Actor network theory and the study of online learning

New perspectives on quality

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Abstract: This paper describes an approach to studying innovation and change that is taken from the field of Science and Technology Studies. Actor-network theory draws attention to the performative nature of the implementation of new technologies like quality systems and online teaching. The theory posits that the world is not populated with entities that possess certain essences in and of themselves, but rather that the world is a texture of relations—a network—which occasionally produces the effect of stabilised entities. We examine the consequences of producing durable forms of online teaching and quality assurance and argue that achieving durable performances requires a conformity to existing performances of a university thus reproducing current patterns of inequity.

Key words: online learning; innovation; quality learning

1. INTRODUCTION

Conventional education with its sequential 'grade' system, its prerequisites and course sequences, and its hierarchical understanding of how knowledge is created is completely out of sync with the digital mindscape itself.

(Rashke, 2003, p. 71)

Quality has become a vogue term in Australian Higher Education. The recent establishment of the Australian Universities Quality Agency (AUQA) has, at least in institutional terms, put quality on the agenda of every university. In a similar timeframe, enthusiasm for online teaching has grown significantly in all Australian universities¹. How such innovations are understood and studied is therefore significant. In this paper we examine the

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coming together of notions of quality with emergent practices of teaching online. We take the view that the promotion of notions of quality through the development of quality management or assurance systems in universities can be usefully understood as an instance of the development and implementation of a new technology. We draw on Franklin (1990) to argue that technology can be seen as formalised practice and that new ways of doing things, be they assuring quality or teaching online, are amenable to analyses which are useful in the study of projects or new technologies.

2. ACTOR-NETWORK THEORY

We take actor-network theory (ANT) as a theoretical framing for examining these developments. ANT offers an alternative and, in our view, superior framing for studying innovations in education (Bigum, 2000). ANT arose in the field of Science and Technology Studies (STS), initially through the work of Bruno Latour, John Law, Michel Callon and now, through many others. ANT has also come to be used in a growing number of other disciplinary spaces, including education (for instance, Bigum, 1997, 1998, Gilding, 1997, Nespor, 1994, Roth, 1996). ANT has been characterised as a kind of relational materialism (Law and Mol, 1995) in which networks of relations develop via negotiations and trade-offs between actors. Each actor is understood as not having any innate capacities or attributes other than a capacity to negotiate with other actors in forming relationships. In this sense it can be included among a growing number of anti-essentialist approaches in the study of technology (Grint and Woolgar, 1997). In ANT, networks are made up of actors which are both language-bearing (i.e. human) and non-language bearing (non-human). Roles and capacities are not pre-determined but emerge as a result of negotiation, trade-off and compromises between actors. Attributes such as agency or power are seen as properties of networks or assemblages not as qualities that are intrinsic to particular actors. Latour (2000) argues that what ANT is interested in is 'things'. Not things as non-living objects or things without language but things as *quasi-objects*, as heterogeneous networks or assemblies of humans and non-humans. In this way projects or innovations are seen in terms of a process of formation of these quasi-objects which, either, form or do not form through negotiation and compromise. How the formation of such objects are studied and theorised matters. As Latour (1996, p. 200) argues:

You can study anything with classical sociology—anything except the sciences and the technologies, anything except projects. They go too fast. they become too soft or too hard.

From an ANT perspective, in the study of an innovation such as a quality system or teaching online, the initial idea amounts to very little. It has no initial inertia or momentum. It is not autonomously propelled into educational systems. If it progresses at all it does so by interesting and recruiting other actors and forming an alliance with them. Typically, this means the innovation is represented as providing a solution to a particular problem. In the case of the adoption of a quality system, the system might, in the case of an Australian university, be represented as the solution to the problem of an AUQA audit. Online teaching might be represented as a solution to the problem of teaching remote students. Even in cases where a quality system or teaching online is mandated, the formation of an assemblage is still something to be negotiated.

For recruitment to be successful at least two translations need to occur: one to move the interests of the group or actor so that the idea is seen as a solution to their problem and the other to move the innovation a lot, a little or very occasionally not at all. In other words, in order to effect the recruitment of new allies, the innovation *has* to change. This marks a key difference between ANT and innovation diffusion theory (Bigum, 2000). Even when recruitment is successful, the assemblage or alliance won't of its own accord necessarily remain in place. This implies constant policing of the assemblage, making sure that negotiated roles are maintained. Finally, when the all of the negotiation and policing is forgotten and the assemblage has become routinised then it will appear to be a fact of life for an educational institution.

In this early or *classical* version of ANT, the formation of networks or assemblages tends to be seen from the standpoint of the innovator or manager. Susan Leigh Star (1991) argues that additional stories and voices need to be voiced. In response to these and related problems, scholars have begun to employ ideas from what has been labelled *the performative turn* (Conquergood, 1989). Law (1997) argues that the main difference between classical ANT and this later ANT work has to do with coherence and centredness. He argues that if notions of coherence and centredness are muted or eliminated that a different way to see the world emerges. The basic premises of heterogeneity and materiality remain but it is a world in which ontologies are less certain.

It should be noted that ANT is not the only framework to grapple with issues of performativity. The relationship between performance and our bodies has been explored by many feminist researchers over the past few decades. Most notable among these is, of course, Judith Butler who drew

attention to the artificiality of the distinction between sex and gender to highlight the fact that the feminine gender, for instance, could be performed by a body sexed either as male or as female. She writes:

...hence...gender proves to be performative—that is, constituting the identity it is purported to be. In this sense gender is always a doing, though not a doing by a subject that might be said to pre-exist the deed.there is no gender identity behind the expressions of gender; that identity is performatively constituted by the very 'expressions' that are said to be its results (Butler, 1990, p. 25)

Gender is the repeated stylisation of the body, a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance, of a natural sort of being. A political genealogy of gender ontologies, if it is successful, will deconstruct the substantive appearance of gender into its constitutive acts and locate the account for those acts within the compulsory frames set by the various forces that police the social appearance of gender (Butler, 1990, p.33)

These notions have been taken up by some ANT scholars and the parallels with the following description of how the director of a company is 'performed' are clear:

...all these materials and endless others *together* perform Andrew Goldthorpe as Director of Daresbury. But this isn't quite right either, for the Directorship is not reducible to whatever lies *outside* the skin either: it's obvious to those who watch him that Andrew is very smart. And very skilled. Like the rest of us, he *embodies* a set of relations, a set of memories, a set of preferences. The myth of high office is embodied in a set of performances, a set of materials, and a series of spatial arrangements, corporeal and otherwise. None is necessarily crucial, but *if we take them together then they generate the effect*. (Law, 1994, p. 143)

In this same sense this paper is a *performance* of various realities, ANT, quality, online teaching and other labelled phenomena. The paper makes present a representation of these realities and at the same time makes these realities. The performative assumption is that reality is brought into being in the act of knowing. Further, that the relationship between knower and known is recursive and thus the knower and the known are made in the same performance. As Law and Singleton (2000) put it:

the epistemological problem (what is true) and the ontological question (what is) are both resolved (or not) in the same moment. The improbability of the performative turn, then, is that it deals as much with ontology as with epistemology.

3. PERFORMING QUALITY

I [Chris] am introduced to Robert (the quality assurance man) in his temporary office. He is wearing a shirt and tie which separates him from most of the academics and many of the administrators at this university where casual attire is the norm. He is friendly and reassuring. In front of him is a very large document. It appears to be between two and three inches thick. He explains he has taken an excerpt for me of 'all the research bits'. We are working from the document that has been developed by another Faculty in the same university with his support. I find out later that the Dean of that Faculty has been promoting this approach to quality assurance to the senior executive of the university. Some months after our Faculty has successfully negotiated a full external quality audit, he is promoted to DVC and part of his portfolio includes quality.

Robert walks me through the style of the document, the flow charts depicting decision trees for various processes, the level of detail that will be required. He is reassuring that all that I will need to do is some editing of what is already there. I ask about the section to do with key performance indicators (KPIs) and point out that these are things that have yet to be negotiated. I am told it is important to have something written down for KPIs and to generate them as a first step in a process of obtaining agreement for them. Before I can ask about whether I need to document the process of negotiation of KPIs, Robert indicates that I have to use my judgement about just how much of a process is documented.

When I eventually get around to do the 'editing' that Robert has assured me is all that is required I find myself much less certain about representing some of the processes as simple decision tree flow charts. Some of the document from the other Faculty is a statement of policy and I learn quickly that an easy solution is to refer to university policy, where it exists or to refer to a local server where documentation can be obtained.

Robert is skilled at developing quality assurance documentation and procedures. His aim is to perform the reality of the Faculty in a particular way. But he is dealing with me and with others in the Faculty who perform other realities and, at least in his view, don't get it right. Robert works very hard to translate this technology of assuring quality but has trouble in encouraging others to translate their interests so that they line up in the new, about-to-be, quality assured Faculty.

When the big day arrives for the external audit, I am allocated two hours with the auditor. I spend considerable time going over the documentation I have prepared as well as skimming bits of the total Faculty document, some three hundred and seventy two pages of it. The auditor, Bill, is friendly and begins the conversation by talking about what I think are important research

issues in education. From there the conversation moves to his son, his talents and the way in which the schooling system, in Bill's view, has failed him. The conversation takes more than two hours. Not once am I quizzed on any aspect of the QA document. In subsequent conversations I am told that Bill is very perceptive, highly intelligent and while I may have thought he was not interrogating me about the document, in fact he was! As far as the process of the external audit is concerned, I passed with flying colours.

What is at issue here is not the quality of the quality assurance but what it takes to arrange a successful performance. The point we want to make is that not *all* performances work. As Law and Singleton (2000) suggest:

This is because not all performances manage to line up the objects and the subjects needed to make them work. Not all performances, accordingly, manage to simultaneously resolve the problems of epistemology and ontology. Many are more or less epistemologically and ontologically 'unrealistic'.

Performances that work are not created out of thin air. A large assemblage of actors need to be assembled and put in place. In the case of quality assurance systems it means a large collection of policy documents, committees, staff, students, computers, offices, organisational units such as the office for research and so on have to be brought into play, and carry out roles that are negotiated for and with them. Not only that, but all the actors have to perform, to follow the script, *together*. If they don't then the whole assemblage is at risk of falling apart. But, as the example we have cited indicates, there are ways around such a difficult task of having all the actors behave and act on cue. The manual describes and creates a quality assured reality. It not only represents a quality assured reality, it also performs it. To undo this performance would require a lot of tracking back and checking of allies, following policy decisions and practices, tracking KPIs to their origins and out to their negotiation, examining and interrogating committees, individuals and showing that things have been done not as the manual suggests or, may have even been fabricated. In crude terms, the work invested in assembling the document needs to be at least matched by efforts to deconstruct the document and disaggregate its allies.

More might be reported to expand our performance of quality in this particular university setting but for the purposes of this paper, we also need to perform ANT in a second context, that of teaching online.

4. PERFORMING ONLINE TEACHING

What we have been interested in is how online teachingⁱⁱ is made durable in universities. By durable we mean being made into the commonplace, taken-for-granted way of doing things. Everything is seen as one or a series of performances in the post-structural sense where performance is mutually constitutive. In this framing of innovations like online teaching, the more actors (including the non-language bearing actors) playing along with a particular performance and the more that performance is repeated, the more durable the performance it becomes and the better chance it has of acquiring the status of becoming 'normal', routine, natural. Durability, in this sense, does not imply that a particular performance is good or desirable, just that it has been successful in acquiring the status of being natural or routine. ANT draws attention to the work necessary to keep repeating performances and to the work necessary to police performances, i.e. to keep all of the actors in place and behaving.

In our study, two broad patterns are evident in the data: a 'corporate' approach—marked by the use of proprietary software such as WebCT or Blackboard, and an 'idiosyncratic' approach—the development of local, bricoleur-like solutions for teaching online. In the case of the use of software like WebCT we can map some of the moves that have been made to make these performances of online teaching and learning durable.

The inclusion of large, institutionally significant actors into the performance is a characteristic of the corporate ordering of online teaching. Thus resources are expended on making seamless connections between WebCT and things like the student records system, the finance system, student computer laboratories, student portals. All of these actors help to perform WebCT as the natural, normal means of online teaching. These inclusions flow from decisions taken by senior management of a university (hence the corporate label). They are not available to those who choose not to use the proprietary software.

The second element in performing WebCT to the point where it is durable, natural, obvious as the means of online teaching is the policing of the actors over which university administrations have somewhat less control, academic staff and students. In order to secure the repetition of performance of a platform like WebCT, its use might be mandated, perhaps via enterprise bargaining, student resources and all assessment might be only made available via WebCT. While the policing of staff and students, performed by administrators as 'ideal online students' and 'ideal online lecturers' is relatively straightforward, the policing of the software and its chain of associations to the supplying company is much less easily policed. The

promotion of teaching online in the cases we studied appeared to assume a much longer life for the software than might be normally expected.

There is a limit to the kinds of performances of online teaching. Not just anything can be performed into existence, or at least into a durable state. The university as a set of performances provides a kind of template onto which new performances of doing university need to articulate. Securing the participation of large actors like the student records system not only help weigh down the innovation but also ensure that the use of the platform builds on the existing networks of the university.

5. PERFORMING QUALITY ONLINE TEACHING

With ISO 9000 you can still have terrible processes and products. You can certify a manufacturer that makes life jackets from concrete, as long as those jackets are made according to the documented procedures and the company provides the next of kin with instructions on how to complain about defects. [Richard Buetow, corporate quality director at Motorola, quoted by Peters (1994)]

From an ANT perspective, then, quality is not something that inheres to a set of practices or products, it is something that is performed and, at the same time performs. Assuring the quality of teaching online with platforms like WebCT is, from an ANT perspective, a performance of the new way of doing things, the new technology called assuring quality.

Assuring the quality of online teaching also contributes to stabilising the performance both of quality assurance and of online teaching. In our enthusiasm to implement these two technologies we are at risk of losing sight of the educational and social problems that persist around our ongoing infatuation with computing and communication technologies.

ANT, as we have argued, provides accounts of *projects*, things in the making, as performances which are viewed as recursive, heterogeneous processes that create certain effects. We find that some of these performances are easier to put on than others. This are because they take advantage of existing assemblages which are in place and are performed routinely. This is a lot easier than trying to recruit the allies for a totally different performance. Thus, existing patterns of gender inequity in universities are more likely to be reproduced with the implementation of new technologies.

In the small study we conducted it was clear that there was pressure to limit the number of performances of online teaching in the name of efficiency. University decisions with respect to teaching online are not the

obvious outcomes they are typically represented to be. These decisions are important for two reasons. If certain performances are made durable they will provide the template, the durable network onto which subsequent innovations are performed and therefore will limit what is regarded as performing university teaching online. Second, they will obscure the creative spaces that exist between performances.

Moving beyond limiting performances is not just a matter of starting a new performance (sooner or later any successful performance will be brought back into the dominant explanatory system). Rather it is the constant introduction of new performances, the use of parody, mimicry and other devices to denaturalise old performances, and the ceaseless movement between the new and old performances that together give us the greatest chance of destabilising that which we wish to move beyond.

- i Robson (1999) cited in Jones (2000), has estimated that globally the number of web-based courses is doubling every eleven months.
- ii The data we have drawn on here is taken from a two year large Australian Research Council funded project: Investigating On-line Learning in Higher Education Settings: An Actor-Network Approach. The investigators were Chris Bigum, Leonie Rowan, Michele Knobel and Colin Lankshear, with support from Simon Kitto and Craig Smith.

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