob Weale

In this paper the author evaluates the use of a wiki to improve engagement and intrinsic motivation for learners in a Higher Education (HE) setting. The evaluation is underpinned by key pedagogic and educational theories, in particular how engagement and motivation exist in a mutually supporting, cyclic relationship wherein the enhancement of engagement with learning sees a related enhancement in motivation for learning, and vice versa. The author posits that stimulation of this cyclic relationship works most effectively when situated in socially constructed educational practices. She notes that certain technologies, in this case a wiki, can offer supplementary spaces (supplementary to physical social learning spaces) in which such constructivist learning can occur. It is the extent to which the facilitation of engagement and intrinsic motivation hinges on the co-operative and socially constructed nature of the deployed pedagogy that I wish to explore in this brief commentary.

Since the publication of this article, the wiki as a phenomenon has not changed in terms of its structure, purpose and the type of learning engagement it can facilitate. However, what may have been initial promise in terms of facilitating deeper engagement through socially-constructed learning may be facing a challenge given the current direction of travel in HE. In recent years, since the introduction of full fees, HE has arguably undergone significant change, such as the emergence of a 'student as consumer' phenomenon which is the "operational imperative among providers of higher education" (Neary, 2012) where "education exists in a consumerist culture...altruistic acts are devalued and individual effort is rewarded" (Cole, 2009). This direction of travel towards incentivised individual achievement and self-attainment may well be a barrier to students developing and sharing their knowledge through co-operative educational practices, such as those that a wiki can facilitate.

The notion of student as consumer has emerged from a broader critique of HE which situates it within a crisis "about the meaning and purpose of higher education, where there is a drive towards an ever narrowing focus on marketisation and commercialisation [sic]..." (Neary, 2012). Emerging from this critique are theories and approaches which are being developed to counter this direction of travel, such as the 'student as producer' concept developed at the University of Lincoln. Here, the premise is that students are located in a non-hierarchical, research-engaged learning spaces, wherein they co-create the pedagogic environment with academics and their fellow students through democratic, collaborative, and co-operative approaches. This sits counter to a prevailing neoliberal agenda of quantification and performativity. Students as producers and co-creators of their educational spaces is seen as a key part of an antidote to the student as consumer model. (For further reading around these issues see: Hall & Winn, 2017; Judson & Taylor, 2014; Molesworth, Scullion, &

Nixon, 2011; Neary, 2010, 2012; Neary & Winn, 2017; Social Science Centre, Lincoln, 2013.)

It would be interesting to re-situate the theories and approaches discussed in Coles' paper within the current HE space, through the lens of the student as consumer argument. To explore the extent to which the changing role of the student (and academic) in HE could be making it more difficult to facilitate engagement and motivation via peer learning and socially constructed learning; thereby rendering the wiki and similar co-operative learning technologies as a means of enriching engagement and deeper learning, redundant in their current manifestations.

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