

## Matching intention with agency: lessons from practice

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### Abstract

*The research project described in this paper was designed to explore the potential of a wiki to facilitate collaboration and to reduce the isolation of postgraduate students enrolled in a professional doctoral program at a Queensland university. It was also intended to foster a community of practice for reviewing and commenting on one another's work despite the small number of students and their disparate topics. The students were interviewed and surveyed at the beginning and during the face-to-face sessions of the course and their wikis were examined over the year to monitor, analyse and evaluate the extent to which the agency of the technology (wiki) mediated their development of scholarly skills. The study showed that students paradoxically eschewed use of the structured wiki and formed their own informal networks. This paper will contend that this paradox arose from a mismatch between the agency of technology and its intended purpose.*

### Keywords

*social networks, communities of practice, agency of technology*

A major difficulty for many doctoral students is their transition from professional practitioner to researcher and scholar. The struggle that many experience in this transition is in the development of a theoretical or conceptual standpoint for argumentation (Fox, Greene & Weese, 1999; Leshem, 2007). It was thought that the use of a collaborative wiki environment in a Professional Doctorate program in a Queensland university might ameliorate this problem and also provide a useful data source for examining the development of students' scholarly skills, namely, the development of logical argumentation, critical writing, thematic mapping and inter-textual referencing. Findings from this study relating to the timing, nature and obstacles to the development of scholarship were intended to help the teaching team to understand when and how to support individual students and, more generally, how to improve the course component of the program. The study was funded by an internal Teaching and Learning Grant.

A wiki - a simple Internet application that allows social networking and direct interaction by multiple users - was selected and established as, along with other Web 2.0 technologies, it was thought to have the potential to support communities to come together to share, learn, create and collaborate (Auer, Dietzold & Riechert, 2006; Beldarrain, 2006; Picard, 2007). It is this agency, that is, the capacity of the technology to facilitate connections, to enable networking for learning purposes and to capture student development over time that was of particular interest. The aim of the study from which this paper was drawn was to highlight insights afforded through engagement with the wiki. It was hoped that the ensuing transparency and collaborative engagement with

scholarly concepts and practice would enable students to move from personal anecdotal and narrative frames to theorised approaches to inquiry and analysis.

A wiki usually takes the form of one or more web pages where approved users (here students, their supervisors and teaching team members) can upload or modify content. Its selection was founded on findings from similar studies that “engagement in the wiki activity promoted deeper learning investigations and engaged students in high-level cognitive processes,” and “the advantage of a wiki, from a knowledge-building perspective, is that artifacts are publicly visible and editable by all ... [which allows] ... participants to negotiate the development and refinement of these artifacts” (Hewitt & Peters, 2006, p. 2200). The wiki used in this instance was *Confluence*<sup>®</sup> under licence to the University and the development of a wiki page by each student in the 2008 Doctorate of Education (EdD) cohort was a course requirement. The intention was to provide students and academics – through the intervention of the wiki - with a shared space to record their own progress and to comment on the progress of others. Learning tasks were scaffolded and the expectation was that the students would complete and publish these tasks online via their wiki pages.

As noted, it was hoped that encouraging guided interaction within this specific cohort of professional doctorate students would help them on their journey from student to scholar – a process that previous cohorts had found to be difficult. The theory and methodological framing for the wiki and its associated tasks for students were well-grounded and well-intended. Despite this, the wiki was not successful and this paper will contend that there were three contributory factors that may also constrain the effectiveness of similar learning experiences. These factors, to be discussed in detail later in this paper, were (i) the importance of trust and fear of surveillance; (ii) the imposition of the concept of a community of practice; and (iii) a lack of confidence and familiarity with the technology. Of particular significance is that the participants in this study opted to create their own informal network, and through this, inadvertently achieved the aims planned for them.

The learning context for the study is described first followed by a brief overview of the literature pertaining to the obstacles to effective communication and learning in online contexts. A description of the research design and a discussion of the findings are provided. The conclusion to the paper will argue probable reasons for the outcomes to the wiki intervention with a particular focus on a mismatch between the agency of technology and the intentions of the learning design.

## Learning context

The Doctorate of Education (EdD) attracts professionals who are interested in investigating real-world problems and issues relevant to their own practice, industry and/or community. The program bridges academia and the profession and offers these doctoral students the chance to study pertinent issues to their own practices and to apply these understandings to their professional contexts. The EdD program, which culminates in the development of an individual thesis, begins with a twelve-month period of coursework offered in blended mode, that is comprising interaction online as well as attendance at three study schools at beginning, mid-, and endpoints of this period (here to be referred to as Summer 1, Winter, and Summer 2). In evaluating the performance of students during the coursework component of the professional doctorate, the objective is to provide clear and unambiguous feedback on progress and achievements as students work towards their own thesis.

It is important to note that the design of the EdD course draws from a sociocultural perspective on learning, that is, where learning is viewed as an active construction of knowledge in which the social and cultural environment is integral (Elwood, 2006; Klenowski, Askew, & Carnell, 2006). Sociocultural and non-local views of mind (Murphy, Hall, McCormick, & Drury, 2008) and views of learning are significant in this active view of knowledge construction in the context of online learning. In this, people are constantly engaged in shared enterprises as they “define these enterprises and engage in their pursuit together, ... [they] interact with each other and with the

world and .. [they] tune... [their] relations with each other and with the world accordingly. In other words... [they] learn” (Wenger, 1998, p. 45). The doctoral students in this cohort were similarly asked to engage in practices that are the “property of a kind of community created over time” (Wenger, 1998, p. 45). Wenger (1998) referred to these communities as “communities of practice” and this has been a central perspective used in the analysis and approach adopted.

Making use of online learning tools helps address the need to provide these students - as adult learners distanced from each other and the institution - with “maximum freedom” and opportunities to engage as a community of practice. The “pivotal role of social presence in not only setting the educational climate but also in supporting discourse and creating the educational experience” is regarded as integral to this process (Anderson, 2005, p. 2). Undertaking a doctorate, or in fact, any type of distance education “is often perceived as a lonely way to learn” with an “implicit requirement for self motivation” (Anderson, 2005, p. 1). It has similarly been suggested that “the 21<sup>st</sup> century learner wants to stay connected to peers and receive prompt feedback from the instructor” with a preference for working in a group rather than in isolation (Beldarrain, 2006, p. 144). The focus on “enabling social collaboration” creates “an architecture of participation” (Auer et al., 2005, p. 743). The potential for learning through online tools lies in the fostering of social collaboration and student interaction most often in the context of production and refinement of learning artifacts (Auer et al., 2006; Beldarrain, 2006). To tap into this potential, students were asked to upload drafts and final versions of their work for discussion and peer review.

The opportunity for this cohort of students to meet face-to-face prior to contributing to a collaborative wiki was seen as essential and an analysis of the data, described in more detail later in this paper, reveals that the students acknowledged this. Study groups are not new in university-based learning systems however, as this paper will demonstrate, “developing these groups in virtual and independent study contexts is challenging” (Anderson, 2005, p.7).

## **Lessons from the research**

The findings from this study – specifically the reluctance of students to engage with each other through the provided wiki - serve to corroborate many lessons from the extant research relating to online learning. This is particularly in relation to barriers to participation and to social engagement in online forums.

For example, researchers (Picard, 2006; Schwier & Dykes, 2007) have identified barriers to participation and implementation of new technologies. Hindrances include the adaptation capabilities of participants in the models of collaboration processes. Modelling the social elements involved during the collaboration process, such as social protocols, is considered fundamental for success. Negotiation as a means for adaptation of these protocols is another important process (Picard, 2006).

Further to this, another study on communication strategies and the use of online discussion forums identified the importance of fostering community in blended learning courses (Schwier & Dykes, 2007, p. 2). These researchers analysed synchronous and asynchronous communication tools, and combinations of both, with particular reference to social engagement aspects. They questioned whether the development of community as a factor that promotes learning should be explicitly stated as a learning outcome. They warned, “the very act of evaluating the quality of community and participation in community may in turn mitigate the development of community” because “the overall development of community and its effectiveness in promoting learning happens over time and is founded to a significant degree on social engagement and the development of trust” (Schwier & Dykes, 2007, p. 22).

Research has similarly been conducted on communities of practice in online learning and the potential of online learning to transform learners into “reflective practitioners within a networked learning community” (Guldberg & Pilkington, 2006, p. 159). In particular, Guldberg and Pilkington (2006) attempted to establish how participants developed a “learning community based

upon mutual engagement, joint enterprise and shared repertoires” and the resulting “changes in the quality of collaborative activity over time ... with different subsets [of students] sharing and co-constructing common understandings” (p. 159).

Researchers have also identified how much of what students produce while at university is not retained and this is considered a missed opportunity to “harness the economic value of graduate student work” (Watson, Boudreau, Geniner, Wyn, York, & Gul, 2004, p. 1). It was noted that “intellectual products resulting from academic efforts are too frequently discarded” when “their assignments [could] become the starting point for other classes to build upon” and this could become an “essential element of a continuing, accumulative economic value formation effort” (Watson et al., 2004, pp. 9-10). Others supported the notion of ongoing use by offering that a “collaboratively constructed set of wiki pages on a variety of topics” could be used “for future classes to use as a knowledge resource” (Hewitt & Peters, 2006, p. 2200). However, typically, “even in courses that engage learners in peer discourse, there are rarely artifacts produced that become a target of analysis and ongoing improvement” (Hewitt & Peters, 2006, p. 2200). Like Watson et al. (2004), the researchers in this study also “hoped that the intellectual capital of the course would keep growing and improving over time” (Hewitt & Peters, 2006, p. 2200).

## **Research design**

The research was conducted longitudinally, that is, over the coursework period for the professional doctorate students who commenced in January 2008. While it made use of a constant comparative method of data analysis, the main data collection points were the first and second (of three) study schools attended by the students. Qualitative methodologies were adopted.

### ***Participants and data collection methods***

The participants in this study were professional doctoral students ( $n=9$ ) who commenced the EdD program in January 2008 and continued with the coursework component up to and including January 2009. Focus group interviews, questionnaires and analyses of the wiki pages were the main data sources and collection methods for the study. The students were interviewed and surveyed during the face-to-face sessions of the program in January (Summer 1) and again in July 2008 (Winter).

The following 13-item questionnaire was completed by participants at the beginning of the EdD program:

1. What are your expectations in participating on the EdD program?
2. What research experience do you bring to this EdD program?
3. What are your principal area/s of interest for research?
4. What are your expectations of the role of the teaching team members in this program?
5. What do you see as YOUR key roles in the EdD program?
6. How do you see YOUR role in the learning, taking place in this EdD program?
7. What new knowledge and skills do you wish to learn for your professional practice?
8. What level of engagement do you have with ICT (information communication technology) on a regular basis? [measured on a 1-10 scale where 1 indicated “rarely or never” and 10 indicated “daily” engagement.
9. Please describe the characteristics of academic literacy.
10. What do you think constitutes scholarly academic writing?
11. What is your understanding of the concept of communities of practice?
12. To what extent are you comfortable with and/or willing to share your written work (i.e. drafts, chapters, etc) with your fellow EdD peers?
13. How can the teaching team provide experiences that align with your professional experiences, and extend or progress your professional practice/s conceptually?

A focus group interview was conducted on the last day of the first summer study school (Summer 1) to probe participants' views and understandings of the following aspects of the EdD program: their expectations and understanding of the role of the teaching team members; their own roles; their role in the learning and their goals in terms of new knowledge and skills for their professional practice. The interview also sought their responses to questions pertaining to the characteristics of academic literacy, the concept and purpose of communities of practice and their role within such a community. Questions about the use of the wiki related to how the participants responded to sharing their written work publicly. The repetition of questions asked in the questionnaire was deliberate to monitor any change in view that may have occurred post participation in the study school.

These questions were revisited in the second study school six months later (Winter). The questions included insights or changes relating to identity and participants' own evaluations of sharing their written work and of the main challenges to be overcome. Not all questions were asked however there was much discussion regarding the following:

*In assessing your own learning since the summer school have you noticed any changes or developments:*

- ... in your learning?
- ... in your understanding of scholarship?
- ... in the way you see yourself in terms of a member of this academic community of practice?

A questionnaire that sought professional doctoral students' views on both the Summer 1 and Winter study schools and suggestions for improvement were also completed. The key evaluative questions follow:

1. How would you describe your overall evaluation of this study school?
2. What aspects of this study school did you value most?
3. Why did you value these aspects?
4. What could we change to improve this study school for the 2009 cohort?
5. What helped you in your learning over the past four days?
6. Do you have any further suggestions or comments you would like to make?

The wiki pages were examined over the first eight months of the program to monitor, analyse and evaluate the extent to which the agency of the technology (wiki) mediated the development of scholarly skills.

### **Data analysis**

The constant comparison method introduced by Glaser and Strauss (1967) expanded by Lincoln and Guba (1985) and Silverman (1993) was used. To begin, interview data was coded to reveal similarities, differences, patterns and consistencies of meaning, the same process was used to analyse the questionnaires and each candidate's individual wiki page. Cross-comparisons were then made between the three data sets and major themes were identified. To ensure significant, valid and reliable conclusions were reached observable patterns, trends and relationships were identified across the three data sets to substantiate the findings.

### **Findings and discussion**

The outcomes of the wiki "intervention" described in this paper are intriguing. While it was intended that the EdD wiki page would act as a collaborative environment to mediate the development of scholarly skills, use of the wiki was minimal as students did little more than complete suggested activities such as publishing their draft items. Despite this, the EdD students did form a community of practice but did so outside, and arguably in spite of, the provided wiki. This section will begin with a discussion of the informal network the students built for themselves before moving to an analysis of why the wiki was not used as intended.

It is important to note that while there was no direct data on the development of scholarly skills, the participants did feel well supported as evidenced from their evaluations of the study schools and the interview data. There was also evidence of productive use of feedback from peers, teaching team members and supervisors albeit outside of the wiki.

### **Informal network**

Very little comment, feedback or exchange of information took place through the provided wiki, yet it was evident from the focus group interviews that the doctoral cohort had somehow paradoxically formed a cohesive and tightly knit group and were in regular contact with one another. Interestingly, this communication took place outside of the wiki page and was instead conducted via group emails. Students referred to these as the “underground” or “unofficial” wiki.

The “unofficial wiki” or group emails served as a platform for sharing information, offering support and critiquing one another’s work, and it was the “unofficial” channel that was largely responsible for the development of a community of practice. This is line with the findings of other researchers (see, for example, Auer et al., 2006; Beldarrin, 2006) that this strategy helped establish an “architecture of participation” which was conducive for “refinement,” for “correcting mistakes” and for “enabling social collaboration.” Some of the students debated the accuracy of referring to their group as a “community of practice” (Wenger, 1998) preferring instead to call it a *support network*. The reasons for this are most clearly expressed in the following statement from one student:

*We are a support network. We are not a community of practice. And I don't think we can ever be a community of practice because there are not enough points of intersection or commonalities ...[for us] to be a community of practice.*

The students’ informal support network became “very adhesive and strong,” trust flourished and “critical” friendships were formed. This confirms the contention that a level of comfort (Beldarrain, 2006) is an important and necessary condition in the challenging context of developing these “virtual and independent study” groups (Anderson, 2005). Group members came to value the input and constructive feedback extended by their colleagues:

*The more people that read my stuff before the “big” people read it, the more that my writing style will change and it will become, you know, more scholarly and rigorous.*

While another noted, “Certainly for me – I mean I would value what you [other group member] said. If you said ‘this is rubbish,’ why, I’d take that and go ‘okay I really need to look at that’.” They also reached a point where, not only was feedback valued, it was actively sought.

The “support network” also assisted the students to maintain momentum and motivation throughout the tumultuous first year of their doctoral studies. Many of the students felt it was the only reason they had continued with the program and that, without it, they would have become disheartened and “chucked it in” or “dropped [their] bundle.” Or, as another put it, “rather than being an individual progressing forward individually,” they felt less isolated and more encouraged to continue with the program.

Why this occurred and why use of the “official” wiki was eschewed can be explained through three factors that emerged from the analysis. As previously noted, these were (i) the importance of trust and fear of surveillance; (ii) the imposition of the concept of a community of practice; and (iii) a lack of confidence and familiarity with the technology.

### **Trust and surveillance**

Attitudes towards the wiki amongst the cohort were varied, however fear was particularly prevalent. A variety of reasons were cited for this attitude. For one student the wiki was a “scary thing” that had previously, in a work situation, left her feeling exposed, marginalised and wary of using it again. While another student stated:

*What scared me is that I'd been under a past experience where the written word is used against me, and that frightens me – to use the written word with people I don't trust.*

This student would “rarely critique other people to an extent where there could be a legal case against me.” There was also evidence of a tension between what students felt should remain private and what they were comfortable sharing publicly, “I was a little bit scared to actually write anything... ’cause I knew that there was surveillance. And I don't like to be watched all the time.” This led to a reluctance to put their “heart and soul into a written document and then on to the website.”

What seemed to underpin this fearful attitude was a sense of distrust that ostensibly stemmed from group members being unknown to one another. One student felt that the initial group meeting did little to build trust and familiarity between group members because they were given no opportunity to introduce themselves or their doctoral research topic, “It should've been, this is who I am; this is what I do in my life; and this is what I'm interested in studying.”

There is a contradiction in student attitudes to the “official” wiki and their own communication channels. It can be cautiously contended that it was the formality of the provided wiki and its attendant monitoring which students feared. The presence of supervisors and teaching team members in the wiki space – previously referred to as “the big people” - may also have been a deterrent to free expression of formative ideas or naïve concepts. This may have attached the notion of assessment and evaluation to the wiki, which as previously noted by Schwier and Dykes (2007), has a direct and disabling effect on trust and the development of community. Further to this, the small number of students may also have been a factor in leaving students feel exposed rather than being one of a number at a similar stage in a journey.

The majority of students felt that they would still engage with the wiki but only once they felt it was a safe environment for sharing. The implication was that a sense of trust in their fellow group members was pivotal to their engagement with the wiki. With one student noting that initially, that is, until relationships had developed and strengthened, it was more likely that he/she would have email conversations and meet face-to-face before exchanging “all those types of things.” This was mirrored by another student who stated that, prior to feeling willing and safe to engage with the wiki, the development of a “face-to-face” or email relationship with group members was necessary, “Because you need to have that sort of relationship, you have to know, basically, whether they're a nutter or not.” No reference was made by students of seeing their work at University in terms of individual achievement that, by default, creates a competitive rather than collaborative relationship with their peers.

### **Imposition**

During the second (Winter) focus group interview, several of the students expressed the view that the wiki and the concept of a community of practice had been imposed upon them. When asked by the focus group facilitator whether they “felt forced into this kind of theoretical orientation,” referring to the community of practice, one student said “yes”, while another, by way of explanation, related her first introduction to the group members and the teaching team:

*It was suddenly like we're all here and it was like well, who's the student and who's the teaching team member? Well, you didn't know that. And the next bit – and now you'll be a community of practice. Well I don't know your bloody name!*

It appears from these comments that the group felt it was unrealistic to expect a group of relative strangers to meet and form a community of practice instantaneously without allowing relationships to develop and a sense of trust and safety to evolve organically. There may also be a sense that the community was formed and students were asked to “speak” before they had something to say, that is, they had just begun the process of becoming a scholar and lacked confidence in the content and context of the degree program, and of educational research itself.

It is important, within the notion of imposition, to acknowledge the concept of individual rights that had been addressed carefully in the ethical conditions agreed to by each student. This was particularly relevant for this study as “a level of privacy may be necessary in learning situations that require critical reflection on practice” (Harland, 2005, p. 327). In a longitudinal study of portfolios for authentic enquiry in teacher education, Harland (2005) found that, as reflexive engagement progressed, the portfolio and the summary of learning became private documents. This became an issue for the participants and the analysis revealed a level of discomfort when making public, via the use of their own wiki page, aspects of their work about which they were not confident. What should remain private emerged as a concern for this study and the imposition to make their work public may well be a factor in students' continuing reluctance to use the provided wiki.

### **Confidence and familiarity with technology**

Familiarity with the technology and a level of confidence built up from a history of use appears to have contributed to engagement for some. There were some students in this cohort who had more experience than others because of their research interest, their own professional practice and/or their familiarity with wikis, blogs and other Web2.0 technologies. For example, one student, however, held a different opinion and was happy to “share with the whole world,” but stated that this was a habit formed from extended exposure to the wiki medium prior to commencing the EdD program. Those who had no experience, because the use of such technology was outside of their professional experience, limited their engagement as they were positioned as less skilled and not as knowledgeable as the other members of the cohort. This was similarly true for some members of the teaching and supervisory team who made little or no use of the wiki and continued to communicate with students through more traditional means. For these students and academics, the wiki was an interesting but untouched adjunct to the program.

### **Conclusion**

Given the different experiences and the importance of interaction within the environment for thinking and learning to occur (Murphy et al., 2008) important considerations from this study emerge for teaching practice. Environment in this context refers to not just the physical environment but also to the participants, the historical and cultural surroundings as well as what the individuals bring to that interaction. It has been noted that:

The term “learning” simply glosses that some persons have achieved a particular relationship with each other and it is in terms of these relations that information necessary to everyone's participation gets made available in ways that give people enough time on task to get good at what they do.

(McDermott, cited by Murphy et al., 2008, p. x)

Thus what is in the relationship itself is what is needed to enable participation, and hence learning. In knowledge-building communities, a major characteristic is the engagement by participants in the collaborative production of conceptual artifacts that can be discussed, tested, compared and hypothetically modified. Participants in such communities engage in the production and improvement of artifacts not simply the completion of the tasks (Scardamalia & Bereiter, 2003, p. 3).

In this study, the wiki was not used to produce collaborative artifacts. Rather, based on understandings from Hewitt and Peters (2006) to make use of otherwise discarded students' "intellectual products," each student was required to complete an assessment task individually and then seek comments from other members of the cohort. This focus on completion of tasks individually rather than collaboratively signals an important mismatch between the agency of the technology and its intended purpose and the teaching and learning activities of the EdD program.

Further to this, certain factors that hindered the active participation of this cohort in the use of the wiki include the small number ( $n=9$ ) and the very different research interests and professional contexts in which these students work. These factors may have militated against collaborative knowledge building and did not allow the full potential of the wiki for its intended purpose to be realised. There were also important issues related to trust and what should be made public and what should remain private in a wiki environment that is used for both pedagogic and assessment purposes. The students' willingness to work together through their informal online networks seems at odds with their perceptions of the provided wiki. This further corroborates the idea of a mismatch between agency and purpose. The one tool is seen simultaneously as a vehicle of both support and surveillance. The former is desired while the latter is feared.

As noted, students' engagement with the EdD wiki was limited and with this, the opportunity to track and assist the development of scholarly practice was lost. Engagement primarily consisted of posting completed tasks as requested with little comment on each other's work. It was the students' independent means of communication, predominantly via group emails, that appeared to contribute most to the evolution of their support network rather than the structured wiki. There is similarly little evidence in the interview data, the questionnaires or the wiki pages themselves to claim that the specific skills such as logical and coherent argumentation had developed but it could be contended that such skills require a longer time frame to develop.

The "unofficial" or "underground" wiki, as it was referred to by students, served as a vehicle to encourage, support and give feedback to one another during the first year of their EdD program. The reluctance to engage with the official wiki was reportedly due to fear and mistrust of unfamiliar group members and the perception of having been forced into a community of practice prematurely. But this is inconsistent with the students' organic development of an informal network that was not apparently troubled by similar fear or mistrust and where a "community of practice" was providing the support and encouragement needed by beginning students (Guldborg & Pilkington, 2006).

The reasons for this paradox remain conjectural but there are important lessons here in matching the agency and affordance of a technology to its purpose. The lack of engagement with the wiki in this study may be as simple as having chosen the "wrong" tool or framing the task in such a way as to inadvertently make students hesitant or fearful of participating. The emotive terms the students gave to their own networks, that is, "unofficial" and "underground" provide an important clue to how they were viewed in comparison, and as resistance, to the provided wiki. Similarly, the mismatch between what students saw as "surveillance" and the teaching team had designed as monitoring and support was a critical issue. This study has shown, above all else, that while online tools can support learning, there is a pedagogical complexity to the selection and framing of tasks which requires the same empathy and consideration as the selection of more traditional teaching and learning tools.

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