

Activity theory in empirical higher education research: choices, uses, and values

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Abstract

This paper contributes to discussion of theory-application in higher education research. We examine 59 empirical research papers from specialist journals that use a particular theory: activity theory. We scrutinise stated reasons for choosing the theory, functions played by the theory, and how the theory is valorised. We find that the theory is usually chosen for its direct empirical applicability; used for abstraction, explanation and contextualisation; and valorised for apprehending complex situational dynamics. It is rarely chosen to challenge conceptualisation of the research object; used to establish investigative paradigms; or valorised in ways that implicate wider bodies of knowledge or potential theory development. We argue that higher education researchers should reconsider how their application of activity theory is interwoven with interpretative processes, how the theory might frame research design rather than simply data analysis, and how they account for the range of roles that the theory actually plays across research endeavours.

Keywords

theory, theory application, higher education research, activity theory

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Introduction

Examine the published discourse in any sufficiently established academic field of enquiry and somewhere you will find the issue of 'theory' subject to debate. Is theory (whatever that is) genuinely important? Should it be?

Those debates often have a normative character, sometimes stimulated by a concern about the external relationships of some academic field. Alderson (1998), for example, presents a recognisably defensive discussion of theory, one written so as to influence public policy debates about medical research. That discussion takes as its starting point the notion that research *funders* seem 'mainly concerned with practical factual research, not with research that develops theories' (1007). Educational researchers, just like those in academic medicine, increasingly encounter policymakers bearing phrases—such as 'what works' (Biesta, 2007)—that can easily be interpreted as denigrating of theory. Many will also have encountered students, or extra-disciplinary collaborators, who regard educational research as overly 'theoretical'—perhaps implying, to adopt a vocabulary occasionally used in higher education research, a preponderance of 'theory-talk' (Tummons, 2012). Theory is, we fear, being set up: as insular, divorced from practice, and separate from 'useful' empirical research.

On what grounds might that cynical view be challenged? Alderson's (1998) policy- and medicine-oriented discussion encompasses, perhaps surprisingly, many moves familiar from arguments in other disciplines (e.g., education), made by writers ostensibly targeting more specialist audiences (e.g., other researchers). Let us consider five of those moves.

Firstly: 'facts' are actually—*in fact*, so to speak—inseparable from theory. That assertion resonates with an influential line of argument that all observation is theory-laden, notwithstanding attendant awareness or acknowledgement (Maxwell & Mittapalli, 2008). To the extent that a *particular* theory influences observation, we might say its application is *interwoven* with research.

Secondly: choosing a theory *shapes* approaches to evidence gathering and interpretation. That argument echoes those of critical educational researchers who argue that theory should be used to do exactly that—so as to move beyond methodology-centric forms of empiricism, or "methodolatry" (Martin & Sugarman, 1993). To the extent that theory shapes research design and/or data interpretation strategies, we can denote the theory-application as *framing* research.

Thirdly: theory can make varied contributions across project lifecycles, notwithstanding whether those contributions are forgotten afterwards. That argument echoes those of writers who emphasise the interpretive, iterative, more or less longitudinal *striving* towards meaning inherent in researchers' work (e.g., Bartlett, 1991). We might say that theory-application can be *polyfunctional*.

Fourthly: theories vary in form—and so some genuine contributions are not recognised as 'theoretical'. Theories might be manifest as explicit scientific models, implicit personal assumptions, hypotheses to be tested, and so forth. The argument resonates with a wider shift in the conceptualisation of theory. That shift moves us away from seeing theory as narrowly concerned with providing 'regularity accounts' of causation (the vantage point of the logical-positivism tradition), towards a more permissive view: allowing that we might describe as 'theory' that which provides some set of concepts (and preferably postulates their intervening relationships), and which attempts to resource new insights, even within local or specialised contextual bounds (Maxwell & Mittapalli, 2008). Here, we shall say that theory is *heterogeneous*.

Fifthly: theories can support critical thinking. Alderson, in the quotation above, bemoans that funding and policy priorities fail to reward theory-oriented academic work. Here, she (doubtless unintentionally) points to a detail within a wider process that Stephen Ball (1995) has christened the 'taming of the academy'—wherein academics' independent, critical thinking is disincentivised as part of wider moves to financially integrate higher education under the hegemony of the state. Ball detects an agenda for researchers to become technocratic problem-solvers, hemmed in by funding decisions and a sense of imposed morality aligned with governmental policy. For Ball, while particular

uses of theories might fall short of expectations, the struggle to defend theories-in-general from policymakers' depredations can help guard the collective intellectual capacity of academia against pernicious research standardisation and ideological co-option:

Theory is a vehicle for 'thinking otherwise'; it is a platform for 'outrageous hypotheses' and for 'unleashing criticism'. Theory is destructive, disruptive and violent. It offers a language for challenge, and modes of thought, other than those articulated for us by dominant others. It provides a language of rigour and irony rather than contingency. The purpose of such theory is to de-familiarise present practices and categories, to make them seem less self-evident and necessary, and to open up spaces for the invention of new forms of experience. (p.266)

To the extent that some theory can be discerned as explicitly defamiliarising the practices and categories of research, we shall say that the attendant theory-application is *reframing*.

Setting out those grounds for challenging theory-cynicism does, however, suggest an obvious question: to what extent *is* theory interwoven, framing, polyfunctional, heterogeneous and reframing of research, in practice? It is with that question in mind that we enquire into *theory-application*. Doing so can, conceived narrowly, illuminate the validity of defensive accounts; and, more ambitiously, might provide important insight into academic knowledge production. As we shall establish below, both of those concerns are prominently discussed in the higher education research literature (e.g., Clegg, 2012; Tummons, 2012). For now, we shall simply notice that, especially by comparison to defending theory, studying theory-application is less normative than descriptive, less polemical than analytical. It might also be a more *particular* affair. Consider, for example, the *framing* of research. While the issue is of general import, the *actual* theories shaping designs and data analysis strategies might vary across disciplines—and where some theory is used across several fields we ought not to assume similar usage in each. Thus, studying *theory-application* might usefully involve investigating particular theories as applied in particular research fields.

The present paper examines evidence about the use of *activity theory* (a particular theory) in higher education research (a particular field). In part, our motivation for doing so is personal: the present authors count both theory and field as points of intersection within their broader research interests. Yet the disciplinary production of knowledge is itself a prominent object for study in higher education research (Tight, 2012); while activity theory has prominence within both higher education research (Tight, 2012) and the wider academy (Kaptelinin & Nardi, 2006). Thus, we also choose the combination so as to immediately engage with an established body of knowledge and community of interested researchers, while laying the foundations for future comparative study: to understand how theories are adapted and developed during their appropriation, across ever-shifting boundaries, to disparate fields.

It is our hope that the work presented here will contribute to building a wider, ongoing investigation. That investigation would analyse published literature so as to examine activity theory application in several domains; the functions of the theory in empirical research; and the development-in-use of the attendant concepts. The present paper focusses most closely, to reprise our nomenclature, on examining the extent to which activity theory application in higher education research is discernably *framing*, *polyfunctional*, *interwoven* and *reframing* of research. We leave aside, for the moment, the issue of *heterogeneity*. Examining that issue will require considering the use of individual activity-theoretical concepts and their relationships, rather than the holistic deployment of activity theory as a bundle of those concepts. We thus defer that analysis to a separate, complementary paper.

In short, for present purposes we wish to understand what difference using activity theory makes in published research. To reprise the vocabulary of Ball, we thus orient the narrative towards the following question:

To what extent is the use of activity theory a harbinger for 'thinking otherwise' about empirical inquiry in higher education research literature?

To address that question, we shall focus primarily on our analysis of two issues: the functions that activity theory plays within higher education research (to interrogate 'use') and the statements made about the theory in discussion in the

papers (to interrogate 'thinking'). Before presenting that analysis, we portray how theory-application has been conceptualised in higher education research; sketch some aspects of activity theory of consequence for the subsequent discussion; and set out our methodology.

Higher education research and theory

When Marx wrote that "all science would be superfluous if the outward appearance and the essence of things directly coincided" (Marx, 1998, p.804), we doubt he had in mind the status of theory in higher education research. Yet the literature indicates disquiet about just that kind of appearance-essence discrepancy. Higher education research has an extensively—perhaps *overly*—theorised appearance. Clegg (2012), for example, notes a tendency for "insisting too loudly on 'theory'" (p.407); while Tummons (2012) discusses authors' use of 'theory-talk' when grasping for legitimation. Yet Tight's (2004) review identifies that theoretical underpinnings are infrequently set out explicitly in the field; and a gradual upsurge in theoretical engagement over recent years (Tight, 2012, p.27) seems accompanied by apprehension in the published discourse.

That apprehension takes at least three forms.

Firstly, it is commonly discussed that theory-in-general *occludes*, as well as enlightens, the explanation of reality. Maassen and Stensaker (2005), for example, discuss how theories usefully problematise particular 'black boxes', while carrying assumptions that introduce new ones; while McArthur (2012) notes how theories can offer seductively tidy explanations that actually constitute "false clarity" (p.421).

Secondly, there are *sectoral* concerns: about the sources of particular theories and attendant methodologies, and the sometimes competitive nature of their invasion of the field. Tight (2012) traces a range of theories either imported into, or developed in, higher education research (pp.200 *ff.*); and McArthur (2012) comments on the attendant "territorial tussles":

Phenomenography began as the radical outsider, or challenger, but then went on to be something of a minor colonial power. (p.424).

Thirdly, where theory does successfully infiltrate the 'shared repertoire' of a community (Tummons, 2012), there is an attendant possibility for *ossification*. For example, Hallett (2014) critiques the *mythologizing* of those research practices attendant upon higher education phenomenography; while, more generally, Ashwin's (2012) analysis highlights how an attenuated conceptual usage of theory within the field constrains possibilities for further developing the theories themselves. Both Hallett's and Ashwin's arguments implicate a theory-methodology bundle, reminding us of the important distinction between studying theory *per se* and theory-*application*: the latter focussed on actual practice rather than intrinsic theoretical properties seen as separate from methodology.

Investigations of theory-application in higher education research differ in their theory-specificity and methodology. Those papers concerned with theory-method relations tend to be cautionary but concerned with theory *in-general* (e.g., Ashwin, 2012; Clegg, 2012; Trowler, 2012). Other papers investigate particular theories—such as 'institutional theory' (e.g., Maassen & Stensaker, 2005; Cai & Mehari, 2015)—with an implicit advocacy. Methodologically, a strand of introspection on personal practice (e.g., Clegg, 2012; Tummons, 2012) co-exists with analyses of published literature (e.g., Tight, 2004, 2012; Ashwin, 2012; Cai & Mehari, 2015). The work presented here, then, is atypical. We focus on the application of one particular theory in published literature and highlight the evident, rather than idealised, forms taken by that application. Furthermore, we aim for a community-oriented vantage point by focussing on articles published in particular journals. We are interested in how activity theory has been appropriated within the higher education research literature. We are not focussing on research reports oriented towards other communities—including those published in specialist theoretical journals like *Mind, Culture, and Activity*—that might happen to use higher education as a research *site*. We wish to contribute to those threads of discourse in the field that we highlighted above: to illustrate how activity theory enlightens and occludes actual higher education research objects;

to consider whether application in higher education research is discernibly distinctive; and to examine the extent to which the theory is developing, or has become mythologised.

One consequential issue concerns how to conceptualise theory-application itself. Tight's (2012) overview emphasises theories' *origins*, demarcating the homegrown from the imported; while Trowler's (2012) discussion expresses divergences in the intended *grandeur* of analysis (compare 'post-modernism' with 'learning styles', for example) and modes of use: whether relatively more deductive, creative or emancipatory. While we regard those distinctions as significant—and Blunden (2010) highlights activity theory's emancipatory underpinnings—we suggest that they serve primarily to decode theories' intentions and intrinsic properties, and are to some extent comparative. Given that we shall focus on *one* theory and foreground *application*, we draw instead on a discussion by Hammersley (2012), who differentiates the "diverse functions" of theory (p.393). Hammersley distinguishes seven particular functions—which we shall refer to as normative, hypothetical, abstracting, contextualising, explanatory, predictive and paradigmatic. Those functions will inform our analysis here, and we return to their definitions below.

Activity theory

Activity theory has obvious *applicability* for studying many concerns that sit at the heart of higher education—such as teaching and learning (Ashwin, 2009) and organisational practice and development (Nicolini, 2012). The theory also has some *prominence* in the field, as a theory 'imported' from outside (Tight, 2012). Originally developed in Psychology departments within the Soviet Union, in recent decades activity theory has spread internationally and across disciplinary boundaries: to human-computer interaction, organisational studies, engineering human-factors, ergonomics, and entertainment design, as well as to educational research (Kaptelinin & Nardi, 2006). In some of those disciplinary and geographical settings, particularly in organisational studies and educational research and most commonly across western Europe and the Anglosphere, it has sometimes become known as cultural-historical activity theory ("CHAT"). The theory—and the associated concept of *activity*—has a lengthy history (Blunden, 2010). To attempt to provide a comprehensive overview here would be preposterous; indeed, the theory is considered 'esoteric' precisely due to the difficulty of summarising it (Kaptelinin & Nardi, 2006). Thus, we shall provide only an abbreviated account, focussing narrowly on issues of direct pertinence. Bligh & Flood (2015) provide a slightly broader description aimed at higher education researchers.

Fundamentally, *activity* is conceived as the *relationship between* the 'subjective' and the 'objective' within a single reality. That reality is presumed to exist prior to individual human experience, to be socially and culturally produced, and to be immensely dynamic notwithstanding *apparent* stability or regularity. *activity theory* proper distinguishes between *activity*, meaning collective, sustained human effort; *action*, meaning individuals' or sub-groups' time-bounded pursuit of goals; and *operation*, meaning what individuals do without pre-meditation. The theory focusses on development via internalising and externalising processes, which mutually transform activity, action and operation and thus develop concrete relations between the psyche and cultural world. That developmental focus has often, since Vygotsky in the 1930s, been manifest through research-interventions.

Activity theory posits that human activity is mediated: by artefacts that are themselves cultural products, and by social structures arising within activity. One influential representation of this manifold mediation is Engeström's (1987/2015) triangular *activity system* model. That model visually depicts a subject-object system mediated by interlocking artefacts (whether more or less materially tangible), divisions of labour (whether by expertise or authority) and rules (whether or not explicitly recognised). Engeström's model is widely used for conceptualising *the activity level* within the theory, whether for analysing a single 'system' or interactions between several. Those analyses typically foreground *contradictions*, unfolding relationships between systemic elements that support *and* undermine each other. Contradictions are understood as drivers for change: they are manifest as subjective dilemmas that people try to address, with varying degrees of success—thereby altering attendant forms of collective activity.

Methodology

In the present project we analyse empirical papers that are published in specialist higher education research journals and that use activity theory. Focussing on particular journals is a widely-recognised strategy within the literature on 'systematic reviews', where it is called *hand searching* and regarded as rigorous but potentially labour-intensive (Booth, Papaioannou & Sutton, 2012). The approach is consonant with a focus on what is *particular* about the use and development of activity theory in higher education research, and similar approaches have certainly been used before in the field (e.g., Ashwin, 2012 on 'theory development'; Cai & Mehari, 2015 on 'institutional theory'). Our approach has taken advantage of Tight's (2012) existing, large-scale conspectus of the research field—which includes a list of 53 specialist journals that focus on higher education (pp.229-232)—as well as contemporary possibilities to partially automate the 'hand searching' process.

Sample and inclusion

Our approach involved using the search engine associated with each journal: the publisher's engine where possible; an archival engine such as Project Muse where necessary. We searched the full text of all journals in Tight's list for the strings "activity theory" or "activity system" in all articles published, or available online, on or before 31st December 2015. Doing so generated an initial evidence base of 218 articles from 40 journals. We then used a manual, *full-text sift* approach (Booth et al., 2012, p.55, p.99), based around two inclusion criteria.

Our first criterion was that the papers must report empirical studies; 69 papers were thus excluded, including 23 book review articles.

Our second criterion was that activity theory must be used for analysis, rather than just mentioned-in-passing; a further 81 papers were thereby excluded. It is worth mentioning that only *two* of the 81 papers that were excluded as a result of applying that second criterion included any *explicit* rejection of activity theory. In other words, 79 empirical research papers briefly mentioned activity theory but did not use it to analyse their empirical data. Doing so might involve mentioning the theory at the outset of the paper but then using another theory (for reasons left unstated), or briefly mentioning activity theory in some later concluding discussion (perhaps advocating the use of the theory in future work). We take that situation as further evidence that activity theory has become a recognisable staple in the higher education research discourse. It also says something about the implicit and indirect nature of how theories are *differentiated* and *contrasted* within empirical higher education research papers, though that matter is beyond the scope of the present report.

Our sift also discovered and excluded nine false-positives: those either used the phrase 'activity system' purely colloquially (often only once) or referred to an unrelated theory of *routine criminal activity*. Fifty-nine papers from 18 journals were thus included, as shown in Table 1.

[INSERT TABLE 1 ABOUT HERE]

Analysis

Our analysis of the included papers employed two different strategies.

The first strategy was used to analyse the theoretical roles played by activity theory within the papers. That strategy deductively deployed a *concept-driven coding frame* (Schreier, 2012, pp.84-85), where the dimensions of the frame were derived from Hammersley's (2012) discussion of theory functions. We used that deductive approach so as to open the possibility of noting the *absence* of particular theoretical roles—where categories are never coded; and because the evaluative nature of the judgement rendered advantageous an early consensus on category definitions. To support our exposition, the role-categories are described below, in Table 2, alongside the attendant analysis.

The second strategy was used to analyse the claims and judgements directly put forward in the published papers themselves. That strategy was inductive: we selected the pertinent material from the papers before iteratively

developing categories to capture the variation in content. We emphasise that we were not, for present purposes, trying to assess the veracity of the claims we found.

Below, we set out the results of that analysis: reporting, in turn, the different roles played by activity theory within the sample, the reasons stated within the papers for choosing the theory, and the perceived benefits and limitations of doing so.

Results

Roles of activity theory

Table 2 sets out the role-categories used for analysis and their prominence within the sample. We report the *number of articles* for which each role-category was coded, rather than the total individual incidents of usage. That is because we do not wish to imply that individual incidents across categories are comparable; and because distinguishing segmentation boundaries between adjacent uses of the same category type is unreliable—for example, within some paragraph, where does *one* 'explanation' end and the *next* begin?

Our analysis indicates that activity theory is used within the majority of papers in two ways: in *abstracting* and *explanatory* roles. The use of the theory for *contextualising* the researched phenomena is less common, but still evident in nearly half of the papers.

What we mean by *abstracting* is the foregrounding of particular detail within some set of circumstances and the attendant removal of other detail. That process is illustrated in Table 2 through the provision of a particularly stark example: the 'elements' of the *activity system* model are used as a coding scheme for data analysis. That practice is not uncommon, and, indeed, other papers further build on strategies of that nature as a basis for comparing different activity systems:

Semi-industrial and academic PhD[s] are modelled as activity systems, and differences are highlighted in terms of subject, community, division of labour and instruments. (Granata & Dochy, 2016, p.990)

What seems to be particularly attractive about the *activity system* as a model used for *abstracting* purposes is that it is taken as providing a recognisable set of features which, at different moments, some research process might focus upon either individually or as a whole. Akhurst & Liebenberg (2009), for example, convey that idea using a "lens" metaphor:

The AT model may be used to speculate about the experiences of students coming for career counselling [...] and the perspectives of counsellors within a regular university system. Use of these triangles incorporating details from various perspectives enables a view through different 'lenses', and illustrates the complexity of the systemic factors which are influential. (p. 580)

While the activity system is a particularly prominent structure when *abstracting* using activity theory occurs, other concepts are also influential. One such concept is that of 'contradiction' which, as will be discussed below, is a frequently valorised aspect of the theory. The foregrounding of contradictions in research accounts is typically justified on the grounds that doing so helps us to understand the relations between the elements of the activity system, as in the following example:

It is the tensions, or contradictions, between the various components of the individual activity systems that will shed light on the way in which the subject transforms the object, and how the various components of the activity system mediate this transformation. (Lautenbach, 2010, p. 701)

Turning to the use of activity theory for *explanation*, we again find that it is the elements of the activity system model, and suggested contradictions between them, that forms the basis of most attempts to label phenomena, or aspects of phenomena. Webb (2010), for example, provides several pages of such examples (pp. 608-615), under subheadings

such as *A contradiction between the object and the rules of collaboration* (p. 608) and *Contradictions between the tools and rules* (p. 614). The first explanation in that long sequence, following a report of the “by no means unproblematic” responses of some interviewee teachers to group working, is given as follows:

Obviously, many people encounter conflicts in collaborative working and their diverse backgrounds may also have contributed to feelings of insecurity of some beginning teachers. However, an important contribution to these problems was identified as a contradiction between the rules of collaboration in the beginning teachers’ previous experience and the object of learning through collaboration. (p. 608)

The use of activity theory in a *contextualising* role occurs, as noted above, in just under half the papers. It will be established below that a perceived ability to handle the contextual situation is the most commonly stated reason for choosing activity theory. For that reason, it is worthwhile to briefly sketch how that *contextualisation* was manifest in practice. One way in which activity theory was used for contextualisation was to position aspects of the empirical data as part of a wider system rather than representing phenomena in their own right. Hopwood & Stocks (2008) provide one example of that approach:

Rather than focusing on beliefs and practices of individuals, we take students' comments about their experiences as an evidence base for considering DLT [the ‘developing learning and teaching programme’] in the context of an activity system, exploring the extent to which DLT as a new teaching development programme addresses the systemic tensions we have identified. (p. 189)

A second way in which activity theory was used for contextualisation was to take some aspect of the theory as representing the context itself. That context might be taken as the intersection of multiple activity systems (e.g., de Feijter et al., 2011, p. 351). In other cases, however, the activity system model itself—or some sub-set of that model—was seen as representing the social context, as the following example illustrates:

As participants we are engaged in this social system (community) where certain rules apply and where the action and interaction between participants are regulated to some extent (division of labour). The upper part of the triangle is thus just the ‘top of the iceberg’. Actions are anchored in social conditions and requirements that are not so clearly visible. The model depicts what we mean when we say that actions are culturally, institutionally and historically situated and opens up paths for empirical research based on a contextual approach to learning. (Havnes, 2004, pp. 164-165)

It will be consequential for our subsequent discussion that *paradigmatic* or *hypothetical* uses of the theory are each manifest in fewer than 20% of the included papers, notwithstanding that ‘paradigmatic’ usage was defined broadly: to include activity-theoretical justification for the formulation of the research questions (e.g., Bayat & Naicker, 2012, p.892), or for the focus of particular questions in interview protocols (e.g., Garraway, 2015, p.34). *Normative* uses of the theory were vanishingly rare, while the theory was not used to make *predictions* at any point within the sample.

[INSERT TABLE 2 ABOUT HERE]

Reasons for choosing activity theory

Here, we scrutinise the reasons stated for selecting activity theory. Primarily, though not exclusively, those reasons were found where advantageous statements about the theory are made within papers' introductory sections. Attendant disadvantages are considered separately below, in a subsequent section.

Our analysis identified 11 categories; Table 3 illustrates those categories and also indicates the number of papers where no reasons are provided. No single category was coded in a majority of papers, though some justifications are deployed much more frequently than others. Let us begin by examining the following statement, taken from Messenger (2015, pp.742-743):

I was not familiar with CHAT at this point, but embraced it as a highly relevant and practical research tool for interpreting and communicating the complex situations I was observing (Sannino, Daniels, and Gutiérrez 2009). It is an approach that has been described as challenging, but one that enables going from a piecemeal, systematic approach to being systemic and to show how development may be encouraged in different cultural contexts (Roth 2009; Yamagata-Lynch 2010).

Messenger's statement captures two of the most prominently coded categories in our analysis: what we have called *contextual situation*, referring to a perception that activity theory can usefully locate the research object within its surroundings, and *complexity apprehension*, an aspiration to use activity theory to deal with the complexity of the research site in some way. It is noteworthy that both of those categories are substantially concerned with different ways of perceiving complication—whether of the researched phenomenon, or of consequential aspects of the surrounding setting. With regard to *contextual situation*, it seems hoped that activity theory will be useful in focussing the research without falsely isolating the research object from its surroundings. Yamagata-Lynch, Cowan & Luetkehans (2015), for example, attempt to convey that notion using a 'zooming' metaphor:

Activity systems analysis helps researchers and practitioners zoom in and out of the broad historical and situational design contexts as well as the intricate details of a design activity (Jonassen & Rohrer-Murphy, 1999). (Yamagata-Lynch, Cowan & Luetkehans, 2015, p.11)

With regard to complexity apprehension, what seems commonly hoped about activity theory is that it can, in the words of Johnson (2008), "help identify and explicate multiple perspectives" (p. 232). Jones (2013) articulates that aspiration in greater detail with reference to particular activity-theoretical concepts, such as contradictions and the object of activity:

Activity systems theory [sic] is a useful means of analysis as it takes into account, and seeks to explain, the varying interpretations of graduate attributes and so is a way of examining inherent complexities and tensions. Within an activity system the object of the activity (in this case the teaching of graduate attributes) is both given and emerging. Hence at the same time there is both a set of assumptions about graduate attributes and a developing understanding of what they might be, and the implications of this. There is not necessarily any agreement regarding either the assumptions or the changing understandings. (p. 594).

Another prominently coded category, *concept calibration*, denotes a situation where some activity-theoretical concept is regarded as attractive or obviously applicable. The implication is that some particular concepts (commonly, relating to *contradiction*) within the theory are initially perceived as attractive, and henceforth the rest of the theory is adopted as a consequence. For example, Boyd (2010) puts forward the following rationale:

The identification of contradictions experienced by new lecturers within their workplace is a useful heuristic in considering their needs in terms of academic induction. (p. 157)

What should be emphasised is that all three of those most commonly coded categories denote concern with perceived *utility for inquiry* into the research object, rather than with the theory *per se*. Those categories indicating concerns less directly dependent on aspects of the research object, such as *epistemological agreement* or *investigate the theory*, were coded infrequently. Those categories more distinctively concerned with *conceptualising* research objects (as opposed to fitting with some existing, intuitive conception), such as *accumulation* from previous literature that used activity theory, or *question bestowing*, were also coded infrequently.

[INSERT TABLE 3 ABOUT HERE]

Valorisation of activity theory

"It [AT] offered us something different in the way it made explicit some of the implicit influences on the experiences and development of doctoral students. It also helped us gain a clearer insight into the complex

ways in which the training programme interacted with broader university structures and attitudes, and to consider how a tension in one area might impact other components of the system. Notions of the activity system provide a vehicle to link individual experiences with wider systemic elements and tensions. Activity theory provides a language and conceptual toolkit for describing and analysing the complex interactions between different groups of people and their social and institutional settings, and offers a way to understand what lies beneath widely reported problems and challenges” (Hopwood & Stocks, 2008, p. 196)

Here, we are concerned with those advantages ascribed to the experience of using activity theory within the described project. Primarily, though not exclusively, those statements were coded within papers' results, discussion and conclusions sections. The above example, from the paper by Hopwood & Stocks, illustrates the kind of claims we sought to identify in our analysis. The example claims a role for activity theory in illustrating particular aspects of situational dynamics; in apprehending the complexity of the researched situation and in identifying tensions (i.e., contradictions) within that situation; and in providing a common language for description and analysis. More broadly, our analysis identified nine categories in total. Table 4 illustrates those categories as well as the number of papers where no advantages were put forward. It is noteworthy that the case where no advantages are discussed occurred most commonly in our analysis: accounting for 30 of the 59 papers.

In the remaining papers, the most often coded category is *dynamics illustration*. Like *complexity apprehension* and *contextual situation*, which have close analogues in the reasons stated for choosing to deploy activity theory in the first place, *dynamics illustration* is concerned with perceived complication. Yet *dynamics illustration* indicates statements that relate specifically to the studied phenomenon, while the other two categories denote more generic assertions. A statement of that nature might emphasise, for instance, the fact that activity theory enables false dichotomies to be avoided in analysis of the researched situation—a claim invoked by Messenger (2015) in the following way:

The theoretical framework adopted in this study makes a unique contribution to research as it avoids the either/or focus of student/environment by bringing together the students, their teachers and the environment into one united value-based whole. (p. 746)

In addition to grasping complication (whether in the form of *dynamics illustration*, *complexity apprehension* or *contextual situation*), much of the rest of the content we found might be characterised as related to the provision of individual concepts or, in a related vein, on the provision of a *common language*. Two categories indicate the usefulness of particular concepts: commonly the *identification of contradictions* but occasionally the *emphasis on mediation*. Of those three categories, it is the identification of contradictions that is valorised most prominently in the sample. One example is provided by de Feijter et al. (2011), who position particular contradictions as underpinning the ‘stress’ whose ongoing management by the subjects of the activity system is consequential for their learning experience:

The model we developed revealed that students’ engagement in two main activities, learning to be a doctor and providing safe patient care, could create contradictions when the rules and the division of labour of one activity adversely affect the other activity. Due to contradictions in roles and rules, an unsafe situation could arise with concomitant stress for the student who had to manage the two activities simultaneously. AT helped to identify these contradictions and thus created a deeper understanding of the factors that influence patient safety in the complex system of workplace learning. This study highlighted only two parts of the activity system as potential causes of contradictions. Further research is needed to identify other interactions between and within the activity systems. (p. 356)

It is noteworthy that in only a minority of cases is the identification of contradictions linked with the potential for the development of the activity system itself, which, as discussed in our overview of the theory, is typically how that concept is framed within the specialist literature. There are examples where that link is rendered explicit, however, as the following statement by Havnes (2004) illustrates:

The emphasis on conceptualization of the conceptually embedded dilemmas or contradictions opens up for analysis of [sic] complexities and potentials for change and development. (p. 175)

As with the stated reasons for choosing activity theory, it is important to recognise that the most commonly expressed advantages implicate the utility of the theory for the present project—as opposed to some potential in relation to a wider body of knowledge, or generic advantages of the theory *per se*. As Table 4 makes clear, the *developmental focus* of the theory constitutes only a marginal exception.

[INSERT TABLE 4 ABOUT HERE]

Perceived limitations of activity theory

For present purposes, we are interested in two kinds of stated disadvantages: those accounted for when deciding to use the theory; and those becoming evident during use. Our main finding can be stated simply: only six of 59 papers explicitly account for the former, and only five posit the latter.

Those few statements of prospective limitation can be differentiated in three ways. Firstly, it is suggested that activity theory focusses sufficiently strongly on the *collective* plane as to constrain researchers' ability to conceptualise, *within* that plane, individuals' practices (Jones, 2013) or cognition (Fanghanel, 2009).

Secondly, it is suggested that activity theory fails to invite *real* analytical focus on particular aspects of human practice that *are* acknowledged 'rhetorically': for Trowler and Turner (2002) it is power relations in groups that are thus occluded (pp.229-230), while for Fanghanel (2009) it is the historicism of practice (p.568). Fanghanel (2009) also detects limitations in how activity theory problematises the concept of community:

I observed elsewhere (Fanghanel 2007) that AST [meaning 'Activity Systems Theory' [sic]] is not a strong framework to examine 'communities'. It tends to focus more on structures than on how people behave within them. I found that using Communities of Practice (CoP) theory (Wenger 1998) was a more useful framework to do that. (p. 568)

Thirdly, there are concerns about the structural implications of Engeström's activity system model. Trowler and Turner (2002) highlight a perceived downplaying of the permeability of workgroups, while Bayat and Naicker (2012) reject any implication of neat, natural divisions in the underlying reality—instead emphasising activity system diagrams as constructed, mediating artefacts within research activity (p.895):

Russell (2002) says that the world does not come neatly divided into activity systems. It is up to the researcher to define the activity system, based on the purposes of the research study, and to focus on the theoretical lens that activity theory provides. (p. 895)

We suggest that those concerns becoming evident during use can be bifurcated.

Firstly, there is a perceived *lack of focus on subjects*. It is suggested that activity theory fails to highlight: the sources of subjects' motives in wider sociological frames (Pratt et al., 2015); how subjects respond *internally* to the practice tensions they encounter (Cotterall, 2013); and personal values, reflection, and the "emotive dimension" (Fanghanel, 2004, p.582). It is thus suggested that activity theory might be usefully complemented by the theories of "Bernstein and Bourdieu" (Pratt et al., 2015, p.57) or those of metacognition (Cotterall, 2013).

Secondly, there is an apparent *lack of accounting for agency and power*. Trowler and Turner (2002) argue that both activity theory and the Communities of Practice framework are "especially poor at adequately locating the operation of power, inequality and difference" (p.251); Hopwood and Stocks (2008) make substantially the same assertion about activity theory in isolation; and, Fanghanel (2004), based on a particular example from the practices she studied, draws attention to a "subordination dimension in the subject-object relation that cannot be quite accounted for in Engeström's model" (p.582).

Discussion

In keeping with our initial discussion, we propose to discuss the extent to which our analysis has uncovered theory-application demonstrative of *framing*, *polyfunctionality*, *interwovenness*, and *reframing*. We rehearse the meanings of those terms within the discussion. Reflecting our central research question, at each stage we confront the issue of 'thinking otherwise'—the extent that activity theory-in-application presents a language of challenge that is discernably de-familiarising of practices and categories.

Framing

In brief, theory-application is *framing* to the extent that the theory shapes research design and data interpretation at a strategic level; the attendant 'challenge' and 'defamiliarisation' would concern those methodological and interpretive choices made where projects are formulated.

The evidence that activity theory shapes *research design* is moderate. The *contextualising* use of theory in 23 papers (Table 2) does indicate the theory's role in enlarging study foci relative to intuitively stated research objects. Yet project designs are only infrequently adjusted structurally as a consequence. Only 12 papers use the theory *paradigmatically* (Table 2); while those rare extant *hypothetical* uses overwhelmingly occur where papers extrapolate results, rather than where investigative priorities are established. For example, in their *Findings and Discussion* section, Bayat & Naicker (2012) use the rhetorical manoeuvre of deploying explanations and hypotheses in quick succession:

This is a point of contradiction in the activity system. This means that the activity system needs further adaptation or addition. This could be in the form of training for students on how to do peer assessment, as well as training in the new role that students are expected to play in a learner-centred learning environment. (p. 898)

Furthermore, methodology selection is seldom justified in activity-theoretical terms. Forty-two papers use a case study methodology, of which 15 might be called multi-case studies. There is nothing particularly 'activity-theoretical' about doing so; and where attendant discussion does mention activity theory, it commonly seems implied that the theory's utility lies in *executing* the chosen methodology. In other words, there is little discussion of methodologies such as case study being chosen for some activity-theoretical *reason*. For example, Winberg's (2007) multi-case design strives for cross-case "analys[is] within a common conceptual and methodological framework" (p.208).

The indication that the theory shapes *data interpretation strategies* is stronger. Forty-four papers use activity theory in an *abstracting* role (Table 2), fitting data to theoretical categories (and the corollary: non-use of other possible categories). The *particular* activity-theoretical categories used are usually the elements of Engeström's activity system model (subject, object, rules, division of labour, etc.), presented either in the text body, as headings, or as labelled activity system diagrams. For example, Granata and Dochy (2016) map out two activity systems (those for particular academic and semi-industrial doctorates) and then compare the two, element by element. It is worth noting, however, that other plausible category distinctions drawn from activity theory, such as the activity-action-operation hierarchy, are rarely used for *framing* purposes, even where they are discussed at the outset of the paper (e.g., by Spafford, Schryer and Creutz, 2009).

Polyfunctionality

Theory-application is *polyfunctional* to the extent that theory assumes diverse roles within project lifecycles. From our vantage point of 'thinking otherwise', we foreground activity-theoretical challenge of those lifecycles: acknowledged challenge and unexpected roles. Our ability to interrogate the *unacknowledged* is, of course, constrained by our methodological focus on published literature.

Activity theory is certainly used in a range of roles. Six of the seven role-categories derived from Hammersley's discussion were coded in the papers (Table 2), and five papers exhibited use in five role-categories (Hardman, 2005; Bayat & Naicker, 2012; O'Connell & Saunders, 2012; Morselli et al., 2014; Garraway, 2015).

To elaborate on but one of those examples: the paper by O'Connell and Saunders (2012) reports a study of how global university rankings mediate the activities of education managers in a professional intermediary organisation, the British Council. The paper commences its activity-theoretical account of the investigation in a *contextualising* role: discussing how the theory draws attention away from an isolated focus on rankings themselves and towards "the contexts in which rankings are encountered and the range of practices used to reduce tensions created by rankings, or reconcile their effects" (p. 354). The paper goes on to use activity theory *hypothetically*, speculating about the role of university rankings as mediating artefacts and making use of the triangular activity system diagram to argue that:

An activity systems perspective encourages a view of rankings as something relational, mediating between individual subject and object (as depicted in the uppermost triangle in Figure 1) and also between the individual and the wider community (as depicted in the two triangles at the bottom of Figure 1). (p. 359)

The paper goes on to demonstrate several *paradigmatic* uses of activity theory: among others, in the orientation of the research questions for the project, and within the formulation of the research instruments:

In this context an activity systems perspective generates fruitful research questions relating to the way the mediating artefact of rankings operates across different contexts and how new meanings are negotiated are [sic] constructed. (p. 360)

The activity systems perspective informed the research focus and the types of questions used within the interviews (see Appendix B). In particular it encouraged focus on the forms of social activity in which rankings seemed to be embedded and the material and symbolic function of rankings. Questions were formulated to elicit the particular contexts in which rankings were encountered, accounts of rankings-related practices in which interviewees engaged and perceived strengths and limitations of rankings as mediating in different clients contexts. These accounts helped to construct, from the interviewees' perspectives, the object of a particular activity, the particular ways in which rankings mediated activity; and whether these were predominantly in domain of production, exchange or division of labour (see Figure 1). (p. 360).

O'Connell and Saunders subsequently present several labelled activity system diagrams, using Engeström's system model as a template around which to organise the project's data (an *abstracting* use of the theory). Subsequently, a range of *explanatory* accounts of interview participants are offered in light of the diagrams, of which the following is but one example:

As such, the most frequently cited practices are clustered around the "tool" and "rule" dimensions of the activity system (as highlighted by "A" and "B" on Figure 2 above). However, practices located in the domain of "production" appear to be oriented to tool amplification; drawing attention to how the rankings are comprised and different ways they can be read. By contrast, those practices located in the domain of "exchange" are more orientated to reducing the symbolic value of rankings. (p. 367)

What that example demonstrates is that activity theory can certainly be deployed in a wide range of roles in empirical higher education research—though O'Connell and Saunders, like all other papers in our sample, make no attempt to use the theory *predictively*. Yet the fact remains that three most prominently encountered roles—*contextualising* the research object, *abstracting* from that context, and *explaining* aspects of the phenomenon—account for the bulk of theory-application. As a simple indication of that fact, we note that the mean-average role-categories per paper is 2.31 (though with wide variance: std.dev 1.33).

There is less indication that those theoretical roles are unexpected. Quite the contrary: the prevalence of *contextual situation* and *complexity apprehension* among the initial reasons given for theory selection (Table 3) suggests their

anticipation. Furthermore, the most typically-stated reasons for valorising the theory all have analogues within the initial reasoning about selecting it: the categories of *dynamics illustration* and *complexity apprehension* we found in our analysis of the valorisation of the theory (Table 4) resonate with the category of *complexity apprehension* we found in our analysis of why the theory was chosen (Table 3); similarly, the valorisation of the *identification of contradictions* echoes initial choices for reasons of *concept calibration*; and the foci on context and development are frequently deployed when discussing both choice and valorisation. One example of that consistency can be found in the work of Spowart et al. (2016): in this case, a consistency focussed on the issue of *contextual situation*. When justifying their choice of activity theory, Spowart et al. state that:

AT [activity theory] is regarded as valuable when applied to dynamic situations (Hashim & Jones, 2007), which given the current drivers around the professionalization of teaching, the varied motivations for engaging in CPD (Crawford, 2008; Greenfield, Pawsey, & Braithwaite, 2011), and the idiosyncrasies of the disciplinary communities (Knight & Trowler, 2000), aligns with the context of this study. (p.209)

Later, when discussing the value of activity theory for their project, those same authors argue that:

AT highlights the significance of the cultural context and the process of social transformation. (p. 215)

It seems plausible to claim that activity theory is initially envisaged to be useful and does turn out to be so, but mainly in the ways anticipated; though we are aware of the uncertainty of that claim due to the post-hoc and potentially defensive nature of formulations in published papers. There is certainly a paucity of evidence of retrospective theoretical reflection on methodology. Twenty-eight papers discuss methodological limitations, but 27 of those mourn their sample sizes, longitudinality or generalisability; and even the exception is not activity-theoretical—Teodorczuk et al. (2014) argue that selecting *only one* theory constitutes, in retrospect, a *methodological* study limitation (p.760).

Interwovenness

Theory-application is *interwoven* to the extent that interpretation is theory-laden. Here, we consider the extent of interwovenness *with activity theory* and, from the vantage point of 'thinking otherwise', how activity theory is recognised to challenge or defamiliarise those interpretations arising from other sources.

The common use of activity theory for *framing* data interpretation strategies, discussed above, frequently precedes its *explanatory* usage: a usage exhibited in 42 papers. At a minimum that 'explaining' constitutes, as with the attendant example in Table 2, interpreting observations or statements using activity-theoretical vocabulary. But that vocabulary is also deployed to explain *relationships between* those particular observations: commonly by identifying systemic contradictions (discussed in 37 of the papers). The fact that *dynamics illustration* and the *identification of contradictions* are the two most commonly stated advantages of using the theory (Table 4) demonstrates how explicitly those relational explanations are valued. To provide but one example: in a study of student absenteeism in a South African context, Scheckle (2014) reports contradictions between elements of different activity systems thus:

Some students reported having 'family commitments' or 'responsibilities at home' which hindered them from fulfilling their student responsibilities. If a sibling was sick, for example, and the parent needed to go to work, the student was asked to be the care-giver. In this way, the community's 'division of labour' is in contradiction with the 'object' of studying for examinations culminating in graduation, the 'outcome' (p. 620)

Subsequently, in her 'conclusion' section, Scheckle argues that a particularly valuable function of activity theory in her project was as follows:

Activity Theory allowed for the identification of contradictions and tensions within and between the elements in the Student Experience Activity System. (p. 622)

Moreover, *concept calibration*—a recognition of synergy between an activity-theoretical concept and the researched phenomenon—is a commonly stated reason for choosing activity theory (Table 3). The fact that particular concepts

are consciously considered when making that choice suggests an influence on interpretation commencing early in project lifecycles. For example, McMillan (2015) justifies the precise focus of her project as follows:

Following Barab et al. (2002, 78), I understand the 'minimal meaningful unit of analysis/context' as the whole activity system that includes 'the actor (participants) or actors (subgroups) whose agency is chosen as the point of view in the analysis and the acted on (object) as well as the dynamic relations among both' (emphasis added). In other words, while there are a number of actors in any system, the researcher selects an actor or a group of actors whose activities become the focus of the analysis. In my case, I examined educators' accounts of these experiences as a way to understand the challenges of intersecting activity systems in the university–community boundary zone. (p. 228)

The evidence for the theory being used to challenge alternative explanations is, however, weaker. Rejection of alternate, *named* theories is rare: only seven papers document having chosen to use activity theory because of *comparative advantages* over some other theory (Table 3); and no analogous theme is evident within discussions of its valorisation (Table 4). The use of activity theory in *normative* or *hypothetical* roles is also uncommon (Table 2), illustrating the rarity of rejecting alternative explanations from other sources (including explanations provided by research-subjects). Normative values within projects thus seem derived from elsewhere, perhaps from the research site.

The extant discussions of activity theory's disadvantages, which we summarised separately above, are also telling, notwithstanding their rarity. It is not argued therein that activity theory problematises extra-theoretical constructs such as 'individual', 'agency' or 'power' *differently* but, rather, that activity-theoretical approaches towards those issues are simply deficient (sometimes in comparison to some named alternative). There would seem to be four plausible explanations. Higher education researchers either rarely perceive activity theory as challenging of other sources of interpretation; are typically blind to its influence on them; feel uncomfortable articulating those challenges when reporting their research; or are constrained by journal formats or peer-review processes.

Reframing

Theory-application is *reframing* to the extent that it challenges and/or destabilises the practices and categories of research processes. For the moment, we narrowly examine how activity theory is *explicitly acknowledged* to influence how projects are conceptualised or undertaken. The basic argument is that acknowledgement of that kind is rare—especially with regard to published statements about epistemology, ontology and methodology.

Let us consider epistemology and ontology first. We pointed out, above, that activity theory presumes a unified, subjective-objective reality, and that it posits *activities* as mediated, collective subjective-objective relationships. That stance diverges from other dominant conceptions, such as the relative 'objectivism' of post-positivism and the relative 'subjectivism' of post-modernism. Yet allusions to that distinctiveness, stated in terms of *epistemological agreement*, are found in only nine papers (Table 3). One example of such a discussion is provided by Hardman (2005), whose exposition runs as follows:

If we think of computers as cultural tools, then we need to be able to ask and answer questions related to how these tools facilitate learning and, relatedly, how teachers and students change the computer and are transformed by it over time. Activity theory can be used in order to understand this *process* of transformation within a system (such as a classroom/university laboratory) as well as illustrating how different systems interact with, and transform each other over time (Engestrom [sic] 1987). The strength of activity theory is that it enables one to understand learning as the complex result of tool mediated interactions, rather than as something opaque which happens in a student's mind. (p. 380, emphasis in original)

Clearly, for Hardman, activity theory is useful precisely because it holds out the hope of illustrating how teachers' and students' development occurs as a result of interactions within social systems, mediated by a range of artefacts. Yet, while the majority of papers in our sample do indeed document investigations of social systems and artefacts, it is

relatively uncommon to explicitly reflect, as Hardman does, on the value of the knowledge that might be gained by doing so.

Methodologically, as outlined earlier, many canonical texts of activity theory invite a *developmental focus* and associate that focus with interventionism. That issue is occasionally discussed in the sample—in thirteen papers as a reason for theory choice (Table 3) and in seven valorised as an advantage of the theory (Table 4). Yet intervention-research is uncommon in the sample: there are but two examples of those Developmental Work Research/Change Laboratory interventions pioneered in the activity theory community (Morselli, Costa & Margiotta, 2014; Reid et al., 2014), two examples of design-based research, and one of action research.

Of course, there are other ways in which activity theory might 'destabilise' research methodology choices. Scrutinising those 12 papers that use activity theory *paradigmatically* (Table 2) does reveal four examples of papers that deploy some activity-theoretical justification for selecting their methodologies. Aside from the two DWR/Change Laboratory cases, those examples also include theoretical justifications for selecting a case study approach (e.g., Hardman, 2005, p.383). activity theory is also used in five of those 12 papers to justify the selection and content of particular research instruments. For example Huang (2011) justifies that fact that the "materials collected for analysis included worksheets, weekly discussions, self-evaluations and mutual evaluation forms, interviews and documents" (p.569) on the grounds that "'Activity theory involves mediated action that focuses on agents and their cultural tools, the mediators of action" (ibid.).

Yet the fact remains that such laudable attempts are rare in the sample. Moreover, and tellingly, scrutinising the reasons for activity theory's valorisation (Table 4) reveals only one paper directly recognising that an advantage of the theory overall lies in its potential and actual methodological contributions (Trowler & Knight, 2000): namely, as a credible inspiration for thinking beyond the methodological individualism that, it is suggested, is entrenched in the field (p.40).

Therefore, we must conclude, overall, that the evidence for activity theory *explicitly reframing* research processes is limited.

Conclusion

Let us take stock. The present paper fundamentally addresses the value of theory-in-application. That issue is discussed, often apprehensively, within the higher education research literature. We suggest the vocabulary of *framing*, *polyfunctionality*, *interwovenness* and *reframing* to indicate some of the more pertinent 'values' we might ascribe to theories-in-application; and study the application of one particular theory—activity theory—in higher education research itself. That latter field exhibits, it has been suggested, a gradual increase in explicit theoretical usage (though from a low starting point). We wished to understand what difference using activity theory makes: is it discernibly a 'vehicle for "thinking otherwise"'? We presented evidence from our examination of published, empirical research papers. We scrutinised evident theory *roles*, drawing on work by Hammersley (2012), and the claims and judgements directly put forward in the papers.

Our analysis highlights how activity theory is typically *chosen* for its perceived empirical utility: because the 'context' of the researched phenomenon is obviously important, or because particular activity-theoretical concepts (like contradiction) are intuitively applicable. Activity theory is typically *used* for the *abstraction* and *explanation* of phenomena—to highlight particular aspects and name them or their relationships—and for *contextualising* those phenomena. The theory is *valorised* for apprehending the dynamics of complex situations and for identifying contradictions (the two being intertwined). Conversely, activity theory is rarely chosen to directly challenge prior conceptualisation of the research object, or because of interest in the theory *per se*. It is used infrequently to establish investigative *paradigms* or *hypotheses*; very rarely to calibrate *norms* for researched practices; and never for *predictive* purposes. It is rarely valorised in ways that implicate the wider literature or potential for development of the theory itself.

How, then, to address our research question? We considered the evident influence of applied activity theory—focussing, in turn, on our values of framing, polyfunctionality, interwovenness, and reframing. We highlighted how activity theory, in application, only partially *frames* research: it is frequently influential on data interpretation strategies (especially where the activity system 'elements' are used to frame that interpretation), yet it infrequently shapes wider research design planning. Application is only narrowly and predictably *polyfunctional*: we did identify instances of six out of the seven role-categories suggested by Hammersley's work, yet two of those, *abstracting* and *explaining*, account for the majority of the usage. The theory is used in modestly *interwoven* ways: to guide observation using concepts and heed dynamic relationships (typically using the concept of contradictions); yet theory-informed observation is not used to challenge alternate explanations, including local norms at the research site. Typically, either that challenge is avoided in exposition, or else it is activity theory that is positioned as lacking. Furthermore, activity theory is rarely acknowledged in print to have *reframed* the practices, categories and processes of research: i.e., the distinctive ontological, epistemological, and methodological implications of the theory are rarely acknowledged, argued about, or openly acted upon. Considering, then, activity theory as a vehicle for 'thinking otherwise' in higher education research, our investigation points to only partially fulfilled potential.

There are several immediate implications for the discourse about theory-application in higher education research. The issue of what is and is not problematised—Maassen & Stensaker's (2005) 'black boxes'—is heavily implicated in our account. We contend that the typical manner of activity theory's selection and application *usefully* problematises the context of the researched phenomena, while *under*problematising the research object *itself*. We do not contend that valorising the theory for illustrating situational dynamics constitutes a *false* clarity (cf. McArthur, 2012) so much as a *partial* one. The dynamics thus illustrated *are* typically valuable, but that visible 'success' may help explain the lack of recognition that the intuitive research object has been enriched rather than directly challenged—having had an edifice constructed on top of it.

There is certainly some evidence for 'mythologising' (cf. Hallett, 2014). But what is being mythologised are particular aspects of activity theory rather than the theory as a whole. In particular, the use of the triangular 'activity system' diagram as a mediating research artefact is nearly ubiquitous across the sample; but that diagram seems to have become part of the shared research repertoire (cf. Tummons, 2012) in ways divorced from the context and purpose of its creation—divorced from the associated focus of the theory on development and, indeed, from other named concepts presented by the theory. Furthermore, the fact that the papers in the sample rarely state an intention to build on earlier activity-theoretical work *from within higher education research* is likely another contributing reason for an apparent ossification. That lack of a sense of cumulative knowledge-building is reflected in concluding statements' close adherence to the empirical problem at hand.

The accounts of Tight (2004, 2012) set up the higher education research community as historically 'atheoretical' but increasingly showing an explicit *interest* in theory. The account we have developed here documents the contours of that interest for a particular theory: one that is influential in the higher education research field, and respected in many disciplines across the academy. Our account shows that activity theory is useful, and valued by those who use it. But the theory—or, rather, particular aspects of it—are being incorporated *into* established research practice rather than offering a language of challenge *to* that practice. At present, activity theory is a "a vehicle for 'thinking otherwise'" (cf. Ball, 1995, p.266) only in very constrained and particular ways.

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Table 1: Source journals of the 59 included papers.	
Journal	Number of included papers
South African Journal of Higher Education	10
Teaching in Higher Education	9
Studies in Higher Education	7
Advances in Health Sciences Education: Theory and Practice	6
Higher Education Research & Development	5
International Journal for Academic Development	5
Assessment and Evaluation in Higher Education	4
Higher Education	2
Journal of Studies in International Education	2
Academic Medicine	1
Active Learning in Higher Education	1
Art, Design and Communication in Higher Education	1
Higher Education Quarterly	1
International Journal of Management Education	1
Journal of Further and Higher Education	1
Journal of Geography in Higher Education	1
Tertiary Education and Management	1
The Internet and Higher Education	1

Table 2: Role-categories for use of activity theory, with article totals and examples. Categories are not mutually exclusive (i.e., articles, and statements within articles, can use theory in more than one role).

Role-category	Theory role	Articles	Example
Abstracting	Categorising phenomena by highlighting and/or discarding particular detail.	44	"Activity theory was used as a structuring framework [...] Our coding templates contained categories from Engström's [sic] (1987) widely accepted activity theoretical model (e.g., rules, tools/artifacts, division of labor)" (Smith et al., 2004, p.95)
Explanatory	Providing names for concepts taken to underpin some phenomenon.	42	"Each [of two phenomena] is about relating theoretical ideas and classroom practice, but with a contrasting emphasis which, despite the appearance of doing the same thing in each setting, means these objects are transformed into different outcomes (Daniels et al. 2007)." (Pratt et al., 2015, p.52)
Contextualising	Positioning phenomena within some wider spatio-temporal totality.	23	"Doing this will also make visible Roth et al.'s (2004) point that identity is much more than 'embodied thoughts, actions and histories'; making sense of identities is making sense of and understanding the multiple activity systems actors are part of" (McMillan, 2015, pp. 232-233)
Paradigmatic	Establishing a paradigm for investigation.	12	"The epistemological basis for putting the collective level in the foreground is provided by situated learning and socio-cultural activity theory [which] argue[s] that collective and historical aspects of the cultural context are integral to the actions conducted by individual agents. To understand learning (and teaching) practices we have to go beyond the individuals and look at the cultural systems and mechanisms that sustain some action patterns rather than others." (Havnes, 2004, p.161)
Hypothetical	Providing speculative idealization whose validity is to be tested.	11	"...the assumption underlying the analysis reported in this article is that the introduction of computers to mediate critical questioning skills has (potentially) 'forced' a change in the activity systems of lecture hall, challenging stabilised (operationalised) ways of acting on the object of each system and, consequently, requiring new ways of acting." (Hardman, 2005, p.381)
Normative	Ascribing value to, or indicating ideal, forms of activity.	4	"Activity theory indicates that lecturers and students have different roles to play. Division of labour, so that the outcomes are met, is predicated on the interactive relationship, the guidance of the lecturer in guiding the interactions, and the willingness of students to engage in the learning task" (Lautenbach, 2010, p.900)
Predictive	Asserting causality or forecasting outcomes.	0	-

Table 3: Categories of stated, prospective reasons for using activity theory, with article totals and examples. Categories other than "None" are not mutually exclusive.			
Reason	Description	Articles	Example
Contextual situation	activity theory can locate research objects within some particular context or structure.	26	"Our work is informed, in part, by activity theorists (e.g., Engeström 1993, 1994, 1999; Leont'ev 1978; Russell 1997; Vygotsky 1978) who help us to understand some of the complex interactions that occur between individuals (e.g., optometry students) and their social structures (e.g., the optometry profession)" (Spafford et al., 2009, p.235)
Concept calibration	One or more activity-theoretical concepts are intuitively relevant.	20	"In our study we sought to bring the conceptual tools of CHAT to develop assistantship placements. One of the major contradictions lay in understandings of the transition from education to work [...] A second contradiction lay in competing timetabling requirements between the university and the hospital activity systems" (Reid et al., 2014, p.657)
Complexity apprehension	activity theory can grasp the complexity of the researched situation.	14	"Activity systems theory [sic] was chosen for this study in order to reflect the complexity of the learning framework under study" (Fanghanel, 2004, p.579)
Developmental focus	activity theory can highlight how practice does or might change.	13	"Activity theory can be used in order to understand this <i>process</i> of transformation within a system (such as a classroom/university laboratory) as well as illustrating how different systems interact with, and transform each other over time (Engestrom [sic] 1987)" (Hardman, 2005, p.380, original emphasis)
None	No reasons are provided.	12	-
Epistemological agreement	activity theory is compatible with authors' epistemological commitments.	9	"The theory underpinning the study [...] emerges from a sociocultural theoretical orientation that fits with my own epistemological view" (Brown, 2010, p.1054)
Accumulation	A desire to contribute to a body of knowledge already conceptualised using activity theory.	7	"Several empirical studies have recently looked into agency and the related activity theory for understanding L2 learning development and outcomes in different contexts" (Xu, 2012, p.587)
Comparative advantages	activity theory has advantages over some alternative.	7	activity theory offers "the potential to move beyond speculations about intra-individual processes as emphasised in dominant modes of psychology" (Akhurst & Liebenberg, 2009, p.578)
Acclaim	activity theory is respectable or popular.	6	"CHAT has been identified as a road map for the alignment of an educational environment to the practical environment of practice, as well as demonstrating the potential to overcome challenges in educational theory and practice (Roth and Lee 2007)" (Rhodes, 2012, p.304)
Question bestowing	activity theory is useful for formulating research questions.	4	activity theory can "generate[...] fruitful research questions relating to the way the mediating artefact of rankings operate across different contexts and how new meanings are negotiated and constructed" (O'Connell & Saunders, 2012, p.360)
Methodologically appropriate	activity theory matches well the chosen methodology.	3	activity theory "allows for collaboration with other theories, including the methodological and epistemological concerns underlying case study and ethnography" (Tan, Melles & Lee, 2009, p.87)
Investigate the	A desire to examine	2	"The purpose is to exemplify how activity theory can be

theory	how useful activity theory is for investigating the research object.		used to situate particular programmes and individual experiences in a wider systemic setting" (Hopwood & Stocks, 2008, p.187)
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Table 4: Categories of stated advantages of having used activity theory, with article totals and examples. Categories other than "None" are not mutually exclusive.

Advantage	Description	Frequency	Example
None	No advantages are provided.	30	-
Dynamics illustration	activity theory helps highlight interactions between particular named aspects of some phenomenon.	17	Activity theory is useful "for examining the interrelatedness between assessment, learning and teaching and for coming to grips with how the configuration of interrelated positions and practices constitute an educational programme" (Havnes, 2004, pp.174-175)
Identification of contradictions	activity theory helps identify systemic contradictions or tensions.	14	"First, activity theory provides a useful tool for identifying systemic sites of tension..." (Cotterall, 2013, p.183)
Complexity apprehension	activity theory helps grasp the complexity of the researched situation.	8	Analysis using activity theory "created a deeper understanding of the factors that influence patient safety in the complex system of workplace learning" (de Feijter et al., 2011, p.356)
Contextual situation	activity theory helps grasp how the research object is situated in some particular context or structure.	7	Activity theory "provided an understanding of contextual factors impacting this PAL intervention..." (Bennett, O'Flynn & Kelly, 2015, p.608)
Developmental focus	activity theory helps examine how an activity does or might change.	7	"The emphasis on conceptualization on the conceptually embedded dilemmas or contradictions opens up for analysis of complexities and potentials for change and development" (Havnes, 2004, p.175)
Emphasis on mediation	activity theory helps conceptualise how researched activities are mediated by artefacts.	3	"The integration of activity systems theory [sic] and critical discourse analysis helps to illustrate that the use of global rankings is not simply as a tool to pursue a single object, but the effect of rankings seems to generate different objects among the groups" (O'Connell, 2015, p.124)
Common language	activity theory provides a useful vocabulary.	2	"Using the language and concepts of activity theory, we find it easier to locate various tensions in relation to a consistent framework which draws attention to different aspects of an activity system..." (Hopwood & Stocks, 2008, p.195)
Methodological contribution	activity theory has implications for methodological choices.	1	"...the theoretical and conceptual approach [...] has important implications for research approaches [for moving beyond] methodological individualism [where research has] relied largely on interviews with, or questionnaires completed by, <i>individual academics</i> " (Trowler & Knight 2000, p.40, original emphasis)
Question bestowing	activity theory helps formulate further questions.	1	Analysis using activity theory "raises an important question: Are the roles of boundary workers in a practice like service learning inherently contradictory and is it therefore necessary to be aware of this from the outset?" (McMillan, 2015, p.238)