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## Researching Resistance to Open Education Resource Contribution: an activity theory approach

**GLEND A COX**

*Centre for Educational Technology,  
University of Cape Town, Western Cape, South Africa*

**ABSTRACT** Higher education and associated institutions are beginning to share teaching materials known as Open Educational Resources (OER) or open courseware across the globe. Their success depends largely on the willingness of academics at these institutions to add their teaching resources. In a survey of the literature on OER there are several articles that discuss reasons why academics should contribute teaching materials. There are fewer articles that refer to academics' concerns or why they choose not to contribute their teaching resources. There have been only a few reported empirical studies thus far, and most of the studies have not been framed within any particular theoretical perspective. Hence there is a need to explore possible theories that might help to conceptualise and explain what enables or constrains the open education movement. This study aims to ascertain whether Engeström's activity theory and its principle of contradictions is a sufficiently versatile and insightful lens to investigate non-participation of OER contribution. Activity theory was found to be useful for framing the literature and three interviews with University of Cape Town (UCT) academics and for surfacing some of the constraints in the system. The key concerns that emerged centred around the rules in the institution concerning promotion and what is valued by the institution. At present this institution places value on research and until value is placed on sharing teaching materials as OER, it is unlikely that there will be large-scale voluntary contribution to the UCT OpenContent directory.

### **Introduction**

Higher education and associated institutions are sharing teaching materials known as Open Educational Resources (OER) or open courseware across the globe. Various strategies have been adopted ranging from a sample of best-practice examples of teaching, e.g. Harvard University [1], to having almost all courses available, e.g. Massachusetts Institute of Technology (MIT).[2] Projects to create OER repositories in higher education institutions range in scale from one or two individuals with a small amount of money to massive institutional projects with huge teams with several years of financial support.

Many universities in Britain, Europe and the USA have established OER repositories that have been in place for some years (Schaffert, 2010). Other institutions have joined more recently, at the tail end of a flurry of funding from the Hewlett Foundation and Jisc. The OER movement has many challenges as would any movement that requires a change in practice within an organisation. There are several key debates around sustainability (Hodgkinson-Williams & Donnelly, 2010), quality control (Stacey, 2007) and the pedagogy (Sclater, 2010b) or lack thereof of OER which are all relevant to our understanding of the context of OER.

In this article the focus is on non-participation or the reasons why academics choose not to add content to OER repositories. A number of authors have written papers that include discussions of why academics were concerned about adding materials (Smith & Casserly, 2006; Stacey, 2007; Lee et al, 2008; Beggan, 2010; Browne et al, 2010; Sclater, 2010b; Sefton, 2010; Winn, 2010). These

papers include discussion of interviews, surveys and focus groups within institutions as cases to reflect upon the lessons learnt in different contexts. It appears, however, after an extensive search of the literature that there is a gap in the theoretical framing of research into OER. Authors have not attempted to use any theoretical frame to conceptualise and reflect on the complex reasons of why individuals are often reluctant to make their teaching materials available as OER.

In this research, activity theory (Engeström, 1987) will be used as a lens in an attempt to understand the reasons why academics have chosen not to add their teaching materials to our institution's OER directory. Kuutti (1996, p. 13) defines activity theory as 'a philosophical and cross-disciplinary framework for studying different forms of human practices as developmental processes, with both individual and social levels interlinked at the same time'. This is an initial study and therefore the sample is small and focused on three individuals. This study aims to examine whether activity theory and its principle of contradictions is a sufficiently versatile and insightful lens to be used for a much larger PhD study that will include interviews with a larger sample of OER contributors and other academics who have not made their teaching materials available openly.

In Andersen's (2010) article on open faculty, she refers to a continuum of use of open materials by faculty; those who closely guard their intellectual property and privacy; those who seek out open content and use it in their teaching; and those who actively contribute to open content. She describes two factors that influence faculty members' attitudes toward openness. Andersen (2010) argues that a 'nature' influence is the individual's innate inclination to share. She categorises two ends of the scale: 'the keepers', faculty who ask themselves: 'why would anyone outside my course want to know what I think?', and at the other end of the scale are the 'sharers who believe their contribution to the conversation, content and/or community is invaluable' (Andersen, 2010, p. 45). The 'nurture' influence is 'how strongly the person feels a moral responsibility to share freely with his or her community'. She adds that: 'the natural inclination to sharing cannot easily be altered; the moral responsibility to share can be influenced by surrounding culture' (Andersen, 2010, p. 46). Changing a person's natural inclination, she suggests, can be done if an institution places value on openness.

Academics could be influenced in their choice not to share by the rules in the institution; others make individual choices despite them. A deeper understanding of individual choices will help reveal the nature of the change that openness creates in departments and in institutions. This may help OER advocates who are raising awareness of OER to target certain tensions in the system and try to address them.

This article aims to (a) test activity theory as a theoretical frame and (b) in so doing reveal some reasons why academics do not add their teaching materials to UCT OpenContent. In an article on the experiences of creating an OER directory at Exeter University, Browne et al (2010) emphasise, 'without academic buy-in OER has no future' (p. 5). Hence the need at this time in the OER movement for a deeper more nuanced understanding of the activity of not sharing education resources.

## **Context**

The University of Cape Town (UCT) has an OER directory called UCT OpenContent, which was launched on 12 February 2010 and currently includes more than 166 resources which consist of over 1000 downloadable items. The Centre for Educational Technology (CET) at UCT developed the directory and is now responsible for the day-to-day running of the site. CET supports teaching and learning using technology and the objective of the UCT OpenContent directory is to share teaching and learning materials with fellow academics and students at our institution and also across the country, continent and world, and is aligned with CET's mission. A number of academics have added their resources to UCT OpenContent. They decided to add resources as a result of a number of factors. These factors included simply hearing about the site and adding resources; others attended a workshop or seminar; many academics were phoned by members of the UCT OpenContent team and specifically asked to add their materials. In a few cases teaching materials were created with the UCT OpenContent directory in mind.

Contribution to the directory is voluntary. At present the institution has no policy or strategy around sharing or openness. There is no financial or status reward or recognition in annual performance reviews for contributing teaching materials to UCT OpenContent or any other open platform. In spite of these constraints many academics, ranging from young lecturers to A-rated research professors across all faculties at the institutions, have gradually added content to the directory. In order to make the UCT OpenContent directory a hub of activity where there is a flow rather than a trickle of resources, there is a need to understand where the barriers are and how these barriers can be overcome.

CET's objective is to share as many UCT teaching materials with the rest of the world as possible. We have used a pride-of-authorship model where the quality of the content of the resource is the responsibility of the author (King & Baraniuk, 2006, p. 5). The content created is African content and it is important for us to share this content locally and internationally. Dulle and Minishi-Majanja (2009) note that Africa only generates 0.4% of global content and adding resources to UCT OpenContent will be a first step in redressing this imbalance.

The UCT OpenContent directory was initially funded by the Shuttleworth Foundation. It has been sustained through inclusion of the management of the UCT OpenContent in the portfolio of one permanent member of CET's staff.

### Literature Review

In a review of the literature, recent studies suggest both individual and institutional motivations for making resources open (Geser, 2007; McAndrew et al, 2009; Beggan, 2010; Schaffert, 2010; Sclater, 2010a, b). For the purposes of this article we are more concerned with the literature that focuses on why academics are concerned about adding content. In most of these articles faculty who contributed materials to their institutional directories were interviewed about their concerns and fears about adding (Smith & Casserly, 2006; Stacey, 2007; Lee et al, 2008; Beggan, 2010; Browne et al, 2010; Sefton, 2010; Winn, 2010).

The articles listed above have been organised according to the institutional context into which the OER initiative has been introduced. The institutional contexts vary and therefore the academics' responses will reflect to a certain extent the strategy taken on by the institution. There are three categories: (1) initial donor funding institutional policy and strategic alignment and ongoing funding from the institution, including a large team of dedicated permanent staff (e.g. MIT) content added on behalf of staff; (2) initial donor funding, some support and some permanent staff (e.g. Tufts, Nottingham, Exeter) content added on behalf of staff; and (3) other institutions that are starting out or exploring starting OER repositories (e.g. University of Southern Queensland). The starting points of various institutions on the road to OER are very different, however there is now a universal concern about sustainability (Sclater, 2010b). Many institutions are finding their own ways of supporting OER with no external funding. Now more than ever it is crucial to understand why academics do not add their materials despite the rhetoric of altruism (Schaffert, 2010; Sclater, 2010a).

#### *Category One*

*Initial donor funding institutional policy and strategic alignment and ongoing funding from the institution, including a large team of dedicated permanent staff (e.g. MIT) content added on behalf of staff.* Smith and Casserly (2006) highlight the concerns of academics around workloads and the cost of maintaining OER. Stacey (2007) reports on the success of MIT OpenCourseWare, however he cautions that academics are concerned that their content will be altered thereby reducing its quality. In Joss Winn's (2010) blog called 'A Short History of MIT's OpenCourseWare', Cecelia d'Oliviera, executive director of MIT OCW, describes a key concern for academics at MIT, what she refers to as the 'sunlight effect', when staff do not want to add materials because they feel that their material isn't good enough.

### Category Two

*Initial donor funding, some support and some permanent staff (e.g. Tufts, Nottingham, Exeter) content added on behalf of staff.* Lee et al (2008) describe their health science OER initiative at Tufts University. Tufts have shared open resources for medical education since 1994. They also joined MIT's OpenCourseWare initiative in 2004 and launched their Tufts OCW site in June 2005. The authors note that 'open sharing' should be aligned with the values of the institution around the importance of sharing health resources. They highlight faculty concerns around their time and copyright questions. Tufts' librarians played a key role in helping educate faculty about copyright issues. Some of the earlier interviews revealed some scepticism about the value of OERs to the institution. There was also a concern that OERs are not appropriate for disciplines where practical skills are required. The authors note that in follow-up interviews faculty had recognised 'the merit of the initiative' (Lee et al, 2008, p. 161).

In some cases authors have placed emphasis on concerns that were considered 'major' and were mentioned by various faculty members. According to Beggan (2010, p. 2) at the University of Nottingham, '[t]he slow uptake at U-now so far has been partly from a fear of loss of academic control, concerns over Intellectual Property Rights (IPR), and insufficient internal and external promotion'. Beggan reports on the results of a series of academic focus groups (including 20 members of staff) which intended to investigate how the publication and reuse of open learning materials is perceived. Beggan highlighted that quality control was a concern. Academics also said they were concerned about their reputations being damaged if their lecture notes were not up to date. A major concern for Nottingham staff was the lack of acknowledgement or promotion for contributing high-quality teaching materials in an institution that rewards research output over and above teaching reputation. Academics were also concerned that students would not attend lectures.

Browne et al (2010) explored the challenges of OER to academic practice at the University of Exeter. Their project deliverable was to make available 360 credits of material and establish a university repository. Their OER agenda was in line with the university's education strategy that stated that the university should: 'Develop Open Education materials for use worldwide' (Browne et al, 2010, p. 3). These materials and the creation of the repository were initially externally funded and at the time of writing the authors acknowledged that there would be forthcoming university funding. The major concerns raised at Exeter were that academics were reluctant to invest much time in OER creation because it was not perceived as enhancing their careers and also that academics perceived that OER were not fundamental to the future of the University and therefore they were not motivated to add materials (Browne et al, 2010).

### Category Three

*Institutions that are starting out or exploring starting OER repositories (e.g. Southern Queensland).* Other universities such as the University of Southern Queensland in Australia are exploring the idea of OER and during a workshop at this institution, Sefton (2010) reflects in his blog on two 'favourite' objections by academics, firstly that materials of poor quality will find their way to the institutional repository and will be embarrassing, and secondly that students won't come to lectures or even enrol at universities if materials are given away for free.

This concludes the discussion of the literature according to the three contextual categories. Sclater (2010a, b) summarises several of the articles already discussed. He concludes with the concern that content delivered without formal learning 'including a cohort of fellow learners, assessment and accreditation is likely to be less engaging and effective' (Sclater, 2010a, p. 495).

This review of some of the literature highlights the key concerns listed by authors. A theoretical frame will be used to tease out these complex concerns. The purpose of the theoretical analysis of the literature is to highlight the potential contradictions or concerns in the systems of other institutions in order to guide the design of interview questions to pose to academics at UCT.

### Theoretical Framework

In this research we will be using what is referred to as third-generation activity theory as proposed by Engeström (1987). Activity theory enables the researcher to investigate activity within a social setting, which is also referred to as the activity system. Engeström (1987) formulated a model of the structure of this system which includes the subject, object, tools, division of labour, community, rules and outcome. In this system the tools, rules and division of labour are the mediating artefacts through which the object is transformed into the outcome (Figure 1). These mediating artefacts influence how the subject(s) acts on the object in order to arrive at the outcome. The subject is therefore influenced by the rules of the system, the community and also the division of labour (Engeström, 1987). The division of labour represents the hierarchy in the system including the power relations at play.

The lens of activity theory has been used in a number of educational technology contexts. Murphy and Rodriguez-Manzanares (2008) provide a thorough review of these studies, focusing on how they have focused on the principle of contradictions, a key aspect of activity theory. These contradictions occur when there is a 'misfit within elements, between elements, between different activities, or between different developmental phases of a single activity' (Kuutti, 1996, p. 34). These contradictions can be visible or invisible, intentional or 'unintentional disturbances' (Engeström et al, 1991, p. 91).

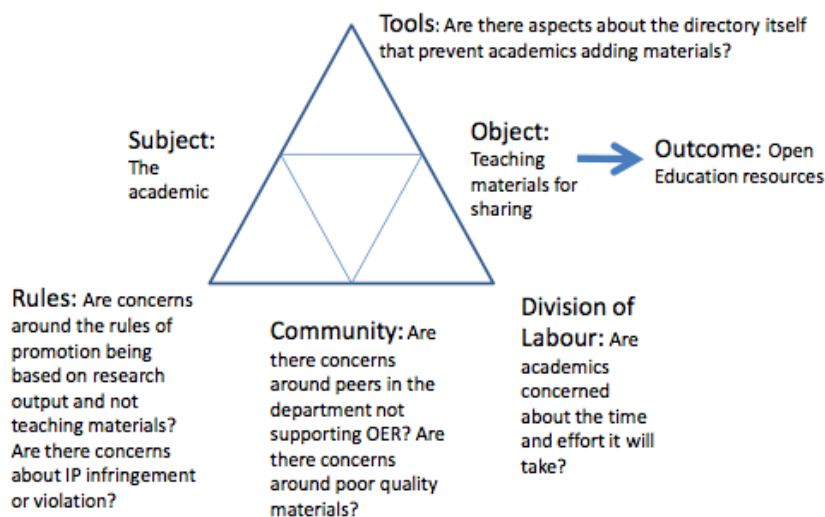


Figure 1. The activity system (adapted from Engeström, 1987).

In Figure 1 the generic labels for the nodes (elements) in the system developed by Engeström et al (1991) are shown on the activity system triangle (Figure 1). These generic nodes are labelled below according to the activity system under study in this research. The activity in this system is the motivation to share teaching materials as open content.

- Subject: the academics;
- Object: the creation or adjusting of teaching materials for sharing;
- Outcome: sharing teaching and learning materials;
- Tools: OpenContent directory, PDFs, PowerPoint, video, podcasts;
- Community: academics, departments, the institution, OER team, students, users of open content;
- Division of Labour (Roles): academic as teacher and as researcher, CET as facilitators (power and status);
- Rules: explicit and implicit norms that regulate actions (lack of recognition for sharing teaching materials).

The intention in this research is to make visible the contradictions that are occurring in the system. Now that the Open Content directory has been introduced into the system, what is its impact if any on the system?

### **Research Design**

The first step in the research was to analyse the literature in terms of the theoretical framework. The author and two colleagues were involved in coding the concerns identified in the activity theory nodes in an endeavour to test the reliability of the coding. This coding resulted in 'triads of nodes' (Russell, 2002, p. 323). Russell (2002) used this type of analysis to frame questions in his area of study. The triads will frame the questions for the interviews with three academics, step two in the research.

The second step includes the analysis of the transcriptions of three in-depth interviews with academics who have not contributed content to UCT OpenContent. Purposive sampling, a non-representative subset of some larger population (Cohen et al, 2007, p. 114), was used to identify these three individuals. All of these academics have worked with the CET in some way in the past through educational technology projects.

This small purposive sample was chosen as a starting point to test activity theory, but also as a case study of individuals and is not an attempt to generalise across the institution. The findings from the analysis of these interviews will be used to inform a much larger PhD study which should potentially highlight any patterns or overlaps in the contradictions that emerge.

The academics interviewed all signed consent forms so that their interviews could be used anonymously in this research.

- Academic 1 expressed an interest in the UCT OpenContent site. He is an innovator and has received grants to develop innovation in his teaching using technology.
- Academic 2 attended workshops on adding OER to the directory and expressed interest in conversations, but has not added any materials.
- Academic 3 has attended seminars on UCT OpenContent and had various conversations with members of CET, but has not added any teaching materials.

### **Findings**

#### *Categorisation of Concerns about OER Contribution in the Literature*

The concerns of academics about adding open content identified in the literature were organised into the nodes of the activity system by the author and two colleagues as part of an inter-rater reliability exercise. Both colleagues understand the premises of activity theory. Thirty concerns were identified and in the deliberations with colleagues, two concerns were identified as not clear by one colleague. From the 28 remaining concerns 14 were clearly identified by all three colleagues. Many of the concerns listed in the literature were easily placed into the activity theory system.

#### *Rules*

The rule node was certainly the easiest node to identify. Out of the 30 concerns listed below 7 (1, 2, 3, 8, 9, 10, 11) concerns were immediately agreed upon by the author and the two colleagues involved in the inter-rater reliability exercise. The rest were agreed upon on further discussion.

The 15 rules, both explicit and implicit, appear to be an aspect of the system that will need to change for more academics to accept the activity of creating or transforming their teaching materials so that they can be OER. Even in the case of MIT, where there is a large team working to assist faculty to contribute their resources, there are concerns about the implicit rules about the quality of their teaching materials classified as the 'sunlight effect' (Winn, 2010).

The explicit rules are more easily identified, e.g. lack of promotion opportunities (Beggan, 2010). Rules around copyright will not change in the short term therefore the best way to allay concerns is to educate faculty and help them to identify open alternatives. The implicit rules are

complex and unwritten and provide the challenge for OER advocates, e.g. using other people's material is seen as 'copping out' (Beggan, 2010). It appears that the rules of the university systems are in contradiction with the subjects' ability to create open content in all contexts. Overcoming the concerns around these implicit rules can potentially be overcome by identifying them and making them explicit.

Rules (15) ( <i>implicit rules in italics</i> )	
1	Lack of promotion opportunities (Beggan, 2010)
2	<i>Sceptism over paid for vs. free material</i> (Beggan, 2010)
3	<i>Using other people's material seen as 'copping out'</i> (Beggan, 2010)
4	<i>Content will be altered which will reduce its quality and yet the author will still be attributed</i> (Stacey, 2007)
5	<i>Materials are rudimentary and could devalue reputations</i> (Beggan, 2010)
6	<i>Students won't come to lectures and lecturers will be replaced (Sky is falling)</i> (Beggan, 2010; Sefton, 2010)
7	<i>Free devalues materials</i> (Beggan, 2010; Lee et al, 2008)
8	Loss of IPR – fear someone will take and repurpose 'badly' (Beggan, 2010)
9	Loss of commercial opportunities (Beggan, 2010)
10	IPR infringement from subject's view and copyright holder (Lee et al, 2008; Beggan, 2010)
11	<i>First-year materials too simplistic</i> (Beggan, 2010)
12	<i>Quality control – some materials bad reflection on the university</i> (Beggan, 2010; Sefton, 2010)
13	OERs not appropriate for disciplines where practical skills required (Lee et al, 2008)
14	If you exclude copyright materials that added value to the course, the course will be less useful (Lee et al, 2008)
15	<i>Sunlight effect</i> (Winn, 2010)
Tools	
16	Technology barriers to re-purposing (Beggan, 2010)
17	Issue of a single site versus resources still in departments (Beggan, 2010)
18	Concern that content delivered without formal learning is likely to be less 'engaging and effective' (Sclater, 2010b)
Division of Labour	
19	Time (All)
20	Effort to adapt (Beggan, 2010)
21	Cost to materials (Beggan, 2010)
22	Workload and costs of maintaining OER (Smith & Casserly, 2006)
Community	
23	Concern about lack of context, e.g. lecture recordings (Beggan, 2010)
24	End user issues – how materials will be received (Beggan, 2010)
25	Students – e.g. first years who read lectures and think they know everything and will not need to listen (Beggan, 2010)
26	Teachers' use – cultural implications of reuse (Beggan, 2010)
27	Challenges of localisation – adapting and using content made for specific context (Beggan, 2010)
28	Lack of user feedback (Beggan, 2010)
29	Scepticism about value to institution (Lee et al, 2008)
30	Potential violation of privacy if users attempt to contact contributors (Lee et al, 2008)

Table I. Framing the concerns about creating OER.

### *Division of Labour*

Agreeing on the division of labour concerns was less easy and the three raters initially classified seven concerns, but only four were finalised at that node. Part of this confusion was a lack of understanding for one of the raters as to where the end users of OER are positioned in the activity system. The end users are part of the community and therefore some of the division of labour concerns were placed at the 'community' node. There was also some debate about the importance of the tool as a crucial mediating artefact and it was clarified that in some instances it was not the tool that was mediating but rather the rules about the object itself.

### *Community*

Subjects are strongly influenced by the community, especially the potential users of their materials. Although various authors report that academics are concerned about the time and effort it takes to produce OER, from the analysis of the literature from other institutions above it seems that if you change the rules and allay the subjects' concerns about the community, the system will change and the concerns about time and effort will be less important (see Lee et al, 2008, for the approach used by Tufts).

Key concerns from the literature analysis seem to be as follows. This literature review and activity theory exercise has been very useful in highlighting the location of contradictions in the systems at other institutions. Contradictions is an activity theory term already discussed in this article; to clarify further it is used to describe 'disturbances and conflicts' in the system that occur when 'a new element from the outside (of the system) ... often leads to an aggravated secondary contradiction where some element (for example the rules) collides with the new one' (Engeström, 2001, p. 137). There appear to be key triads of nodes (Russell, 2002) where contradictions are occurring and these triads open up questions to guide the interview process with academics at UCT. The questions will be used for the initial three interviews and in the future to a larger group of academics.

- Subject-Rules-Object: The explicit rules of the University do not encourage the activity of OER contribution. Promotion at UCT is based on research and not producing quality resources, how much of a concern is this for you? Do you have concerns around Intellectual Property Rights infringement?
- Subject-Community-Objective/ motive: Academics were concerned about how materials would be received by potential users. There was no specific mention of judgement by immediate peers in their departments or in their subject domains. Are your concerns related to how the community (all) will use or misuse your materials? Another interesting question is: Are the reasons for not adding related to your peers in your department?
- Subject-Rules-Community: There appear to be implicit rules regarding the quality of teaching materials and that making teaching materials open may expose poor-quality materials. Are you concerned that your materials are not quite ready for open use?
- Subject-Division of Labour-Object: Time, effort and cost are three inhibiting factors mentioned by more than one author. You have several roles as an academic: You are a researcher, a lecturer and you are required to be socially responsive. Are you concerned about the time and effort it will take to re-purpose or create teaching materials as OER? Ideally who should add your content?
- Subject-Tools-Object: The tool in this case is the OpenContent directory. Are there aspects about the directory itself that are preventing you from adding your teaching materials?

Andersen (2010) and Lee et al (2008) both suggest that academics will share resources if the institution places value on their contributions. So a further question will be 'Do your colleagues value OER?'

To surface some of the concerns around values and culture the following questions will be asked: 'Do you feel that UCT's institutional culture is at odds with the philosophy of openness and the activity of adapting or creating teaching materials as OER?'

### **The Interviews**

The interviews surfaced concerns about contributing OER. The findings from the interviews will, firstly, be framed into the activity theory triads. And secondly the answers to questions in the interviews around the value of OER to individuals, their departments and to the institution will be discussed.

### *Subject-Rules-Object*

Promotion did seem to be a concern for these academics. Two mentioned that developing materials may mean less time for research and therefore promotion. Academic 1 also felt that

copyright infringement would be a concern as he used the textbook extensively in his notes and slides.

*Subject-Community-Objective/motive.* Academic 1 also had some concerns that if he shared materials, 'I would really have to be sure that there isn't ambiguity in there and something that is not potentially misleading.'

Academic 3 had various other key concerns including 'who is the audience?' And related to this he was grappling with why he should do this and 'who cares'. There was no support for this from his director or his clients and there would need to be 'unit wide and institutional conversation around adding content'. Like Academic 1 he had pedagogical concerns that the materials 'may not make sense to anybody without lots of structure, notes'.

Academic 3 said he would be happy to share material with someone from another institution if they emailed him and asked, but he was unsure about why he should put materials into UCT OpenContent. He said if someone sat down with him and asked, he might 'go to the trouble of creating whatever it is I would have to do'. He also stated that open content 'is not as valued in my unit, so I wouldn't worry about it'.

It is also worth noting that Academic 3 works for a unit that offers short courses and is paid for them as a method of raising funds for the unit. The loss of commercial value was also mentioned. Academic 3 said he was 'not concerned that they [competitors] are going to steal the individual material', but rather that 'it is the structure of the course, the course outline that I wouldn't want them to get'.

*Subject-Rules-Community.* Academic 1 had two potential sets of materials to add, some simulations he was working on as well as undergraduate teaching materials. He started off saying that he is very busy so even though he is aware of UCT OpenContent he had not had time to look into it. The simulations he felt still needed more development work and 'I don't view them as something that people could take away and use seriously to develop a significant body of understanding', and again 'I am not convinced it would make a big difference to someone.' He also differentiated between undergraduate materials that in his domain are 'pretty much the same' wherever you are and so why would we share, and he seemed to think that postgraduate materials would be a better place to start as sharing these could be a way of marketing 'electives' that students have to choose for their postgraduate degrees.

Academic 2 said that his main concerns were around 'the time to prepare the material online' in order to 'get it to the quality that I will be happy to getting it online'. So although he stresses time, a division of labour node, as an issue it is linked to his real concern about the quality of the materials, an implicit rule. He has approximately 1000 PowerPoint slides he would like to share but they all include graphics and these graphics need to be improved. He did try to employ a student to do this but 'it was a total failure' which resulted in a waste of money.

He was also concerned about 'correctness' in some of his materials. He explained how sometimes he would quickly prepare some notes to explain something and talk about it, but if he knew that was going up into a public directory that would make him feel a bit 'constrained'.

*Subject-Division of Labour-Object.* All three academics were concerned about the time it would take to produce OER. Time was also mentioned in relation to the roles of an academic and that taking time to add content would take away from research time. Academic 2 would like to share some of his more spontaneous teaching interventions as he feels they are very valuable and he would like them to be in UCT OpenContent, but he would need to spend extra time preparing them which would mean 'extra work here'.

*Subject-Tools-Object.* One of the academics seemed uncertain about some technical issues around sharing. In terms of the undergraduate teaching materials he was not clear technically how the LMS allowed resources to be shared.

### *Value*

The interview findings include three different views on what open content is and its potential value. Both individual inclinations and their contexts influence the areas of concern for these individuals.

Academic 1 was 'not convinced it [adding his materials] would make a difference to someone'. He explained that he was not sure how to go about sharing and he was not sure what it was all about, he explained this as a 'fuzziness'. And he needed to understand 'why' he should share, why UCT should do this, 'would a student actually be interested in this'. The author explained in detail the reasons and motivations about sharing teaching resources. Then the interviewee could see some value and felt that postgraduate materials would be more suited as the undergraduate materials in his field were 'pretty standard' across the world. His biggest concern about making his lectures open was that he would give up being able to talk freely. He felt his best lectures were prepared quickly to open up discussion and these could not be shared as it would take too much time to prepare them.

Academic 2 felt that UCT OpenContent could be used 'just to broaden your knowledge' and is a 'step a little bit higher than Wikipedia, if I wanted to know some general interest area, I could go and look at maybe something that is put there by an academic, at least you know it is an academic', also 'I mean from the inquisitive point of view, the value is there'. And then his reason for adding, if he did so: 'for me to put material up there is not because I want to be socially responsive, it's just adding to the extra bit of knowledge that is floating around'. This academic had very few expressed concerns, however his view around what UCT OpenContent is showed a lack of urgency that will prevent him adding.

Academic 3 simply felt that he had not been personally invited to add. Once he had a personal invitation he might 'go to the trouble of creating whatever it is I would have to do'. This statement also shows that he has not engaged with UCT OpenContent although he was certainly aware of the site. He also stated that open content 'is not as valued in my unit, so I wouldn't worry about it'.

All the interviewees were asked if they felt the institutional culture was one of openness. When asked if their university's culture was receptive to a new culture of more sharing and openness, Academic 2 introduced an interesting argument. His example was that even though the institutional Learning Management System is Open Source (Sakai), many of the other university systems are proprietary. This, he felt, indicated that 'on the bottom [institutional hierarchy] there are people who want to go open source and open content but maybe not at the top'.

### **Discussion**

The most predominant contradictions or tensions surfaced in three triads. Firstly, there is a tension around the explicit rules of promotion at the institution, a contradiction that is historically part of the institution, but has been made more visible through the introduction of UCT OpenContent. Secondly, there are concerns about the nature of the community that will be using their shared teaching materials and whether the materials could be used in their current form in different contexts. And thirdly, there are concerns about the quality and type of materials that would be shared, and whether materials are suitable. This third concern surfaces implicit rules about how teaching materials are created.

To summarise, the academics each highlight specific concerns:

1. pedagogical concerns around purpose and use of OER (implicit rules);
2. concern about the quality of the materials and their readiness to go open (implicit rules);
3. the influence of colleagues (community).

Questions around the value of UCT OpenContent to the institution and the department in which the person worked were revealing, indicating that there is little value attached to contribution at present.

Interviewees were not asked directly what they thought open content is. The author and interviewer expected some understanding because all three academics had attended advocacy events or had discussions about UCT OpenContent. However it became clear that a lot more needs to be done in terms of helping academics to understand what open content is. This reveals

another tension around the subjects' (academics') understanding of the outcome (sharing open resources) of the activity system and explains the reluctance to add. This individual agency needs to be explored in future research.

This lack of value and understanding for each of these individuals as well as one of the departments explains the reluctance to add teaching materials.

### *New Concerns*

Several new concerns surface in the interviews. Firstly, the concern about the lack of freedom to teach spontaneously, if all teaching processes were open. Academic 1 said some of his best teaching was a quick response to student needs and those slides or presentations could not be shared because they would need extra work on 'correctness'. Secondly, in all three cases there was a lack of understanding of the purpose of OER. And lastly, the third interview includes complex open and honest responses to the interview questions. One interviewee said that he had not felt the need to contribute because he had not received a personal invitation. The significance of a lack of a personal invitation highlights the need to understand the role of agency and individual nature.

All three of these faculty members are by 'nature' keepers, who at this point do not see why they need to share their teaching materials. Can we 'nurture' them into becoming 'sharers'? (Andersen, 2010).

### **Conclusion**

Activity theory helped to surface some of the reasons why academics are not adding content to the UCT OpenContent directory. The analysis of the literature proved to be a useful exercise that paved the way for the interviews. The issues in that analysis were used to frame questions around each triad. The triads help group the contradictions into clusters within the system.

In addition to the triads, questions were asked around the value of sharing materials and from the three interviews there is currently little value attached to contribution. The institution, ideally, needs to place value on faculty participation in open content and looking ahead to open practices. How this can be achieved is not yet clear, but possibly the introduction of policy around Open Educational Resources may shift academic mindsets about contribution to UCT OpenContent.

Activity theory, as described by Engeström in 1987, is a useful lens to identify what is inhibiting contribution to the UCT OpenContent directory, but as yet it is not clear how it explains individual motivation. The individual nature or agency of the subject of the system needs to be explored further, for example how much power does the individual have? If an individual has it in their nature to share will they do so despite the system, or if there is a change in the culture of the institution will that nurture individuals to change?

Future research will include more interviews with those who don't share, but also with those who do in order to understand why individuals in the same system choose to share. A purposive sample will include academics from different stages in their careers and across different disciplines in order to explore the impact of these factors on academics choosing to share or not to share.

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### **Notes**

[1] <http://extension.harvard.edu/index.php?q=open-learning-initiative>.

[2] <http://ocw.mit.edu/index.htm>

## References

- Andersen, M. (2010) The Open Faculty, *Educause Quarterly*, 45(4), 40-49.  
<http://www.educause.edu/ero/article/share-or-not-share-question>
- Beggan, A. (2010) Opening Up: staff attitudes to open learning, OCW Consortium Global, Hanoi, Vietnam, 5-7 May.
- Browne, T., Holding, R., Howell, A. & Rodway-Dyer, S. (2010) The Challenges of OER to Academic Practice, *Journal of Interactive Media in Education*. <http://jime.open.ac.uk/jime/article/view/2010-3>
- Cohen, L., Manion, L. & Morrison, K. (2007) *Research Methods in Education*. Hove: Psychology Press.
- Dulle, F.W. & Minishi-Majanja, M.K. (2009) MK Fostering Open Access in Tanzanian Public Universities: policy makers' perspectives, IAALD Africa Chapter Conference, Accra, 15-17 July.
- Engeström, Y. (1987) *Learning by Expanding. An Activity-Theoretical Approach to Developmental Research*. Helsinki: Orienta-Konsultit.
- Engeström, Y. (2001) Expansive Learning at Work: toward an activity-theoretical conceptualisation, *Journal of Education and Work*, 14(1), 133-156.
- Engeström, Y., Brown, C., Christopher, L.C. & Gregory, J. (1991) Coordination, Cooperation and Communication in the Courts. Expansive Transitions in Legal Work, *Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, 13(4), 88-97.
- Geser, G. (2007) Open Educational Practices and Resources: the OLCOS roadmap 2012, *Revista De Universidad y Sociedad Del Conocimiento*, 4(1).
- Hodgkinson-Williams, C.A. & Donnelly, S. (2010) Sustaining OER at the University of Cape Town: free, but not cheap, OpenEd 2010 Conference, Barcelona, 2-4 November.  
<http://openaccess.uoc.edu/webapps/o2/bitstream/10609/4843/6/Hodgkinson.pdf>
- King, W.J. & Baraniuk, R. (2006) Sharing Knowledge and Building Communities. Rice University, February.  
<http://cnx.org/aboutus/publications/ConnexionsWhitePaper.pdf>
- Kuutti, K. (1996) Activity Theory as a Potential Framework for Human Computer Interaction Research, in B.A. Nardi (Ed.) *Context and Consciousness: activity theory and human-computer interaction*, pp. 9-22. Cambridge, MA: MIT Press.
- Lee, M.Y., Albright, S., O'Leary, L., Terkla, D.G. & Wilson, N. (2008) Expanding the Reach of Health Sciences Education and Empowering Others: the OpenCourseWare initiative at Tufts University, *Medical Teacher*, 30(2), 159-163. <http://dx.doi.org/10.1080/01421590701881665>
- McAndrew, P., Santos, A., Lane, A., Godwin, S., Okada, A., Wilson, T. et al (2009) *OpenLearn Research Report 2006-2008*. Milton Keynes: The Open University.
- Murphy, E. & Rodriguez-Manzanares, M.A. (2008) Using Activity Theory and its Principle of Contradictions to Guide Research in Educational Technology, *Australasian Journal of Educational Technology*, 24(4), 442-457.
- Russell, D. (2002) Looking Beyond the Interface: activity theory and distributed learning, in M. Lea & K. Nicoll (Eds) *Distributed Learning*, pp. 309-325. London: RoutledgeFalmer.
- Schaffert, S. (2010) Strategic Integration of Open Educational Resources in Higher Education, in U.D. Ehlers & D. Schneckenberg (Eds) *Changing Cultures in Higher Education*, pp. 119-131. Berlin: Springer-Verlag.
- Sclater, N. (2010a) The Organisational Impact of Open Educational Resources, in U.D. Ehlers & D. Schneckenberg (Eds) *Changing Cultures in Higher Education*, pp. 485-497. Berlin: Springer-Verlag.
- Sclater, N. (2010b) Open Educational Resources: motivations, logistics and sustainability, in N.F. Ferrer & J.M. Alonso (Eds) *Content Management for E-learning*. New York: Springer.
- Sefton, P. (2010) My Fave Two Reasons not to Release OpenCourseware. Message posted to <http://ptsefton.com/2010/08/12/my-fave-two-reasons-not-to-release-opencourseware.htm>
- Smith, M.S. & Casserly, C.M. (2006) The Promise of Open Educational Resources, *Change*, September/October, 8-17.
- Stacey, P. (2007) Open Educational Resources in a Global Context, *First Monday*, 12(4).
- Winn, J. (2010) A Short History of MIT's OpenCourseWare. Message posted to [stuck.josswinn.org/a-short-history-of-mits-opencourseware+josswinn.org+things+that+stuck+MIT+opencourseware&cd=1&hl=en&ct=clnk&gl=za](http://stuck.josswinn.org/a-short-history-of-mits-opencourseware+josswinn.org+things+that+stuck+MIT+opencourseware&cd=1&hl=en&ct=clnk&gl=za)

**GLEND A COX** is a Curriculum Projects Lecturer in the Centre for Educational Technology at the University of Cape Town (UCT), South Africa. She manages the Open Educational Resources Project at UCT. Her portfolio also includes curriculum projects, teaching with technology innovation grants and staff development. *Correspondence:* [glenda.cox@uct.ac.za](mailto:glenda.cox@uct.ac.za)