

Small data, online learning and assessment practices in higher education: a case study of failure?

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Abstract

In this paper we present an in-depth case study of a single student who failed an online module which formed part of a masters programme in Professional Education and Leadership. We use this case study to examine assessment practices in higher education in the online environment. In taking this approach we go against the current predilection for *Big Data* which has given rise to 'learning analytics', a data-intensive approach to monitoring learning. In particular we draw attention to the model of the learner produced by learning analytics and to issues of 'dataveillance' in online learning. We also use the case to examine assessment in higher education more broadly, exploring the tensions between the requirements for certification and the need for learning. We conclude that assessment practices in higher education may have more to do with 'quality assurance' and regulatory frameworks than with 'enhancing the student experience' and inculcating the qualities that mark out higher education as an ethical project.

Key words

Future-oriented learning, Learning Analytics, professional learning, teaching excellence framework (TEF)

Introduction

The growth of electronic communication systems has fuelled an obsession with the collection of data. Global corporations such as Amazon use data to recommend our holiday reading, airlines suggest places we might like to visit and hotel booking companies tell us where we ought to stay. But the 'not for-profit' industries too are taking advantage of the vast array of data our online activities leave behind us and education is certainly not immune to this trend. The growth of online learning has provided new opportunities for monitoring student learning, giving rise to the fields of 'educational data mining' and 'learning analytics' which apply data-intensive approaches for 'the goal of enhancing educational practice' (Baker and Inventado 2014,62). The *Society for Learning Analytics Research* defines learning analytics as 'the measurement, collection, analysis and reporting

of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs' (quoted in Siemens and Gašević 2012,1). By monitoring such factors as hours spent on line, learning resources visited, and engagement in online forums, learning analytics provides diagnostic evidence of use to students and tutors alike with claims that deviations from ideal behaviours can be flagged up and support provided. It is asserted that employing learning analytics techniques offers ways for learners to improve and develop while a course is in progress (Ferguson et al 2016)

Learning analytics forms part of the world of 'Big Data', the gathering of vast amounts of information pertaining to the activities of people in electronic systems used to predict future behaviours and infer mental states and dispositions ('dataveillance'). Complex algorithms have been devised to estimate a student's 'latent knowledge', 'latent' referring to 'the idea that knowledge is not directly measurable, it must be inferred from a student's performance' (Baker and Inventado 2014,64), thereby rehabilitating behaviouristic notions of learning. The assumptions of validity that underpin the construct 'Big Data' strike a chord within the educational research establishment too, driving a resurgence of interest in large data sets and bolstering the pre-eminence of randomised controlled trials (RCTs). Such preoccupations in which size really does matter legitimises an orthodoxy which diminishes the value of the insights to be gained from a single case. In this paper we buck this trend, presenting some quite big claims from the analysis of data obtained from the in-depth examination of a single student engaged in an online masters-level module aimed at professional educators.

In effect, the paper is an analysis of failure. In one sense, this is the story of the fall (and subsequent rise) of a student engaged in an online module aimed at supporting the transition of teachers into masters-level learning. As such, it presents a traditional narrative of human triumph over adversity. At a more significant level (for us as teacher educators), however, it is a story of failure of higher education, specifically in relation to assessment practices, to adequately assess what we claim to value in our students' learning. Although relating only to a single student, the case provides a depth of data including: patterns of engagement in the online environment; contributions to online discussion forums and blogs (and tutor responses to these); collaborative work with peers using a wiki; and the summative assignment. In addition, the student took part in a group interview and we thus

heard a retrospective construction of events as our participant first failed and then overcame adversity. Recognising that this analysis was only possible because we had access to the traces left by the student in the online space we characterise this as 'small data' in contrast to the kind of 'Big Data' associated with learning analytics and educational data mining. In doing so, we offer a critique of these fields as analyses of learning.

The aim of this paper is thus two-fold: to contribute to knowledge around assessment at masters level in order to enhance educational practices in HE; and to demonstrate that case study research, even of a single student, can contribute to the development of theory. Here we focus on the relationship between learning and assessment in a professional masters-level module. Specifically, we examine whether we assess what we claim to value, and to what extent our assessment practices are determined by the academic discourses we inhabit. The study is therefore particularly relevant in the context of the teaching excellence framework (TEF), the means by which teaching in higher education will be monitored and judged in England, and possibly elsewhere in the UK (Department for Business Innovation and Skills 2015).

The structure of the paper is as follows: we first present the argument for case study research; next we outline the online module we developed with the express aim of supporting the transition of professional educators into masters-level learning. Then we analyse the accumulated traces of learning of a single student enrolled on this course. Finally, we consider the implications of the findings for practices of assessment in higher education.

Case study

Flyvbjerg (2006) argues that case studies are 'misunderstood'. This misunderstanding extends even to a consideration of what case study is. For our purposes, we accept Thomas' (2011, 513) definition:

analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides

an analytical frame—an object—within which the study is conducted and which the case illuminates and explicates.

A case study thus has a subject and an object, but it is agnostic with respect to methodology and method. The subject is the unit under scrutiny, while the object is the thing to be explained. The object may be clear at the outset of the study or it may emerge as the study progresses, whichever, it is the object that is the focus of study, what the case study is a case *of*. Thomas argues that one reason for scepticism regarding case study research is that researchers frequently identify the *subject* of the research but not the *object*, and ‘fail to seek to explain anything’ thereby presenting an account rather than research. Further, Thomas maintains that the subject should *not* be selected on the basis that it is ‘representative’ of a population or ‘typical’ in some way. Even if the ‘typicality’ of the case as an example of a particular unit has been determined in some way (a ‘typical’ student, for example, in terms of age/gender etc) we cannot infer anything from this in relation to the object under study ‘for the typicality will begin and end with the dimensions by which typicality is framed’ (514). Rather, the case should be selected because it is ‘an interesting or unusual or revealing example through which the lineaments of the object can be refracted’ (514).

Related to this is the widespread belief that ‘one cannot generalize from a single case’ (Flyvbjerg 2006,219). Rather, Flyvbjerg argues, what is key is the particular case one selects for study and how one goes about collecting and analysing the data. The case of the ‘black swan’ is frequently held up as an example which refutes the argument to generalisability (see Flyvbjerg 2006). However, even leaving this aside – both because falsifiability has been the subject of considerable critique in the philosophy of science, and because the social sciences provide few comparable examples – case study research does not need to produce results which are demonstrably ‘generalisable’. Flyvbjerg quotes Hans Eysenck (1976,9), who underwent an astonishing *volte face*, from considering case study as little more than a collection of anecdotes, to the realisation that ‘sometimes we simply have to keep our eyes open and look carefully at individual cases – not in the hope of proving anything, but rather in the hope of learning something’. The ‘outlier’ is thus particularly valuable in case study research, offering opportunities for the construction of theory about the object.

Further, Flyvbjerg argues that cases create contexts for the production of narratives which 'typically approach the complexities and contradictions of real life' (p.237). While this may be regarded as another drawback by those of a quantitative bent, for many qualitative researchers complexity and ambiguity are what get them out of bed in the morning. For our purposes then we focus on an atypical case, a student who failed our module. The object of the case study, which emerged as we conducted our analysis, was assessment and hence we use this case to explore assumptions underpinning assessment practices in higher education.

The case

The object of our case study emerged as we investigated participants' learning in a masters module, *Engaging critically with professional practices* (ECPP) designed to support the transition of professional educators into our newly redeveloped MSc programme in Professional Education and Leadership. The rationale for this module was the need to develop *criticality* in our students, which we define as the capacity to pose serious and responsible questions of people, organisations and texts. This definition of criticality embraces what Barnett (2007,34) says is the fundamentally 'interrogative' nature of academia i.e. that 'any utterance proffered in academic life is susceptible to questioning from other parties'. This interrogative process demands that students make informed judgements (Boud and Falchikov 2007) on the basis that these judgements are subject to scrutiny by others. Criticality, we argue, is central to the development of both academic and professional literacies and a defining attribute of masters-level learning. However, we know from our experience of working with masters students (Watson and Drew 2015) as well as reports in the literature (Goddard and Payne 2013) that fostering criticality is very difficult. Hence the rationale underpinning the module was to embed criticality as a disposition to learning with the aim of supporting the transition of our students into masters-level learning.

The MSc in Professional Education and Leadership is founded on a model of professional learning termed Critical Collaborative Professional Enquiry (Drew et al 2016). The use of the term 'critical' signals the importance of developing criticality through engaging with

concepts and ideas in research and academic literature to critique policies and practices; 'collaborative' denotes the collective nature of the endeavour and the responsibility of participants to contribute to each others' learning; 'professional' is used to signify the fundamental role of informed professional judgement in surfacing values and challenging assumptions underpinning practices; and the term 'enquiry' promotes a notion of the professional as an enquirer into practice with a key responsibility for improving outcomes for students and colleagues. Thus the pedagogy is designed to encompass elements identified as pertinent to professional learning: collaborative action, critical reflection, self-evaluation, and teacher leadership (Reeves and Drew 2012).

The module was undertaken over four months and comprised four Phases, prefaced by an online induction. These were: Understanding Practices through Professional Literacies; Understanding Professionalism and Professional Learning; and Critical Analysis of Policy, Research and Media. In the final Phase of the module students worked on the summative assignment. Apart from an initial face-to-face meeting the 40+ students worked entirely in the online environment in two groups each supported by a tutor. The module required students to engage with readings and post in discussion forums. They also kept a professional blog in Phase 2 and undertook collaborative work using wikis in Phase 3. One of the aims of the course was to encourage participants to take responsibility for their own and others' learning and hence they were required to respond to postings and blogs in order to advance the critical thinking of their peers. The course included both formative and summative assessment. Formative feedback/feedforward was received from tutors and peers on discussion forum postings and blogs. Tutors provided individual and generic feedback, drawing together the discussion threads in plenary forums and modelling the academic literacies they aimed to inculcate. Summative assessment was in the form of an assignment structured in two parts. The first part required critical analysis of an educational issue with a consideration of implications for professional learning; the second was a critically reflective commentary on the learning engaged in during the module with a supporting portfolio of evidence. The module was thus predicated on the idea of 'integrative assessment', which aims at blurring the distinction between formative and summative assessment (Gikandi et al 2011). The aim of such assessment practices is to enable students to 'make judgements to influence their own learning and to use those

judgements to influence their approaches to future learning' (Crisp,2012,34). Crucially, in a professional masters programme, this includes the kind of career-long professional learning that informs the development of practice. The aim of the module was therefore to create an online professional learning community in which professionals support each other in the development of informed and critical stances in respect of policy and practice.

We conducted research around the development of the module focusing on the performance of 'criticality' by participants in the online space (Watson et al 2016) and examining the extent to which criticality had indeed become embedded as a disposition to masters learning as our participants continued on the MSc programme. As we analysed this data we became intrigued by one student who had failed the summative assignment of ECPP (both the first submission and the one allowable re-submission) but had carried on to the second module on the programme, which she successfully passed. This student was therefore the subject of our case study while our emergent object was practices of assessment in higher education. It is important to note, therefore, that this paper does *not* ask, 'Why did this particular student fail?' but rather, 'How does an examination of this case contribute to knowledge around practices of assessment?' We next present the analysis of our 'small data', using this to examine both the theoretical framing of assessment practices in HE and to challenge the assumptions underpinning our practices. Throughout we have referred to our student as 'Jay' and we have randomly assigned gendered pronouns in order to add further anonymity. The data presented here potentially render Jay identifiable to other participants on the module. However, the online contributions of participants are no longer available to participants and it is highly unlikely therefore that they would recognise our case study subject. Data from the group interview might be recognised by the participants but this was made clear at the outset of the interview and all participants accepted this and were reminded of 'Chatham House Rules' i.e. non-disclosure of anything said in the focus group.

The authors are all members of the Professional Education team that devised the module and one (not the lead author) was a tutor on the module.

An analysis of 'failure'

The analysis draws on three sources of data. First, the traces left in the online space (patterns of engagement and contributions to discussion forums, blogs etc); second, the summative assignment through which the learning outcomes were assessed; and third, a retrospective account provided by the subject of the case study in a group interview which took place four months after completion of the module. These data are used to shed light on the *object* of the case study, namely assessment practices in HE.

Data set 1: Engagement with online learning

Patterns of online engagement with learning resources in the different Phases of the module are shown in Figures 1-6. In each figure, different resources available to students in the Virtual Learning Environment (VLE) are represented by squares in different shades of grey (different colours online); Jay is represented as a black circle. She is connected to resources that she accessed in the relevant Phase by arrows whose widths give an indication of the relative frequency with which she accessed each resource. Readers will notice that many more resources are present in each figure than Jay accessed: these indicate resources accessed during the same period by other students undertaking the module. The shades (colours online) of the squares, and their proximity to each other, indicate resources that have similar functions or are associated with particular phases. For example, resources associated primarily with the induction phase are a mid-grey (red online) and are positioned in the bottom right quadrant of the image; resources providing advice and guidance for working in a collaborative online learning environment are a lighter grey (orange online) and are positioned in around the middle of the left hand side of the image; and resources supporting the students' engagement with critical frameworks are those shaded a very dark grey (blue online) in the top left hand corner of the image. The size of each square indicates the number of times it was accessed by all participants, not just by Jay, an indication of whether Jay was accessing things that would have counted as normal (big) or unusual (small). The Figures thus enable a rough comparison to be made between Jay and other members of the cohort. For example, in the induction period Jay accessed almost all of the resources most frequently accessed by the cohort as a whole, with the exception of 'Learning resources.' In the same Phase, Jay also accessed some slightly less commonly visited resources such as 'Exploring professional literacies' and 'Module administration.'

Jay's engagement with the Phases of module was as follows:

Induction

During the online induction (Figure 1) Jay worked through all the introductory activities including the guide to online learning and the 'Web quest' designed to familiarise participants with the main online tools. Jay also looked ahead to the first Phase, accessing some of the readings around criticality.

[Figure 1 about here]

Phase 1: Understanding practices through professional literacies

Phase 1 comprised two parts: the first part set out the need for teachers to be able to critically evaluate policy; while the second focused on becoming 'professionally literate.' In the first part participants undertook readings around the development of critical thinking, drew on these to formulate a framework for critical analysis, and applied this framework in the critical analysis of an educational policy of relevance to them. They then posted their analysis in the discussion forum *Critical observations of an issue*. They were also asked to read through others' postings and provide reflection, commentary, and/or questions on at least two of these. The postings were thus open to scrutiny and subject to judgement by peers and tutors.

[Figure 2 about here]

Figure 2 indicates Jay's patterns of engagement in the first part of Phase 1. Jay focused on the critical thinking frameworks resources but looked ahead to the professional literacies resources required for the second part of Phase 1. Jay contributed only once to the first discussion forum. His was the last post put up and received no response; neither did Jay respond to others' postings in this discussion forum. During the group interview Jay claimed to have read all the posts but 'did not know how to respond', and felt confused:

I was reading the things and reading what they were writing you know and was thinking I've just totally interpreted that differently from somebody else, I was like that's – whoa – that's a bit frightening.

However, Jay's contribution to the discussion forum does demonstrate some capacity to pose serious and responsible questions of people, organisations and texts, our definition of criticality. An excerpt is reproduced here as it was posted:

Critical evaluation:-

Health and wellbeing across learning: responsibilities of all. [Policy document]

I like the aim of the document, but I also question the fact that, do practitioners have the skills or experiences to achieve its aims, I believe the policy makers assume we do. This document is very much open to individual interpretation. Critically evaluating the document raised many questions for me, here are a few:

Is this social engineering?

Is this politically motivated?

Are we as educators expected to be social workers and psychologists?

For me this raises the question about the purpose of education. Is the purpose to: Socially engineer pupils, instil political views, the pursuit of knowledge, to train the workforce?[...]

While it could be argued that this post is undeveloped and lacks criticality (it does not, for example, draw on relevant research literature in the construction of an argument), it does attempt to pose some 'serious questions' of policy. As a first effort it did not raise concerns for the tutor. Although Jay did not receive individual feedback on this post generic feedback was provided in the plenary which addressed some common issues and suggested ways to improve.

[Figure 3 about here]

In the second part of Phase 1 (Figure 3) Jay focused on resources relevant to professional literacies but also revisited some pages previously accessed and looked ahead to Phase 2. During this Phase Jay posted two comments in the relevant discussion forum and also responded supportively to another participant.

Phase 2 Understanding Professionalism and Professional Learning

Phase 2 explored the contested nature of 'professionalism' and required two blog commentaries and participation in a plenary discussion forum on professionalism and professional learning.

[Figure 4 about here]

During Phase 2 Jay visited pages on how to blog and revisited resources on professional literacies and understanding professionalism and professional learning several times. During this Phase participants were asked to post two blogs each of 500 words which considered: tensions and ambiguities about what it means to be a professional; and professional practice and professional learning in the current context. They were also asked to add comments to the blogs of at least two other participants and to respond to the comments received on their own blog posting. An excerpt from Jay's first blog post is shown below:

Blog: Professional meme

I'm going to begin by stating that I believed I knew what professionalism meant. Through reading the various texts I am now not so sure. All the texts seem to agree on one thing, professional is very hard to define. Evetts (2011) claims that "what is professionalism – has long ago lost relevance" and argues why so many seek it is a far more interesting question. This statement led me to question my own pursuit of "professionalism", something I believe I am fulfilling by participating in this very course.

Some of the authors argue that the term professional is merely a way to govern staff, with the GTCS [General Teaching Council for Scotland] standard for full registration used as a tool to normalise training and practice in Scotland. Probationer teachers must show evidence of attaining the many standards and their illustrations to achieve full registration, and we as practitioners are meant to continually develop and improve upon these throughout our careers. I have recently been a probationer mentor and sometimes struggled to define exactly what each standard really meant, surely there are many different interpretations amongst us all? I also believe that we all have different views/opinions on what makes a good teacher and a good professional. This I think is not a bad thing as diversity in practice and approaches in most cases must surely be good for students to experience?

The standards are in my opinion a means of manipulating stakeholders to self-assess and self-regulate...

This blog received extensive feedback from the tutor and a comment from another participant. Tutor feedback followed the tenets of 'good practice' as advocated by O'Donovan et al, (2012): Jay received acknowledgement and positive comments on his work and was given clear suggestions for improvement. The errors in referencing were pointed out. Jay responded to all of the comments received and re-drafted and reposted the blog. In particular, Jay expanded his ideas and engaged with relevant literature including readings suggested by the tutor. Moreover, in the re-drafted blog the referencing is done correctly. Thus, it is evident that Jay was able to engage with and act upon the feedback provided which O'Donovan et al (2012) regard as necessary to effective feedback.

Phase 3. Critical analysis of policy

In Phase 3 participants worked in small groups collaborating in the production of a 'digital artefact' (a poster, wiki or other output) on an educational issue of mutual interest. As can be seen from Figure 5, Jay continued to access relevant resources in the VLE, now focusing on texts about the use of wikis in professional contexts and on guidance about the digital artefact task.

[Figure 5 about here]

During this Phase, participants had access to dedicated group (rather than whole cohort) discussion spaces and wikis. Jay contributed fully to the task and took a lead on a number of occasions. He sourced relevant information that was clearly valued by other participants, and so contributed to the learning of others. This was the Phase where Jay displayed most confidence and felt that she engaged most fully in the module:

Interviewer: Whereas you feel that you really came into your own with the wiki?

Jay: Yeah, I felt quite confident with that to be honest with you compared to other bits... I quite enjoyed working as a team and that we had quite a good, we put quite a lot into that, and I quite enjoyed doing that as a group. We met in the university and then we went away and we were kind of supporting each other, we were sending each other things and at that point I actually quite enjoyed that bit...

Jay's group elected to meet face-to-face to plan the work and subsequently conducted some of it via email rather than the wiki, rendering it unavailable for assessment by tutor or peers.

Phase 4.

The only online activity in Phase 4 was a discussion forum related to the summative assignment. Jay did not contribute to this. However, during this Phase, while producing the final written pieces on which she was to be assessed, Jay revisited resources relating to professional literacies and blogging.

[Figure 6 about here]

The resources visited suggest purposeful engagement and are by no means 'random'. As well as showing that Jay routinely accessed relevant materials in each Phase, Figures 1-6 also suggest that he was confident in the environment. Jay appears to have successfully navigated the space without recourse to guidance on how to use the VLE that many other students accessed throughout the module.

Data set 2: The summative assignment

The assignment comprised two parts. The first section was a critical analysis of the educational issue worked on collaboratively in Phase 3, drawing on relevant research literature and relating this to practice; the second was a reflective commentary and portfolio of the learning engaged in during the module. Jay met the assessment criteria as they pertained to Part 2, offering an insightful analysis as an immediate reflection on the module, but failed to meet the criteria for Part 1. Tutor feedback included the comment: 'Although clearly there has been a high level of engagement and learning taking place throughout this module you have not been able to demonstrate it in this assignment.'

Certainly, the level of sophistication and academic literacy achieved in the re-drafted blog post, following tutor feedback, was not displayed in the summative and Jay's arguments were not grounded in relevant research literature. The re-submission was improved but

following cross-marking and moderation was again assessed as not meeting the criteria and Jay therefore failed the module.

Jay wrote about his difficulties in Part 2 of the assignment and, ironically, his insightful comments on his learning experiences were such that he met the relevant assessment criteria for this part of the summative:

I am still struggling with the criticality aspect...I have found this really hard and I am still not sure I understand how to really critically analyse a piece of work...On the first blog posting I got into a panic as I couldn't answer the question, *I found it strange hearing from a tutor that the questions did not need to be answered, that they just had to be asked.* [emphasis added]

The fact that in academia questions need not be answered is a deceptively naïve recognition of the different worlds inhabited by academics and professionals, for whom questions do need to be answered.

Data set 3: Group interview

A group of four students who had enrolled on ECPP and had continued on to the second module in the MSc programme was interviewed. The interview took place in the university, lasted 90 minutes and was audio-recorded. The interviewer was the lead author who had not been a tutor on either ECPP or the second module. The three other members of the focus group had all passed ECPP, though one had clearly struggled and was somewhat surprised to have passed on first submission. The following analysis focuses on Jay but draws on the responses of the others to provide a context within which to view Jay's experiences.

Jay repeatedly said she had felt 'out of my depth'. An intense emotionality was indicated in frequent deep exhalations, involving the blowing out of cheeks and transcribed here as 'phwuuhh'. Jay's struggle with the demands to master academic literacies was distilled to a single narrative theme, namely the arcane mysteries of the 'peer reviewed journal article':

I got comments back on my first essay saying these aren't peer reviewed journals and things and I was like, I don't know what you're talking about, I'm sorry, I just

don't know what you're talking about. I have absolutely no idea what you mean here...

Moreover, Jay had felt unsupported

I feel as if I was just kind of dangling on my own here, you've never given me, the feedback was just kind of pointless to me [...] I was getting feedback comments saying, you weren't critical enough, these aren't peer reviewed journals. I was saying, well, I don't know how to find this and I don't understand what you mean, so, it's just like phwuuhh...

There was divergence within the group in relation to tutor feedback, although all had had the same tutor:

A: I found all the feedback that I got from email or blogging or whatever it was brilliant

B: See because I didn't get that

Jay: Yeah, neither did I, I was kind of like - phwuuhh - to re-write things and stuff like that

B: I didn't get that I felt very detached

A: What I got was you know like well done do this, this is great, you restructured this, think about that, think about that, oh your references are not great check this document

B: I found it incredibly detached

Jay: I never got anything like that at all, it was just like your referencing's wrong you've not done this correctly

Jay excelled, however, when required to work with a small group on a collaborative project.

Though Jay's group did make use of the wiki they also met face-to-face and emailed. One interviewee commented to Jay:

A: Yours, sounds like it did get, because you had that separate communication that happened offline, for want of a better word, that you used, you maybe used personal emails, personal phone numbers or personal texts, eh, as opposed to just using the wiki and the blogging system but ours never got to that stage everything went through the wiki everything went through the blog [Jay: Yeah] despite what we tried, it, it never initiated, whereas you know, you're sitting down having a meeting with six people great you all get to know each other, great, 'Oh we'll swap email and phone numbers...'

Jay: Once we went away that day everybody just got really quite into it and we were kind of

A: Yeah, and I can see that working. I can see that working, and then you could have your private conversation, that nobody else is party to...

There was thus awareness within the group of the highly visible nature of online learning rendering the learner open to the scrutiny and judgement of others. Within this space, continuous assessment is literally that.

Overall then, Jay constructs an Alice in Wonderland narrative of a world in which the peer reviewed journal article is fetishised. Meanwhile, all the other students get what's going on. The only point at which it makes sense is when he is called upon to work as part of a small group developing professional knowledge collaboratively. Unlike the other focus group members, who felt more confident in their ability to engage critically with texts following the module, Jay 'found exactly the opposite'.

To some extent, Jay's narrative can be read as a retrospective response to failing the first module while succeeding on the second. Jay constructs the feedback he received in ECPP as 'pointless' and indeed denies that he received the kind of supportive feedback that others did. Yet, this is contradicted in the example presented here of his blog post in Phase 2, in which he received formative feedback/feedforward *which he was able to act on* in re-drafting his blog. There was also disagreement within the group as to the guidance given in terms of referencing and peer reviewed journal articles, with Jay adamant that they only got guidance in the second module, while the rest of the group recalled this is in ECPP. It is important to note that the interview data constitute a narrative constructed by Jay following failure on ECPP and subsequent success on the second module. It thus conforms to the traditional western narrative of redemption (Watson 2012) in which the narrator searches to give meaning to experience.

Discussion

Boud and Falchikov (2007,19, emphasis added) comment that,

In principle, there is no reason why students could not be prompted by assessment practices to study in positive ways. *Unfortunately, this cannot be achieved in practice because teachers and those who design assessment processes have insufficient information about the effects of their assessment practices.* The difficulty is compounded by the fact that it is impossible to imagine a normal teaching and learning situation in which one could know enough about student response to assessment to ensure that formal assessment necessarily had a positive impact on learning.

This is the conundrum this case study has set out to address. Focusing on one student, an atypical case, has enabled the spotlight to illuminate our assessment practices. To reiterate then, this paper does *not* ask the question: ‘Why did Jay fail *Engaging critically with professional practices?*’ This is a question that relates to the *subject* of the case study. There may be many reasons why Jay failed, some of which will be very particular to the individuals concerned. Instead, we focus on the *object* of the case study and ask, ‘How does an examination of this case contribute to knowledge around practices of assessment?’ In some respects what the case study tells us relates not just to assessment in online learning, but has implications for assessment in HE more generally – and prompts an examination of Boud and Falchikov’s assumption that assessment *can* promote ‘positive’ learning. We start this discussion, therefore, with a consideration of assessment in the online environment before moving on to consider wider issues around assessment.

In relation to online learning, two main issues emerge: the first concerns the opportunities provided within the online environment to gather data about the ‘learning behaviours’ of students which raises issues about the utility and desirability of learning analytics; the second relates to the possibilities for continuous assessment in online spaces. Both carry implications for HE considered as an ethical endeavour.

First, it is doubtful whether Jay would have been identified as at risk by learning analytics, given his apparently purposeful engagement with the learning resources provided. His feelings of being out of his depth and left ‘dangling’ were certainly not reflected in his learning behaviours. This in-depth study of a single participant therefore drives home Boud

and Falchikov's point that we never have enough information to know whether assessment practices are having a positive effect on learning. The case study therefore reveals something of the emotional complexity that accompanies masters-level learning. By contrast, learning analytics reduces the learner to a set of codes, 'a black box...surrendered to purely technocratic reasoning' (Wolf 2015,19). In effect, learning analytics reproduces the learner as a simulacrum, an uncanny double, with the potential to usurp the original. This has significant implications for the aims of higher education. If, learning analytics is intended to improve performance while a course is in progress such formative assessment will work to ensure conformity with a desired model of the learner, thereby insinuating specific subjectivities and modes of self-governance (Selwyn 2015). (And this has implications beyond the narrow confines of learning analytics if it is accepted more widely as underpinning 'effective online learning'). Kay et al (2012,20) allude to this when they talk about the 'educational misuse' of learning analytics with its 'underlying issues of learning management, including social and performance engineering'. Learning analytics is therefore part of a pervasive discourse of control over the learner that is becoming prevalent in higher education.

The second issue which arises in respect of online learning concerns the opportunities provided for applying assessment as a continuous technology. Learning, operationalised as the visible traces left in the online space, renders the learner subject to assessment at all times. Assessment therefore becomes a disciplinary technique. Indeed, the ability to continuously monitor participants in the online space echoes Deleuze's (1995,174) vision of discipline in the 'control society' as no longer operating 'by confining people but through continuous control and instant communication.' This was explicitly recognised by our focus group participants. Moreover, the assumption that learning is what occurs in the virtual environment, and thus by implication only in the online environment (as learning analytics infers), creates an Orwellian world in which to engage face-to-face, or communicate, *sub rosa*, via telephone or email comes to be seen as almost a subversive activity. Arguably, continuous tutor surveillance inhibits the participant from taking control over their learning. This is a feature which Crisp (2012, 40) suggests is key to becoming a self-regulated learner and, crucially, necessary to the development of future-oriented professional learning. The inability of Jay to take control of her learning environment, except during the collaborative

learning task, in which much of the work was carried out away from the continuous gaze (and hence beyond the reach of assessment), is perhaps indicative of this. Continuous online assessment as surveillance therefore raises issues of trust and radically alters the premises of HE. The requirement of participants to evidence their learning in the online environment in the form of portfolios (as was the case in ECPP and now common in higher education) produces a further tension, bringing all online activities into the orbit of assessment, thereby increasing tutor control over learning.

While these issues concern learning in the online environment, the case prompts consideration of assessment practices in higher education more broadly. The tutor comment on Jay's summative assignment that 'learning has taken place but has not been demonstrated' highlights a fundamental tension that underpins the aims of higher education viz the need for certification and the need for learning. Assessment provides a warrant that testifies to achievement (Knight and Yorke 2008). While this warrant 'does not carry clear public meanings' and indeed may have 'scant scientific merit' (182), it does, Knight and Yorke suggest, 'provide some extrinsic motivation for study [and] makes teachers and teams somewhat accountable for their work' (182). Yet, Boud (2009) cautions that any attempt to align certification and learning 'would be an inappropriate simplification that failed to acknowledge the contradictions between being judged and developing the capacity to make judgements' (p.35). The need for certification versus the need for learning relates to a tension between current and future-oriented learning (Boud 2009) i.e. between the 'now' requirements of masters-level learning, which privileges academic content, and the type of career-long professional learning that such professional masters programmes ostensibly claim to inculcate. Evans (2013) suggests too that a focus on certification may 'ironically' impair students' ability to undertake 'lifelong learning': submitting work to be assessed by others may undermine the development of the kind of 'informed judgement' that Boud and Falchikov (2007) argue is the purpose of higher education. We can perhaps usefully conceptualise this as the distinction between masters learning *as* practice and masters learning *for* practice. Page and Knight (2007) refer to a constellation of 'wicked competences' required of professionals. Wicked competences are the abilities to wrestle with 'wicked problems' defined as those 'problems in professional life that resist definition, shift shape and are never solved' (p.6). In a study of the development of wicked

competences Page and Knight were surprised to find that educators did not regard this as difficult either to inculcate or to assess. One explanation they advanced for this is that professional educators 'do not realise the limit of their assessment activities'. They argue both that assessment practices need to be improved and that educators need to see it as a problem in the first place. The assumptions underpinning assessment practices therefore require to be surfaced and subjected to analysis and scrutiny, and this is what this case study has enabled us to do. Thus, while our pedagogic model of Critical Collaborative Professional Enquiry emphasises masters learning *for* practice, assessment practices are necessarily focused on masters learning *as* practice. This dichotomy was amply illustrated in the case study with Jay's insightful analysis and his reduction of academia to an obsession with referencing and the peer reviewed journal article. Related to this was her comment that in academia it is only necessary to ask questions. The necessity for practitioners to go beyond asking questions and to supply solutions to problems (however imperfect and short term) contrasts with academics immersed in a discourse of critique, pointing to the different worlds inhabited by academics and professionals which contributes to fault lines in assessment. This brings us back to the question of what we (as academics) value in our students' learning and a possible disjunct between what our students themselves perceive as valuable learning.

Arguably, in the case study here, the need for certification undermined the need for learning, so that assessment practices, considered in their entirety, effectively disabled a competent student. While some remain sanguine that assessments can be devised which support future-oriented learning (Crisp 2012, Boud and Falchikov 2007), what is illustrated here is the potential paradox that emerges between assessment and learning. Indeed, Barnett (2007,32), in discussing the qualities that 'mark out the student's educational being' (courage, bravery, determination, persistence, integrity and sincerity) suggests the question is not *does* assessment promote these qualities but *can* it. Clearly, the warrant is necessary, but does this necessity point to the 'impossibility' of higher education considered as an ethical endeavour? In the end, Barnett suggests it is possible to square the circle, arguing that summative assessment can enable a student to 'propel herself [sic] – into a state of authenticity' despite the '*prima facie*' case that summative assessment 'threatens to

expunge authentic being'. Indeed, Barnett (2007,37) talks about the liberatory possibilities of summative assessment that await the learner engaged in *authentic becoming*,

where the student in her being throws herself forward into her assessments to win the three prizes of becoming (of overcoming risk, of ontological journey, of emotions) that await her.

This requires that students are encouraged to take up 'active and engaged stances towards their summative assessment', and for this to occur 'the whole educational process should be understood as a space in which students' educational being can flourish' (39). It is salutary to compare this admittedly romantic notion of the learner's autonomous becoming with that produced by learning analytics in which the learner is reduced to data in the marketplace of higher education.

Arguably, assessment practices in higher education have more to do with 'quality assurance' and regulatory frameworks than with inculcating the qualities that mark out higher education as an ethical project (Stowell et al 2016); and this is only likely to be intensified with the introduction of the measures such as the Teaching Excellence Framework. We may, as academics, wish that our students would take more risks with their learning, but the academy itself it seems is becoming increasingly risk averse with the danger that, through a discourse of control justified in terms of 'enhancing the student experience', we end up, in an ironic reversal, diminishing that experience.

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