# Using Action Research to Investigate Social Networking Technologies

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**Abstract:** This article outlines the first cycle of an Action Research (AR) investigation into why professional learners are not using the Social Networking Technologies (SNTs) of their bespoke website. It presents the rationale of how this study came about, the ontological and epistemological stance of the authors and how this led to the particular choice of contextual based AR enquiry. This article includes reference to some of the most salient literature on AR and discusses the ethical and practical constraints that surround this type of research. The first cycle of AR findings are presented and identify a number of key areas where the website is failing; including a lack of speed in responding to learner queries, negative user perceptions of not 'owning' the website, a lack of synchronous private chat rooms, user time constraints, negative user experiences of not being online simultaneously and of a broader failure in unifying school and university websites to promote wider social networking opportunities. In response to these findings, this article puts forward a table which includes an identification of the issues and themes, the methods utilised and how the findings were derived, reflections upon what they indicate, and an action strategy for implementation alongside questions for future research. This article concludes by stating that the action plan will be implemented and assessed in the next cycle of AR which is viewed by the authors as being part of a contextually valid, lifelong AR spiral process.

**Keywords:** action research, reflective practitioner, social networking technologies, continuous professional development

## 1. Introduction

It is useful to begin by clearly outlining the rationale for this research and to provide a background perspective of the authors. The area of interest is with regards to the under usage of the Social Networking Technologies (SNTs) with learners that attend one day Continuous Professional Development (CPD) workshops. The learners are professionals based within the UK construction industry that have transient physical contact with one another after their one day workshops. Learners have expressed a desire to strengthen their support and networking opportunities with one another, but due to their long hours working culture and environments, they often feel quite isolated. A website has been designed that includes SNT's but, so far it is rarely used, as shown in reconnaissance with the students both face-to-face and with a lack of logged online use. There is a need get to the heart of why this is happening. Although this study is UK based, it could be argued that the findings possess a relevance for international based users of SNTs, including the importance of establishing collaborative communities of learning that engage in critical thinking, which arguably forms an integral part of successful e-learning (Balcaen and Hirtz, 2007). The usage of SNTs is in line with remit of the Engineering and Physical Sciences Research Council Strategic Framework 2003-2007 which impacts upon the School of the Built Environment's strategic plan. The framework outlines the need for training and technologies that are 'fit for purpose' in the world of both Higher Education (HE) and work and for the promotion of improved Equality and Diversity (E&D) access in the usage of learning and networking technologies. Enquiries were made to utilise AR with other teachers in the school and university as a whole, especially those who are experienced in the successful use of SNTs, but unfortunately, time and workload commitments prevented this in this instance. The authors agree with Prendergast (2009) who states that "The structure of schools works against those who wish to collaborate. Timetables, rotary systems, regimented curriculum…work against those who wish to experiment together to improve teaching methods…" (Prendergast, 2009, p.2).

The ontological and epistemological perspective of the authors is rooted in social constructivism. This stance impacts upon the particular choice of AR and research methods utilized. This perspective emerged after a number of years exploring differing viewpoints on the nature of the world and of knowledge and learning processes. In essence, knowledge is viewed as being a socially constructed process which is subject to selective interpretation and retention within differing learning contexts and environments. Educators are viewed as being facilitators of learning that encourage self reflection and collaboration, rather than imparting the direct transfer of knowledge. Learning needs to be 'deep', as opposed to 'surface' based (Martin and Saljo, 1976). Learning occurs when knowledge is explored and reflected upon regarding its relevance, interest and use to


Reference this paper as: Worrall, L and Harris, K. "Using Action Research to Investigate Social Networking Technologies"
**The** *Electronic Journal of e-Learning* Volume 11 Issue 2 2013, (pp115-123), available online at www.ejel.org

the individual. There is also a need to promote student engagement (Knight, 2002) within 'zones of proximal development' (Vygotsky, 1930). In other words, what is learned will be affected by the knowledge, skills, levels and types of collaborations with both peers and the learning facilitator. The authors recognize that this perspective will not fit all disciplinary subjects, viewpoints and learning contexts. However, it does within this particular context where students need a practical approach to learning, by being able to self-reflect upon what can be applied in the professional world where they work in the UK construction industry.

The learners need help in strengthening their supportive networks with others where they are often quite isolated due to their professional job roles and responsibilities. This awareness of context and social constructivist stance, will aid to evaluate and, where necessary, change areas of practice. (Prosser and Trigwell, 1999, p.160). In the first stage of this investigation the authors needed to compare what has been achieved with what they would like to have achieved (Cowan, 1998) and the writing style outlined by Moon (1999) has been of central importance in the process of being a 'reflective practitioner'. The inherent values and beliefs of the authors also embrace freedom, student empowerment, democracy and E&D. These values and beliefs are not subject specific, but should arguably be universal to all learning facilitators. Therefore, although the learners are not students in the traditional view of HE, they are part of the learning community; and should be given the same level of rights and access to comprehensive learning support and facilities that fit their individual needs and learning context.

## 2. Reference to and review of relevant literature

Action Research (AR), in essence, does exactly 'what is says on the tin'. It is about 'research through action'. It is usually conceptualized as a collaborative process which involves an iterative feedback from individuals or groups who are most likely to be affected by the research itself; although this is not always the case. In itself, AR is about making proactive changes, either to an environment, a system, a process or a practice and it is only by trying to make changes within a particular context, that practitioners will learn about it better and how to continuously improve it. The founder of AR, Kurt Lewin (1946) sums this up with his famous quote *"If you want truly to understand something, try to change it"* (Lewin, 1946). AR is not just about making changes though; it is about making continuous improvements and analysing and reflecting upon these within iterative AR cycles. In AR, behaviour is seen as the function of both an individual's characteristics and the environment/context in which they are situated. This methodology was taken up by the teacher/practitioner movement in the 1970s-80s and led to the view that the design, delivery, process and theory of learning are mutually dependant within proactive cycles of positive change and improvement. Kolb (1984) was heavily influenced by AR in his model of experiential learning; which views learning as a four stage cycle, involving concrete experience, reflective observation, abstract conceptualisation and active experimentation.

Carr and Kemmis (1986) argue that all approaches to AR outline the same view of the need for a methodical, iterative approach in identifying problems, action planning, implementation, evaluation and critical reflection. The findings from this process then feed into second (or third) cycles, and so on. However, there are four main AR approaches that can be distinguished between one another; these being traditional, radical, educational and contextual. Traditional AR focuses upon the importance of worker-management relations, information systems and of democracy while maintaining the status quo but with changes in power structures. Radical AR focuses upon emancipation and the overcoming of power structures. It has roots in Marxist theory and is also often utilized as part of Feminist AR which strives towards moves of emancipation through AR processes for minority groups in society. Educational AR focuses upon the role of teachers/facilitators in the education sector. It states that teachers need to be more involved in community based issues. Focusing on the curriculum, CPD and learning in particular, social context can be incorporated within this approach. AR researchers in universities can also expand this educational AR approach to working alongside primary and secondary school teachers on community projects. Finally, contextual AR (that the authors have chosen) views learning as contextual i.e. affected by the social environment, to which the learners in this instance are based in the UK construction industry. Learners are seen as both designers and co-researchers in the learning design and practice process and this type of AR most closely fits with the views of the authors on social constructivism. Change is seen as a consensus and contextual based process of learning through action, self-reflection and iterative feedback and acting upon this within an ongoing collaborative process.

The Higher Education Funding Council for England (HEFCE, 2006) states that most academics recognise that good research is an important part of good teaching and that the two need to inform one another within an

iterative process of improvement. However, there has been some debate as to whether the two concepts are supportive or compatible with one another. The position from HEFCE is that they are (Badley, 2002). An important issue though is how does any knowledge gained become 'public knowledge'? The answer may lie with how feedback is fed into the curricula, programmes and modules. The Boyer Commission (1998) cited by Badley (2002), models the links in terms of: 1) marital relationship, 2) impending divorce 3) scholarly relationship or 4) holy alliance. Some groups view the relationship as marital, i.e. that the two work together to achieve a common goal. Conversely, others see an 'impending divorce' of the two as drifting apart, with differing goals and motivations. This could occur due to Information Technology (IT) and globalization or issues of differing class sizes, schools and so on. With a scholarly relationship, (the view the authors more closely follow), integration, application and teaching, can assist with areas of reflective practice, inter-connection and practical solutions between theory and practice that are relevant to both the learning facilitator and students. Knowledge is not just transmitted, but evolves between the two and extends over time. Those that outline a 'holy alliance' view the world, understanding and knowledge as being unreliable and uncertain. Teaching is seen to be about enabling individuals to deal with this uncertainty; both teachers and researchers are not happy about change and want to stick with current, and safe, paradigms and ideas with a resulting collusion between the two to 'do their best' in an uncertain and unpredictable world.

Biglan (1973) argues that differing disciplines can also view the nature of knowledge and research methods differently. Hard disciplines are typified as atomistic, cumulative, competitive and quantitative, whereas soft disciplines are reiterative, holistic, collaborative and more qualitative. Pure and hard knowledge is more concerned with mastery of protocols, tools and techniques and outputs/products, whereas soft and applied knowledge is more concerned with its ongoing direct usage and application; although the authors are aware that disciplines can straddle different areas over time. The discipline and context of the learners in this investigation was located within the area of 'soft skills' and managerial subject content, as such, it was located about half way between the hard and soft disciplines and more heavily located in the applied discipline area. Knowledge was achieved with learning facilitation, with small groups engaged in Action Learning (AL) to encourage 'learning by doing' group collaborations and self-reflection.

Disciplines can also differ between universities, departments and Faculties and over time as determined by organisational guidelines Higher Education Academy (HEA, 2009). The ethos of a particular school and university can potentially impact upon research and teaching practices. The authors are happy to be working in a school where the view of 'theory into practice' is supported within the disciplinary subject area. The guidelines within the HEA (2009) incorporate an awareness of the merits of using Problem Based Learning (PBL) as outlined by the Centre for Education in the Built Environment (CEBE, 2009). Learning activities, PBL and learning portfolios can indeed assist, and assessment tasks can outline whether these objectives have been achieved. However, within the particular learning context of this investigation, there is no need to introduce PBL at present, as many of the learners already come to the workshops with an expansive and varied list of issues, topics, problems and areas for discussion and 'action'.

## 3. Ethical considerations

Prior to carrying out the AR, the authors obtained the necessary informed consent to undertake the research from the University of Salford Governance and Ethics Committee. The authors also gained signed permission and consent from the learners and provided an information sheet and ethical code of conduct which outlined the background to the investigation and voluntary nature of their participation in the study alongside stating the confidentiality and anonymity of their feedback. The authors recognise that it would be unethical to have an expectation that the learners would necessarily agree to participate in the AR. Therefore, learners were given the right to not participate and to also withdraw their involvement without prejudice or disadvantage to their receipt of free CPD training, at any stage; to which their data would be immediately destroyed. Participants were informed that the intended use of the data was to improve their student learning and networking experiences and that the findings may also be anonymously referenced for peer reviewed journal publications. The authors discussed the nature of the research with the Head of School as well as with peers and colleagues. As the workshops were only one day long, with the research occurring during the lunch hour break, the authors would like to argue that their role as 'researcher' did not impact, in a negative way, on their role of being a learning 'facilitator', as the research occurred during the lunch hour. Also, the research was looking at changing and improving the website SNTs for the direct benefit of the participants. How this was done, and the justifications for the research methods chosen, will now be addressed.

## 4. Evaluation of research methods

Before undertaking the research, the authors realised that there was a need to needed to consider the method of data collection and reason for collecting it in light of the social constructivist stance and learning context. Figure 1 outlines the flow by which the ontological and epistemological stance of the authors impacted upon on the research process and methods utilised. The social constructivist values and belief systems held by the authors led to the particular choice of contextual based AR.


**Figure 1:** Background perspective and spiral research journey

The authors also decided to collect qualitative data due to the collaborative and highly communicative based learning context of the workshops. From the start of the investigation, insights emerged from the learners themselves and from the lack of usage of the SNTs; of their initial concerns and problems. From this base, the authors designed a very basic semi-structured questionnaire and focus group list of topics to further investigate and explore these issues. The design of the research tools and methods were left deliberately skeletal to allow for additional findings to emerge during the first cycle of the contextual AR research process. This supported the social constructivist stance of the authors that learning and research are inherently social, contextual and collaborative processes. AL was utilized within the workshops due to its highly interactive and contextual learning based nature. The authors envision that future cycles of AR will lead to an evolution and change in the content of questionnaires and focus group topics, as both the learners and learning facilitator reflect and collaborate on topics and themes within an emergent learning and research process.

Due to the transient nature of contact with the learners, the majority of which work full time within the UK construction industry, there was a need to utilise a method which recognises the inherent difficulties in contacting them. The learners were only available for AR during their lunch hour, in between the morning training session and the afternoon AL set. One-to-one semi-structured interviews were considered but this was found to be an unpopular option at a prior trial workshop event. Furthermore, the authors reflected later that interviews would be unethical as they would work against the collaborative group based context of the workshops. Initial enquiries were made into the availability of participants to meet at other times for one to one interviews, but learners were either disinterested, did not want to do it or were too busy to enable this to happen. What was useful about making these initial enquiries was that it enabled the authors to reflect upon an initial error of judgement to using this method with discussions with learners at a prior workshop.

Participants that gave their signed consent were randomly selected. All participants were handed a copy, and emailed in advance, of the Research Information and Consent Form, which included an outline of the background to the study and the ethical code of conduct. The background to the study and ethical code of conduct was also verbalised at the workshop. There were 8 participants randomly chosen who had given their signed permission. The group then chose themselves, to sit at any of the four available tables in the room. Non participants sat at the other tables to have their lunch and network with colleagues, as normally happens at the workshops. The focus group session lasted approximately 45 minutes. It was not taped. This was because the participants did not want to be taped; therefore, it would have been unethical to do so. However, extensive written notes of the group discussions were taken. The debate covered the issues of their personal

experiences, values and beliefs and thoughts, inclusive of the 'research-teaching nexus', and recommendations for the website. Questions were formulated with the aim of minimising the 'imparting of information' in themselves, or to introduce leading questions that contained inherent positive or negative assumptions. Researcher involvement in focus group was kept to a minimum, except in the few instances where conversation topics had run their course.

At an additional workshop, learners were emailed in advance and handed out the Research Information and Consent Form. The short (10 to 15 minute) semi-structured questionnaires were distributed during the lunch hour. In total, 12 out of a room of 30 people of varied professions, ages, ethnicity and genders (although over 80 per cent were women) agreed to participate in their completion. The questionnaires were kept deliberately short, to enable participants to have time for their lunch break and chat and network with other colleagues during their lunch hour. The questionnaires were handed back at the end of the lunch hour.

The authors have kept a journal of the focus group events and of reflections made both during and after the first cycle of AR. In terms of time (nearly four weeks in between the focus group and the semi-structured questionnaires), journal entries were useful in tracking the research 'journey' through this process. To enhance reflection, analysis and ongoing discussion, participants were emailed with the identified issues that they had raised; to further the ongoing and cyclical debate into how to enhance the usage of the website. The authors also made entries in individual home journals on their experiences and reflections to draw upon over the coming weeks and months as the cycles of AR continue. Although at the beginning it was felt that there was too much data; further reflections on the questionnaires, focus group and reflective journals have enabled the authors to begin to make sense of it. In this first cycle of AR, the authors read through the notes of all the data and entered this into one master document. This included individual home journal comments by each of the researchers on their reflections over the past two months of both the focus group and questionnaire respondents. As this was being done, additional comments and reflections that were not made previously were achieved. Next, the data was coded using keyword analysis; first in general themes, then more specific themes, while also cross checking with the original notes made alongside those in the master document for added rigour. However, as firm social constructivists, the authors did not attempt to generalise any of the findings beyond the specific research context.

## 5. Findings

The first theme identified an issue of the website being perceived as being unmonitored, and therefore, interest for its use was reduced:

> *If I place a post on the notice board, I want a response fairly quickly, otherwise why should I bother? If they take too long to reply I either forget I've posted something, solved the query myself or just lose interest in it anyway!*

Another identified theme was an overall perception that the learners do not have 'ownership' of the website, and therefore their levels of engagement and interest became reduced:

> *We don't often get asked what our opinion is on it. I have lots of opinions, but really I don't see a lot of emails or announcements about the website, so I just forget about it.*

Some learners want to use SNTs for group based discussions, networking and collaborations, whereas others identified the theme of wanting privacy for one-to-one gossip and chats, an option which is not currently available on the website. Two out of the eight focus group respondents stated that the lack of private chat rooms discouraged them in using the website:

> *If I want to have a chat and say have something to say about someone at work, I don't want it plastered for all to see. Why can't you set up the option for private chat rooms?*

An additional identified theme consists of two inter-linked parts. Firstly, one of time constraints and secondly, of the limited availability of others (at the same time) for collaboration:

> *I don't have the time to use the chat rooms on the website. Also, when I went on the website…and entered the chat room, nobody was on it, so it can't be popular, so I haven't been on it since.*

If there are no users on the website at the same time, there is no one to interact, collaborate and therefore learn with. This is a major issue and loops back into the original problem of how to encourage greater usage of the website.

## 6. Discussion

With regards to the first identified theme, it can be argued that if technologies are perceived as being unmonitored or do not answer queries quickly, they may rapidly be viewed as being boring or obsolete. Indeed, Pask and Scott (1972) argue that the human brains using technologies are prone to such tiredness and boredom. Time and resources need to be made readily available to keep learners motivated. It should be stated that the authors are aware that there are many diverse reasons why SNTs may not be used, including issues such as ease of use, relevance and so on. However, this theme was found to be a prevalent in all of the feedback received.

The second identified theme concerned the lack of perceived user 'ownership' of the website. Findings indicated that this had a negative impact upon levels of learner engagement and interest and this outcome is supported by research (Knight, 2002). The researchers need to address this concern by relaying more frequently that the website is indeed 'owned' by the learners and future cycles of AR will be able to research and assess if this has a positive affect on increasing usage of the website.

The third theme identified a request by some of the learners for private chat rooms. Originally the website was designed to promote collaboration and wide group networking with others of varying knowledge, skills and abilities. It is not clear as yet whether private chat rooms would promote smaller one-to-one chat at the expensive of larger group collaborative learning activities. If this happens, would this be a bad outcome? Is it ethical to expect certain uses of the website and discourage other types of uses? The authors recognise that learners have differing learning styles, abilities and preferences (Gardner, 1999). In the next cycle of AR, the authors will trial the introduction of private chat rooms and analyse, evaluate and reflect upon this.

The final identified theme from the learners is with regards to a lack of available time (and people) for synchronous chat opportunities. There is a need to research if, by addressing the other identified themes, whether this theme is dealt with by default as a result. It is not possible to enable busy professionals to have more time; but perhaps there is the opportunity to motivate them to make more time available. By making the website more 'attractive', in suiting their needs better, more people may go online at the same time and, this, in turn, may facilitate greater opportunities for 'zones' with others (Vygotsky, 1930).

A final theme which came about with conversations with colleagues is of a lack of cohesion with school and university websites. Indeed, improved traffic flow between websites could assist with concerns over a lack of people being online at the same. It can be stated that this is a complex area and further discussions and liaisons with the Head of School are needed. However, theorists such as Prendergast (2009) state that AR is not 'formal research' that is generalisable beyond the context of the learners that have been studied. He argues that it cannot inform HE to enact political or social change. What it can do though, is to provide 'indicators' for more formal research that conform to validity and reliability, should other researchers wish to do so.

It is important to note upon evaluation that the authors are still in the AR spiral. There are still issues and themes being discovered and the action plan, as shown in Table 1, will explore these issues further. The authors view AR as being a lifelong process. Just as learning is a cyclical and lifelong process with no singular 'input/output' process or end (Worrall and Bell, 2007) so the authors view the process of AR. Every context, group and particular social milieu of learners need to be empowered to be able to provide continuous feedback to the learning facilitator on their needs and requirements; this is in order to improve the learning process that more fully contributes to models of best practice as a 'reflective practitioner'. Further to listing these themes, Table 1 lists evidence of its origin, author reflections, action strategies and provides questions for study in future AR spirals.

The authors view the first cycle of outcomes as valid as they are providing valuable indicators of how to improve and change aspects of learning facilitator practice. The authors have benefited from this process, so would argue that it is valid; although other theorists may disagree with this with this viewpoint. The beliefs and

values currently held remain unchanged i.e. they are firmly rooted within social constructivism with a strong support for learner equity, freedom, social balance and student empowerment, in line with the University of Salford's framework (University of Salford E&D Strategy, 2006-2015).

**Table 1:** Themes, origins, reflections and action strategy

| Identified Theme | Evidence of importance | Reflection | Action Strategy and questions for further study |
|---|---|---|---|
| Lack of quick response to queries on the notice board – this is de-motivating. | Questionnaires and focus group | No monitoring of the website notice boards as often as needed. Learners have noticed it and this has de-motivated them to use the website | Facilitate greater motivation by monitoring and dealing with notice board queries at least once a day. Carry out next cycle of AR in two months after participants have time to evaluate the change |
| Perception of users not 'owning' (or having a say) in the website, therefore a lack of engagement/student empowerment and disinterested | Questionnaires and focus group | The website has laid fallow, and student engagement is difficult when this happens. Now an identified demand for this. Previous thinking was that they were disinterested | Communicate via email, face to face and at each workshop verbally that the website is 'owned' by the learners. Find out during next cycle of AR if this is motivating/has impacted positively upon levels of learner engagement |
| No private synchronous chat rooms | Focus group: two participants stated non-use of entire website because of lack of private synchronous chat room | Need to think whether to cater for both public and private chat rooms. How important is this? Will this facilitate collaborative working or just one-to-one chats in with limited contact with others? Is it ethical to expect a certain use for the website? | In the next cycle of AR, introduce and evaluate the impact of private chat rooms – to research whether this encourages (or discourages) the use of the website – and impact upon collaborative networking. Evaluate the ethics of what to do next |
| a) Not enough time to use the website<br>b) no one/few users on the website at the same | Questionnaire and focus group | Unable to facilitate users having more time to use the website – but can motivate them more to donate more time to use it. Need to get them interested –so that more people are online at the same time (e.g. scheduled online sessions, linkages to other websites?) to promote collaboration – which encourages return and use of the website | Introduce and analyse in next cycle of AR 'pre-set' synchronous 'time on line sessions'. Email participants with a set date and time when we will be online to support and respond to online chat room queries and message board queries. Research whether this is a popular process which and meets the needs of users and reflect on feedback |
| Colleagues report lack of unity with CPD website and school website (for university students who attend the workshops) | Discussion of research findings with project colleagues | This is a school/Faculty and University wide issue and therefore it is difficult to resolve in the short term. Need to liaise further with colleagues and Faculty/school Heads to ascertain how closer integration is achieved | Liaise with Head of School and Head of Faculty to enquire how (and in what way) the website and CPD content and delivery can link in closer with Faculty/University and School websites to promote scholarly unity and collaboration |

## 7. Conclusions: A lifelong spiral

AR may not been seen by all as a valid and reliable approach and method of research. It certainly cannot be generalized beyond this particular research context. However, it possesses a validity as it has helped the authors to identify important areas of change, and has led to an action strategy for evaluation in the next cycle of AR. At all stages of the first cycle, there has been an attempt to follow ethical guidelines and frameworks. The initial cycle has highlighted that learners want websites that are frequently monitored, that they feel that they 'own', with private chat room options, to encourage them to 'donate' some of their finite time on the website, with greater confidence that other users will be on the website at the same time for synchronous chat opportunities. The first cycle also highlighted a lack of cohesion with school and university websites,

which highlights a broader area of consideration and debate for the future. The authors are looking forward to implementing and evaluating the action strategy that was derived within in the next AR cycle, and beyond, that within a lifelong cycle of AR.

There will be others who are engaging in different AR approaches, some with the aim, to which others disagree can occur, of affecting institutional change. The authors do not. The school evolves its curriculum (in a limited fashion) with insights direct from industry. However, this change does not tend to reflect the views of students as part of the teacher-student nexus. From the standpoint of social constructivism and contextual AR, the authors aim to enact positive change within the AR context of the learners being taught and researched. However, what can be done is to 'scholarly' inform colleagues of the AR findings (Badley, 2002). What they do with this feedback is yet to be seen. Institutions, subject-specific disciplines and contexts, learners, teachers/facilitators (and even wider society) also have differing, strategies and policies. Furthermore, student assessment is changing, partly due to both modularization and policy changes (Holroyd, 2000). There is no 'one size fits all' on type or mode of delivery for every subject or context (Rowland, 2006). To change effectively, there is a need for institutional support embedded in *"codes…values of equity, integrity and justice"* (Holroyd, 2000). Impacts of change can also be affected by the timing of assessments, staff workload, work based learning, feedback, plagiarism and regulations (QAA, 2009). The authors of this article do not aim to enact institutional change, but to improve their roles as 'reflective practitioners'. The authors will scholarly inform colleagues of their findings and look forward to seeing what the future holds.

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