

How can we move forward when we know so little about where we've been? Questions about assessment from a five year longitudinal study into learning in higher education

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This is the first draft of an overall argument which I have been working on for some years. A book project, it has not been possible to present this within the word limit of a normal article.

Education is an overt attempt to influence students, to change their habits of thought and patterns of engagement. Whilst recent decades have witnessed a rhetorical shift from discourses of education to discourses of learning, this shift has arguably been stimulated more by a desire to better understand the effects of educators' activities than by a desire to embrace student articulations of the nature and purposes of 'their' learning. This paper will report on a longitudinal research study in higher education which was designed to explore such student articulations, in relation to both the texts that were produced for assessment, and the multiple contexts from which both texts and talk emerged.

Using a theoretical and methodological framing based on theories of complex adaptive systems, the study attempts to both produce and analyse data in a way that tries to take account of aspects of phenomena that are usually largely beyond the reach of conventional research approaches and current trends. For example, although starting from a broadly social and collectivist position, the study attempts to explore the ways in which individuals within collectives experience participatory practices differentially, are differentially engaged, and produce differential results in terms of assessment outcomes. This is of particular relevance in the still-individually-assessed world of institutional learning, which is arguably quite different to the workplace learning contexts which have given rise to theories such as situated learning (Lave & Wenger, 1991) and activity theory (Engestrom, 1987). From a complexity perspective, however, information about differential engagement is only a small part of the kaleidoscope of interconnecting factors and contexts which work together to produce specific assessment outcomes. The analysis attempts to examine assessment outcomes as emergent effects which arise when the interactions of particular and multiple individual contexts *intersect through time* with the interactions of equally specific and multiple institutional situations.

The paper starts with a brief discussion of current theoretical frameworks available for conceptualising and researching learning in higher education. After examining 'the particular case of learning in higher education', theories of complex adaptive systems are introduced as a way of 'thinking differently'; not only at the level of ontology and epistemology, but also in terms of research methodology. A possible methodology is then described in relation to the research project into learning in higher education (HE), and the results of the analysis are discussed. The paper ends with a number of questions about assessment which are raised by the study.

Researching and conceptualising learning in higher education

As academics, our focus, our preoccupation, is the discipline. As educators, our preoccupation is with introducing our students *to* our discipline; provoking them, challenging them, training them how to think in its ways, and how to demonstrate this thinking in written assessment. 'Thinking' is of particular importance here when it comes to considering how understanding of learning in higher education might be developed¹.

The shift from discourses of education to discourses of learning which has taken place over the last few decades has arguably been stimulated by a desire to try to better understand what is going on for students as academics attempt to induct them into their disciplinary ways. Parallel to the development of this intrinsic and disciplinary interest in learning, however, the last two decades or so have also witnessed the development of increasing government concern with the importance of learning in the context of economic and instrumental imperatives. 'The student' has become 'the learner', and is increasingly now 'the client', albeit if only implicitly. Market-driven discourses range from 'preparing people for the workplace' or 'meeting the demands of employers' to 'meeting learner needs' and 'coping with learner demands'. Such articulations compete (and often clash violently) with disciplinary discourses about challenge, critique and evidence. Another set of discourses emanating from the generalised notion of 'the scholarship of teaching and learning' blend aspects of these first two discourses together, eliding 'bottom up' notions of emancipation and change (reflecting the history of Adult Education movements of the 1970s and 1980s) with contemporary, policy-driven discourses of lifelong learning, often situating these mixed ideas within the overall framework of thirty years or so of approaches to learning research (Marton & Saljo, 1984/ 1997; Prosser & Trigwell, 1999). Academics are also regularly informed that learning should be fun, meaningful, and should relate to students' own interests and desires. The different demands set up by these converging discourses, and the clash of their underlying assumptions about purposes and values, are arguably creating enormous tensions.

From their position as disciplinary converts, keen to change the way their students understand the world, academics presumably assume that a) what they believe in is worthwhile, b) that what they know is what their students have come to them to learn. These assumptions are not necessarily problematic. A strong case could be made for the proposition that the disciplines, with their specific and highly evolved questions and their long histories of developing particular forms of analysis, are needed more than ever in a fast-changing, media-rich, evolving and connected world. The idea that disciplinary assumptions might also be problematic, however, is less frequently discussed, other than in terms of various different kinds of 'lack' in relation to students' capacities to engage. These include lack of cultural or social capital, lack of appropriate literacy skills, and lack of relevant academic experience.

The academic/disciplinary position is obviously also the starting point for researching learning and assessment. Evolving from origins within cognitive psychology, researchers into learning in higher education have spent decades refining and developing the idea of approaches to learning in relation to various different forms of disciplinary content (see Marton & Saljo, 1984/1997; Prosser & Trigwell, 1999). More recently, throughout the current decade, research in the area of academic literacies, based in sociolinguistics, has suggested that it might be helpful to think of students as being involved in learning how to enter specific discourse communities (see Lea & Stierer, 2000; Lillis, 2001). A similar idea, though not one that has so far gained much purchase in relation to HE, is the notion from the theory of situated learning that students could be seen as 'legitimate peripheral participants' in such communities. From this perspective, students initially operate at the edge of a disciplinary

¹ Two of the most popular candidates for developing conceptualisations of learning in HE, situated learning and activity theory, were originally developed to theorise practice and action. Both approaches have potential for expanding how researchers think about learning in HE, but the difference between thinking and action arguably has to be kept in mind.

‘community of practice’, gradually moving inwards to become part of the community as they become more accomplished in their execution of the appropriate practices (Dysthe, et. al. 2006).

These different approaches have opened up learning in HE as a field of enquiry, with academic literacies and situated learning offering new ways of thinking that have only begun to be explored. All three approaches, however, unavoidably also articulate perspectives which reflect the concerns of academics. Approaches to learning research represents the position of many academics-as-educators (Why are so many students not learning in the way we want them to [surface approach]? How can we get students to learn what it is that the discipline values? [deep approach]). Academic literacies work represents the position of academics-as-discourse-analysts (How does this talk position students in particular ways? How do the dominant discourses oppress or mould students in particular ways, and how does this affect the nature of the texts they produce?). Both of these forms of research start from a position of concern about/for students; approaches to learning in terms of understanding how students are operating cognitively, academic literacies in terms of how students are being moulded and produced within particular discourses. Situated learning, on the other hand, was developed for the purposes of understanding how individuals become inducted into work practices within collectives, and there are arguably questions about its relevance or potential in relation to exploring the learning of students in HE.

Another area of research into learning in HE which is concerned with student positions/ perspectives (and which academic literacies research explicitly draws on) is the broadly sociological approach taken by researchers such as Leathwood (Leathwood & O’Connell, 2002), Archer (Archer et al, 2003), Bowl (2003), Reay (Reay et.al. 2001) and Hey (Epstein, et. al. 1998). This perspective underpins many of the concerns of academic literacies as outlined above, but usually without the specific focus on the production of written texts. Sociologically-based researchers largely explore learning in their role as analysts-of-social-formation² (How are the influences of larger patterns of class, gender, ethnicity being played out in this situation?). Many forms of research which are grounded in this orientation talk to students, and endeavour to bring student voices into the formulation of understandings of learning in HE. The answers that researchers get to their questions about university learning experiences, however, do not come to readers of research in a direct manner. Approaches to learning research creates and filters data in a relatively de-contextualised³ and individualistic way; academic literacies research creates and filters data in a text and discourse kind of way; and sociological research creates and filters data in a way which focuses on the structuring forces of society. All of these approaches create insights. All of them also reflect the disciplinary and personal biases of academic researchers.

The particular case of learning in HE

One of the problems in the many different discussions about learning currently taking place in a range of different contexts is arguably a lack of clarity about the meaning of the word ‘learning’ itself. Far from being self-evident, learning covers a wide range of possible meanings. In reaction to a long history of relatively decontextualised and individualistic approaches, however, discussions are currently dominated by sociological/sociocultural approaches (Davis & Sumara, 2006; Archer, 2000). academic literacies and sociological approaches, for example, privilege larger, societal discourses and effects, whilst situated

² This is a gross simplification designed simply to identify a general orientation. Sociologists such as Margaret Archer (2000), for example, argue against the tendency in sociological perspectives to privilege the structuring forces of the social

³ Although approaches to learning research is explicitly concerned with context, up until recently this context has been largely confined to the teaching context of the classroom. Implications of this research often discuss the importance of changing teaching methodologies in order to achieve better assessment outcomes.

learning (Lave & Wenger, 1991) and activity theory (Engestrom, 1987) privilege the learning of collectives, or of people as parts of collectives.

In the context of current discussions of collectivities and networks, learning and knowledge are often described as being 'distributed' (Daniels, 2001; Lave and Wenger, 1991, Seely-Brown, et.al. 1989). This is quite a radical idea which has been extremely generative in relation to understanding the largely 'unintentional' learning (Lave & Wenger, 1991) involved in different forms of vocational and professional learning. The idea of distributed learning can do useful work in the context of discussing the development of collective and culturally-based knowledge practices. But a perspective which is useful for understanding collective, unintentional forms of learning does not necessarily work particularly well for understanding how and why individuals within collectives *experience participatory practices differentially*. It also provides only one type of answer to the question of how and why people involved in intentional forms of collective learning activity (eg. assessed learning in institutions) are *differentially engaged*, and produce *differential results* in terms of assessment outcomes.

In contrast to apprentices learning a trade (Lave & Wenger, 1991), or street children learning to do maths for practical purposes (Seely-Brown, et.al. 1989) learning in HE focuses explicitly on 'second order' learning (Laurillard, 1987). This learning is at least partly-conscious; it involves reflection, examination, problem-creation, and other explicitly *cognitive* forms of activity. What is assessed in this context is the product of conscious, intentional forms of stimulation which have been provided by disciplinary specialists with the explicit purpose of forcing individual students to process and explore aspects of the discipline individually and personally. Such products, almost always written, are assessed individually, within a culture which rewards individual scholarship and achievement.

Whilst studies of learning have long focussed upon individual processing styles and strategies, and more recently upon the constraining and productive effects of larger social forces, there has been much less attention paid to the culture and interactions of the *institution* in relation to student learning. Situated learning or activity theory could be used to study learning of HE collectivities such as classes, groups, departments and institutions themselves. A problem with this, however, is, as discussed above, that studies from these perspectives may simply produce more nuanced versions of established researcher/educator concerns. For example, a research project might set out to analyse how a disciplinary community is functioning, and to track aspects of the ways in which students gradually become inducted into this community. Whilst this could produce interesting results, the project (and of course this true of all research projects, whatever their orientation) would be unable to 'see' things outside of its basic assumptions; in this case, for example, perhaps that some students might not even recognise the idea of 'the discipline' in the first place.

Dominant forms of theorising about learning tend to be either individualistic, as in approaches to learning research, or, as discussed above in relation to situated learning and activity theory, to remove individuals from the picture more or less entirely. Even sociologically -grounded approaches, ironically, ultimately offer explanations of 'difference' which may then be used to categorise and label students in individualistic ways. Though understanding the productive and constraining powers of societal dynamics such as class and gender is hugely important in *general* terms, when it comes to understanding a *particular* person, social/societal understandings may function as the source of new forms of stereotyping, in the sense that a specific person is seen as a representative of whatever category, group or type an observer judges them to fit into (eg. this student is a mature, working class woman). A non-individualistic way of conceptualising the person is arguably needed; one which can keep the constraints and formations of larger social systems in view, without necessarily assuming what Margaret Archer (2000) has called 'downward conflation', in which the individual is only a product of larger social forces.

It is currently also difficult to conceptualise the dynamic effects that are produced when individual particularities and social particularities interact in specific locations; to conceptualise what is produced from the *combination* of the individual and the social/contextual working together. Although other approaches acknowledge this working together with phrases such as ‘the complex interplay of structure and agency’, the generalised notion of structure/agency is usually assumed to be too difficult to analyse in any detail. The person in such articulations usually remains undescribed, with individual specificity generally being reduced to membership of one or more social groups. People ‘themselves’ are most commonly regarded as idiosyncratic black boxes which are beyond the reach of analysis.

The conceptualisation of the social with which most ideas of structure/agency are concerned is usually the relations and discourses of the larger society. A recent survey of key HE journals over the last four decades suggests that, although other areas of education have been exploring this interpretation of ‘the social’ for a number of decades, consideration of the effects of wider social forces is a relatively recent focus in mainstream HE journals (see Haggis, 2009b). This new direction may lead researchers in HE to neglect investigation of the space *between* the individual and wider social forces; the space of disciplinary and institutional interactions into which the products of combined individual and social particularities emerge.

A different starting point

In an attempt to address some of the problems discussed above (and to interrupt established patterns of interpretation and analysis), the research study to be introduced below is framed in relation to principles and insights from theories of complex adaptive systems (the terms complex adaptive systems [CAS], dynamic systems and complexity are used interchangeably). This choice, of course, equally reflects the disciplinary and personal bias of the researcher. An aspect of this bias is the desire to try to ‘think differently’ about higher education learning; to explore ways of thinking that are based on a different set of assumptions to those which underpin approaches to learning, academic literacies, situated learning/activity theory and Sociology. Another aspect of bias is the researcher’s desire to try to explore dimensions of phenomena which are usually largely beyond the reach of conventional research approaches. For example, to try to find a way of accommodating elements of data which are usually discarded in the creation of a category or theme, or a way of researching and theorising the concrete which does not involve generalising forms of abstraction.

I have argued elsewhere that research approaches which appear to be intentionally or philosophically different are arguably often underpinned by very similar ontological assumptions (Thomas, 2002), and that the relative lack of examination of these assumptions may be the cause of some of the limitations of current approaches (Haggis, 2008). An example of such assumptions is the way that qualitative interview data are usually analysed cross-sectionally in order to produce categories and themes. This is not necessarily problematic; it depends what claim is then made in relation to the theme. If, as often happens, the theme is represented as being knowledge about the group of people who have been interviewed (eg. mature students, first year chemistry students etc), the suggestion that a similarity pattern ‘reveals’ something meaningful about this category of person/student arguably reflects a search for a subtle form of ‘deep structure’⁴, despite the fact that learning researchers using interviews may be likely to reject this in terms of conscious intention. The ways that data are handled in many different types of learning research are often constrained by unexamined and surprisingly similar ontological assumptions, which in turn restrict what is possible epistemologically (see Haggis, 2008 for further discussion).

⁴ Such structure may be variously conceptualised, and may relate to the cognitive, or to wider social structures.

In contrast to tacit assumptions of underpinning structure (however subtle), causality in complex adaptive systems is dynamic, de-centred, and locally responsive. Structure takes the form of constraint and continuing emergence, both of which arise and form through time as embedded systems interact and respond to changing conditions. Examples of such systems include ant colonies and ecosystems in nature, and cities and economic systems in the social world.

Complex adaptive systems are open, dynamic entities with permeable boundaries, which are embedded within, and themselves embody, other systems of the same type. Such systems consist of large numbers of multiply-connected components interacting through time in recursive, non-linear ways. They continually 'learn', in the sense of adapting and changing through time, in response to challenges both within and beyond themselves. This adaptation is facilitated by *emergence*, which occurs as a result of continuing histories of locally responsive interactions in ways which cannot easily be tracked back to identifiable antecedents in any straightforward way. Bringing in the importance of initial conditions, history and time, theories of complex adaptive systems challenge the Newtonian idea that effects are straightforwardly predictable and proportional in relation to causes; small differences in initial conditions can result in widely divergent emergent effects through time, and predictability is limited (for a detailed discussion of these issues, see Haggis, 2008, and Haggis, 2009a).

Studies which involve talking to students in particular HE contexts, whatever their orientation, often struggle to 'talk back' to dominant discourses which privilege large-scale, random controlled trial and statistical approaches to understanding learning. Theories of complex adaptive systems, however, are not only equally based in the natural sciences⁵, but represent a comparatively new wave of thinking in these sciences which is based on quite different principles to those which seek to establish correlations and the promise of 'deep', causative principles. By recognising the particularity of concrete phenomena and the importance of local interactions, theories of complex adaptive systems create conceptual space and provide a language for the investigation of specificity and difference. By focussing on dynamic processes through time, and the unpredictable forms of emergence which these processes give rise to, theories of CAS also challenge habits of conceptualisation which function by creating static, general, 'underlying' types of principle and category. Finally, by articulating de-centred, multifactorial and recursive causative processes, theories of CAS challenge many of the conventional 'deep structure' assumptions which underpin many forms of cross-sectional analysis.

Theories of CAS thus have direct implications for research methods and methodology. If the entities which are of interest to educators (eg. people, groups, departments, institutions, societies) are seen as being dynamic, continually emerging through time, and specific to local constellations of conditions (ie. irreducibly particular, incapable of being meaningfully compressed into a model or reduced to underlying principles)⁶, then complexity presents researchers with the challenge of working out what it means to say that 'knowledge must be contextual' (Byrne, 2005a; Haggis, 2008). By focussing on the study of concrete particularities, complexity can not only conceptually accommodate case studies, ethnographies, and studies which track emerging events and processes through time; it explicitly implies the use of these types of methodologies and methods, and provides a strong theoretical rationale for doing so.

⁵ There are, of course, many debates about the possibilities or otherwise of using this kind of scientific theory in the social sciences.

⁶ Note, however, that 'local' can apply to large social systems, as well as to the smaller systems which may be embedded within larger ones

A complexity-based framework for studying learning in HE

In the absence of key drivers and underlying principles, Byrne (2005b) has suggested a need to shift from a focus on causes (which can never be observed) to a focus on *effects* (which can be). Looking from a slightly different angle, Goldstein (2005) suggests a need to focus on the *conditions* which lead to particular forms of emergence or outcome. Combining these two approaches, the researcher's task might be seen as being a) to observe and note conditions (initial, historical, present, and interwoven with other systems) and b) to observe and note what emerges from such conditions. This is subtly different from conventional approaches to cause and effect, in that the recognition of a relationship between conditions and emergent properties does not attempt to define any of the causalities involved⁷. The path from conditions to effects crucially consists of c) multiple interactions, but principles of CAS suggest great caution in terms of trying to map or describe these interactions with any kind of precision.

The first thing that a complexity-based approach suggests in relation to the study of learning in HE is *the necessity of looking across multiple levels and systems simultaneously*. It is not enough to focus on the learner, or the social forces that might be said to construct such learners, or practices within the institution. A way has to be found of trying to keep a sense of these different levels and systems *in relationship* to one another⁸.

The second implication is that the analysis does not attempt to articulate general themes which attempt to cut across a range of examples. Instead, it focuses on *a specific set of local conditions*, attempting to articulate different aspects of these conditions, and some of the emergent *effects* which appear over time in response to the dynamics present in these conditions⁹. As the link between conditions and effects is the interactions between the multiple components, the analysis might also attempt to articulate aspects of the interactions which are taking place (though without the desire to attribute direct forms of causality).

The third implication is that at least some of the dynamic systems under investigation must be studied in relation to *processes through time*. This is the only way to understand something of the way that such systems change and adapt; emergent effects only occur if 'richly connected' multiple agents are interacting through time (Cilliers, 1998).

Multiple levels

In relation to the necessity of looking across multiple levels and systems simultaneously, some of the multiple systems/levels involved in the study to be reported here have been defined as contexts 1, 2 and 3. As well as functioning to keep different types of dynamic system in view, this framing also helps in separating out different aspects of the generalised notion of 'context', frequently referred to in contemporary studies of learning but usually in very non-specific ways¹⁰. The three types of context are as follows: 1) the dynamic system which is the focus of the analysis; 2) the group (s) or institution (s) which the focus system is embedded within; and 3) larger group (s) or culture (s) which contain the previous two systems. The implications of this framework as a guide to planning and carrying out research are described in the following table:

⁷ Causal relationships are regarded as either beyond reach of the researcher, or irrelevant, in the sense that emergence either cannot be tracked back to particular antecedents ('strong' emergence), or that the nature of the relationship to between antecedents and emergence is unclear ('weak' emergence) (Osberg, 2005).

⁸ This is still a form of reduction, but the reduction is operating on the basis of different principles to those associated with conventional research practices.

⁹ No attempt is made to track the causal pathways between conditions and effects; the researcher is simply trying to get a sense of what is co-present with what.

¹⁰ See Haggis, 2008 and 2009 for discussion of problems and confusions created by the conflation of different types of context

A Research Procedure			
1. Choose the dynamic system which is the focus of analysis			
2. Articulate some of the range of dynamic systems of which the focus system is a part	<i>Context 1: the dynamic system which is the focus of the analysis</i>	<i>Context 2: group (s) or institution(s) which the focus system is embedded within (often 'the case')</i>	<i>Context 3: larger group(s) or culture(s) which contain the previous two systems (social systems, cultures, discourses)</i>
3. Map conditions and effects			

Figure 1: A research/data analysis procedure

The research project

The problematic addressed by the research project was ‘understanding learning in HE’¹¹. The research was a response to the observation that students and teachers in HE seemed often not to be understanding each other; in relation to the aims and purposes of courses; in relation to key issues that the lecturer might be trying to get across, in relation to the purposes and practices of assessment, and in relation to assessment feedback. Learning was defined very broadly as ‘all of the processes involved in working towards and producing a written text for assessment’. Using the framework described above, the project focussed on trying to get a sense of conditions and emergent effects through time as these related to the learning of a specific group of students in a small, pre-1992 university between 2000 and 2005.

Initially comprising a volunteer group of Access students (15 at the start), the study followed each student through their Access course (three interviews) and onto their university courses (annual interviews), in some cases until they either dropped out or completed their degrees. A number of the students’ Access tutors, many of whom were also lecturers on undergraduate courses, were also interviewed. In addition to the interview data, a limited number of group meetings were recorded, and written assessment outcomes were collected for all the units of the Access course, and thereafter two assignments per year from undergraduate study. Many of these assignments included written assessment feedback from the tutor.

Context 1: the dynamic system which is the focus of the analysis

Each individual student was conceptualised as themselves being a complex adaptive system. This is consistent with complexity-based work in both the natural sciences and psychology (see, for example, Fogel et al, 1997, in psychology). The historical problems of reification and essentialism in relation to the conceptualisation of the individual in the social sciences, however, tend to prevent writers using complexity theory in education from making explicit mention of the fact that ‘people who learn’ can themselves be conceptualised as dynamic systems. Nonetheless, within the overall framework of complexity, it can certainly be argued that ‘humans... too are open systems’ (Archer, 2000:160) and that all of the things which

¹¹ This has been reported elsewhere (see Haggis, 2004; 2006a). Research questions included the following: How do Access students talk about learning, teaching and study when they come into higher education? How do they talk about the purpose of learning at university, and about their role as learners, and the role of their teachers? Does the way they narrate their understanding of learning and purpose change as they move through the system? If so, how? If not, why not, and what are the implications? How do narrated understandings and experiences relate to the development of academic literacy? Are current models of learning in HE sufficient in relation to the answers to these questions?

apply to living organisms, eco-systems and emergent social systems also apply to people. Importantly, the person framed as a complex adaptive system is without any kind of essence; there is no 'core' self or personality. There is only a 'sense of self', which is dynamic and continually emerging¹². The person-as-adaptive-system is conceptualised as an *open* system. Emerging as a particularity from a set of *specific initial conditions* at a particular time, into a range of *multiple and embedded* other systems, it has *evolved and changed* through time within the constraints of the larger systems within which it is embedded and in response to changing multiple conditions.

Local conditions

The research attempted to map something of the different sets of conditions in each person's situation. This involved not only varying sets of past initial conditions and particular histories, but also the person's embeddedness in a constellation of 'multiple presents'; their ongoing involvement in a range of different collectivities (family, work, social services etc), simultaneous to their involvement with the HE institution. Some aspects of these conditions were verifiable facts, such as parental occupation, school qualifications, current employment circumstances, or subjects chosen for study on the access course. Other aspects were narrated, such as stories about school and employment, reasons given for wanting to study, and hopes for the future.

Initial conditions in terms of the narrated aspects of a person's life history, and the way they articulated their own sense of purpose at the start of the study, can only be understood as *traces* of conditions, interactions and effects in their lives up to that point. One of the most interesting and challenging aspects of conceptualising people as dynamic systems is the fact that people have awareness. This adds a layer of recursivity which is missing in complex adaptive systems such as bee colonies or city neighbourhoods. Awareness makes it harder to understand emergent effects, as it may, or may not, make a difference to what actually emerges in terms of observable outcomes. Emotions, for example, as an aspect of biological dynamics, may drive a particular course of action which is observably at odds with the discursive account which emerges as a result of conscious reflection. As effects which emerge into the present of the interview, narratives about the past build in the present upon material and mental traces, in their turn creating new effects both in a concrete sense, and in terms of meaning and future imaginings¹³.

Some aspects of the initial conditions of the study itself were more concrete. For example, the piece of writing that the participants produced as part of the admissions procedure was collected, so that it could be compared with later written texts. Some circumstantial constraints were also more than simply discursive. For example, the fact that someone had to take annual leave in order to attend the university and travel for two hours to get there; that a person had four children under the age of six who had to be cared for; that someone had just lost their home and had to move in with a friend.

¹² The idea of a dynamic and non-essential 'self' is only unusual in the context of the Western tradition (and recent 'Western' thinkers such as Derrida have, of course, worked on similar questions). Underpinned by the very different, dynamic ontology represented by the idea of 'impermanence' (which reflects many aspects of what has been discussed here in relation to complexity theory), Theravada Buddhism presents the following account of self: 'One thing disappears, conditioning the appearance of the next in a series of cause and effect... (but) there is no unchanging substance in them. There is nothing behind them that can be called a permanent self, individuality, or anything that can in reality be called 'I'. (Rahula, 1990:26)

¹³ A complexity-based methodology conceptualises the researcher as being inescapably embedded within many of the systems of interest to the research. As such, researcher effects cannot be 'bracketed out' as is attempted in phenomenology, but have to be understood as contributing to the dynamic effects being studied.

Processes through time

The participants were the focus for the study of changes through time. Interviews were repeated at regular intervals, and written assessment outcomes were collected over the five years. Permission was also sought, and given, for the researcher to collect overall grades throughout the duration of the research. The ethics of observing and documenting student experiences of assessment were at times difficult, and at two points the researcher offered to organise a writing workshop for the whole group. In addition, in later years individual tutorials were offered where the researcher and participant discussed the researcher's analysis of the texts the participants had produced, though only two students took these up. There was also one student who seemed to be having tremendous problems, year after year. The researcher interviewed the head of her department in order to try to get a sense of how the two 'sides' understood what was going on.

Emergent effects

It was suggested above that the researcher's task within this framework is seen as being a) to observe and note conditions (initial, historical, present, and interwoven with other systems) and b) to observe and note what emerges from such conditions. Through time, emergent effects, of course, also become conditions for new effects. Emerging effects were analysed both in relation to aspects of narrative (changing ideas, understandings, elements of meaning) and in relation to observable, concrete outcomes (changing course, failing an exam, achieving a grade, the text produced for assessment)¹⁴.

For each participant, the interview narratives (between three and eight, depending on how long they stayed in the project) and written texts were subjected to a longitudinal analysis. Thus it was possible to see, for example, how the structure of a written text compared to what the writer had said over time about why they thought they were writing and how they went about doing it.

Context 2: The group (s) or institution(s) which the focus system is embedded within

Context 2 in this study is seen to refer to the specific institution in which all of the participants were studying. The institution is itself a particularity; emerging from specific sets of initial conditions, within particular sets of constraints and larger systems, adapting and changing along its own unique historical trajectory. Context 2 is also the specific forms and cultures of the disciplines which the participants were studying. As a higher education institution in Scotland in the early 2000s, the particularity of the specific institution is constrained and evolving within the constraints of the larger systems within which it is embedded: systems of policy, of funding, of discourse, of governance. Similarly, any discipline taught within the institution will have its own unique initial conditions and history within that institution, at the same time as operating within the constraints and flows of that discipline as a wider historical and cultural system.

Information about the conditions of Context 2 again consisted of both narrative traces and more concrete observable effects, although these were mediated by the particularities of each participant's engagement. Traces of institutional interactions existed in the narratives in the form of stories about disciplinary characteristics, or remembered events. For example, Jane, a young mother of four, and a student of English, talked of gradually becoming more and more petrified and confused as she had to read stories they had to write for assessment out in class. Will, a security guard studying history, who dealt regularly in his home life with the effects of poverty and heroine addiction, believed he was punished for not being to find an exam room by being given an additional essay. It is easier to verify whether pedagogy in English involves reading out in class than it is to verify the essay punishment as an actual event. But these stories are traces of something; the remnant of an interaction, or a pedagogical practice,

¹⁴ It is worth restating here the idea discussed above that the nature of the causal links between conditions and emergent effects is seen as being beyond reach of this kind of study

which had an *effect* in relation to that student's evolution and engagement within and through the system. In addition, there are stories which represent participants' views and opinions about the interactions they were involved in ('I don't think lecturers are taught how to teach'; 'that postgraduate tutor was helpful but his knowledge didn't go very far').

A more concrete trace of disciplinary cultures and interactions was lecturer feedback comments on essays. An interesting aspect of the analysis here was a comparison of the metaphors lecturers used when talking about how to write essays, compared to the metaphors used by the participants¹⁵.

A third type of information about Context 2 was the researcher's cross-sectional analysis of the participant interview narratives through time. Cross-sectional analysis of interview narratives for the purpose of identifying recurring patterns and themes is arguably not problematic as long as it is clear that the theme refers to aspect of the system within which the individuals are contained, rather than potentially signifying essential characteristic of 'types' of individual¹⁶.

Analysis of Context 1: longitudinal narratives and learning

The longitudinal analysis of interview narratives focussed on patterns of language in the form of use of metaphor and imagery, and these patterns were then considered in relation to analysis of the development of the structure and clarity of written texts. The analysis suggested the following initial observations:

- It may not be helpful to talk generally about 'learning'
- People may be far more different than researchers often tend to suggest
- In terms of understanding learning in HE, it might be productive to think of learning in this context as something dynamic, idiosyncratic and particular, rather than in terms of categorisable approaches (eg deep, surface, strategic etc) or as a collective activity (as implied, for example, by theories such as situated learning)¹⁷
- Re-considering who has 'ownership' of learning in institutional contexts may suggest new ways of framing lack of engagement or 'poor' learning outcomes

When viewed in relation to the 'initial conditions' of their lives (place, class, gender, parental occupation), and in relation to their specific histories (schooling, post-school learning experience, work history), the participants in this study were *profoundly different* from each other; far more different than might have been anticipated. Specificities of detail usually have to be eradicated in order to create the type of abstraction which is based on cross-sectional similarity patterns, leading to the creation of apparent regularities. When this detail was examined within its own context through time, however, not only was the level of difference quite startling, but also many of the apparent mysteries about learning in the literature¹⁸ seemed to fall away.

¹⁵ Metaphors are seen as traces of the interactions of Context 3; the wider societal cultures and discourses which contain people and institutions

¹⁶ For example, 'this university setting, in the context of current political and cultural agendas, encourages these adults to talk about learning in terms of career prospects' rather than 'these adults are all motivated by career prospects'

¹⁷ 'Dynamic' and 'idiosyncratic' are themselves categories, but of a different kind. The point here is not to try to eliminate categorisation, but to question the basis on which many categories are formed, and to experiment with categorising in different ways, on the grounds of a different ontology. 'Dynamic' and 'idiosyncratic', as categories, also raise questions about the kinds of action/practice implied by research.

¹⁸ For example, the finding that not only do most students 'take a surface approach' to learning, but that many students increase the use of surface approaches as they progress through their studies (Case & Marshall, 2009)

Orientation

Although the participants were uniquely different from each other, there was an unexpected degree of similarity *within* each longitudinal story, in terms of the use of metaphor and imagery through time. The consistency of metaphor use and imagery through time was unexpected; only later was it theorised in relation to what Davis & Sumara have described as the ‘structure-determinism’ of dynamic systems evolving through time.¹⁹ In each collection of longitudinal narratives, the use of metaphor and imagery seemed to create a distinct colour; a unique hue which ran through time like a thread, despite all sorts of development and change. I have called this thread ‘orientation’. Orientation is a unique and particular stance towards life; a kind of attitudinal habit of engagement. It is different for each human being, because each person emerges uniquely from their own particular set of conditions (initial and continuing) through time. At the same time, orientation is curiously consistent with itself; it is as if the flow of experience and response to experience gradually lays down habitual pathways, lines of least resistance, which then tend to form and direct new flows of experience and response. Four of these orientations will now be briefly described.

Sheila, a recently retired health visitor, enrolls on a degree in English and Politics because she has philosophical questions that she wants to have answered. She also has a lingering sense of past inadequacy in relation to her experience of arguments and discussions; she wants to know things in response to her own questions, but she also wants to be able to make stronger arguments and have more interesting discussions in social situations. Her orientation was described as ‘*tentative exploration, refinement*’. She has a sense of knowledge and information being ‘over there’; that there is something both intrinsically interesting and socially important that she wants to get her hands on, that has so far been denied her. At the same time, she doesn’t want to change herself too much. She talks about having opinions and views that she feels it is too late to change now, and in a sense seems to be saying that she has no desire to take her questions beyond a certain point. Despite her professional past, she defines herself first and foremost as ‘a mother’, and tends to pull back when various disciplinary challenges become too great.

Patricia is a foster parent in middle age, who enrolls on a degree in social work to gain a professional qualification that will recognise the experience she has gained over many years of working with social services. Brought up by nuns in Ireland, she has deep, visceral fear of all things educational, which she says is a result of repeatedly negative and alienating institutional experiences. Her orientation is described as ‘*determination to overcome a sense of alienation; different; defiant*’. She feels somehow lost to herself; that something has always been hidden from her, something about herself, which other people have recognised, but which she cannot see. She also feels ‘different’, talking about not being able to use ‘other people’s logic’, being unable to concentrate or take things in; easily distracted ‘like a child who wants to play’. This often leads to panic, increasing the sense that she is ‘not like other people’. At the same time, she is defiant and funny, constantly making jokes about herself and her experiences. Though she desperately wants to break through the block which hides her from herself, and believes that education is the key to this, she also has a healthy disrespect for some of the assumptions and values of both education and educated people as she perceives them. After years of being both patronised and valued by people with degrees, she feels that she can see the limits of what she understands of society’s assumptions about education.

¹⁹ Davis & Sumara (2006) define structure-determinism as follows: ‘It is one thing to try to make sense of where a complex unity begins and ends. But even if that issue could somehow be unambiguously settled, another at-least-as-difficult issue is the fact that *it is the system – and not the system’s context* - that determines how it will respond to emergent conditions (99) (my italics). In other words, not only are systems always specific and particular, but it is the specificity of a system’s own dynamic structure which will determine its responses.

Jack is in his mid thirties when he enrolls to study history, following the death of his mother, who he cared for from the age of 16. Emerging from the breakdown her death precipitates, he is passionate about Scottish history and has dreams of becoming a historian. Jack's orientation has three aspects. The first of these is '*building a new life, discovering a new world, vision, clarity, expansion*'. The second is '*improving yourself, reaching higher levels, achieving, conquering*'. The third is '*enthusiasm, pleasure, engagement with life, stimulation*'. He talks of building a new life from the rubble created by the explosion of his mother's death; of rising up to levels beyond those you have known, and beyond those around you. He has a confidence that in the end he will rise sufficiently to 'achieve equality' with the people who are teaching him. His positivity and determination persist through years and years of study, and through all sorts of personal and financial challenges. University study seems easy compared to the kinds of life and death situations that he has known in his life (his niece was murdered, for example). He describes his desire for knowledge as 'a craving', and talks about himself in collective terms in relation to both university and home communities, with apparently no difficulty reconciling the two.

Will is a similar age to Jack, and appears to share many of Jack's characteristics in terms of class, educational experience etc.²⁰ He also enrolls to study history, and for what may appear to be quite similar reasons to Jack. A security guard, he is sickened by what he sees as the narrowness of conversation amongst his colleagues; they want to talk about sport, whilst he wants to talk about the destruction of Buddhist sculptures in Afghanistan. Like Jack, he talks about study as being 'like a drug', something which he needs to survive. And yet his orientation could not be more different. The first aspect of his orientation is '*war, attack, struggle*'. He talks of being 'under the cosh' at university, seeing institutional learning as an assault and his tutors as judges. He is locked in a battle with his employers, who he constantly has to lie to and manipulate in order to get the study time he is supposed to be entitled to; and with his stepsons, who have addiction problems. His anxiety is so extreme at the start of the Access course that he memorises an entire study skills book in order to be prepared for the humiliation he is expecting. The second aspect of his orientation is '*desire to connect, to be heard, to have his existence acknowledged*'. He talks repeatedly about wanting to 'get his message across', about wanting people to understand him, to know what he thinks, and wants to be able to do this in writing. This second aspect seems to be what makes it possible for him to persist in the midst of his experience of war. The third aspect of his orientation is '*desire to engage intellectually with the world*'. This is not quite the same as the desire to be heard; it's not about being acknowledged, but about a search for stimulation and intellectual challenge.

Orientation and engagement

'Orientation' is a stance in relation to life, rather than 'learning'; a particular and individual framing for the ongoing process of constantly repairing and creating a sense of coherence (meaning, purpose) in the face of change. The unique character of a person's orientation is not the embodiment of any kind of external structure, whether social, cultural, or 'deep'²¹. Nor is it the expression of an internally-generated centralised soul or self. It is an emergent pattern, a

²⁰ Both participants are first generation students in HE, who left school at 15 with limited or no formal qualifications.

²¹ 'Orientation' has some similarities to disposition/habitus (Bourdieu & Wacquant, 1992), or to even to the very general idea of 'motivation'. In relation to disposition/habitus, the idea of orientation could help in creating a clearer articulation of habitus, which 'according to some critics is... notoriously elusive' (Marshall, 1998). But it may also differ from habitus. Although Bourdieu presents a subtle description of the interplay between habitus and field, and between agency and structure (Colley, 2003), this subtlety often seems to become lost as others take up his ideas. Habitus is often presented as being the creation of forces of wider social structures, and Bourdieu himself has been accused of structural determinism (Jenkins, 1992 in Bloomer & Hodkinson, 2000).

‘structure-determined’ shape forming and re-forming itself within multiple forms of constraint, and continually emerging into range of multi-contextual spaces²².

As can be seen in the brief descriptions above, ‘orientation to life’ cannot be separated out from ‘orientation to university’. The desire to study emerges within the overall ‘orientation to life’, and is always subordinated to this wider life response. What is interesting in terms of understanding engagement with institutional learning is the way in which each person’s overall orientation towards life seemed to quite clearly frame the nature of engagement with institutional practices. Sheila (‘tentative exploration’) starts off hopeful and excited about what she feels she is going to learn. As time goes on, however, she finds that the difficulty of trying to ‘work out what they’re looking for’ becomes quite dispiriting, particularly in the context of the changing demands of her family (her daughter has a baby and begins to need more of her time). Although she learns a number of things, in the final interview before she graduates, she is still confused about what really was expected of her in her different subjects, in terms of learning to write. Her ambitions to answer her own philosophical questions, and to become more ‘knowledgeable’ and authoritative in social conversations gradually become reined in as she takes a more strategic approach to simply surviving and trying to maintain her grades.

Patricia, on the other hand (‘determination to overcome alienation and exclusion’), maintains her humour and resilience throughout five years of full time study during which time she leaves her husband, learns to live on her own, and fails a succession of exams and a social work placement. Determined to conquer what she describes as ‘psychological hang-ups’ about writing (which she feels go back to her catholic education), she is driven by a conviction that facing up to her problems with writing and education will help to uncover a part of herself that has always been obscured. In the midst of her repeated failures, the researcher interviews her head of school, who describes Patricia as suffering from an anxiety typical of mature female students. Patricia herself becomes more and more confused about what is being expected of her in terms of assessment.

Jack (‘building a new life, rising to new heights, pleasure and stimulation’) is relentlessly positive and optimistic about all aspects of his study. He gets lost at times, struggling with ideas and texts, but he is incredibly pleased just to be engaging. He seems to be continually amazed at his own achievements; socially, intellectually, practically, and in terms of passing assessments and gradually improving his grades. Jack’s overall orientation is in many ways very close to the orientations of the disciplinary specialists who are his teachers, and this may be one of the reasons that he narrates such as sense of belonging and satisfaction (and why he makes the most progress in disciplinary terms?). Will, on the other hand, though on the surface so apparently similar to Jack in terms of his social background and prior educational experiences, narrates an engagement with study as different from Jack’s as his overall orientation (‘war, struggle to be heard, desire to engage’).

From the beginning Will’s engagement is characterised by fear, confusion, and an ability to laugh at himself, in equal measure. In the early years, he reads scores of study skills books. Over time, he becomes more and more adept at describing, in theory, ‘what it is that

²² Orientation is not seen as evidence that the participants had ‘stable, never-changing selves’ (Evans, 1999 in Knight, 2002). As emergent effects of multiple interactions, people-as-complex adaptive systems cannot have a core, essential self in the conventional sense. They do, however, continually generate and mould what might be called a ‘sense of self’ as they emerge from within a multitude of other systemic interactions. People-as-dynamic systems do not so much ‘construct’ meaning in relation to themselves but rather continually weave and shape a sense of self and meaning as a means of *surviving intact* within the ebb and flow of the interactions they find themselves in the midst of through time.

academics are looking for'. Then he looks at his own work and finds it lacking in every respect. Even though he achieves passing grades, he is dissatisfied with both his own processes, and with the end results in terms of written assessments:

I'm taking a lot of notes out of books, but I'm not reading the paragraph, understanding it, then putting it down in my own words. I just go on and on, wasting a lot of time and energy copying off the books, not actually writing from them, but copying out someone else's work. It's boring as well, because you're not learning from it as such.

Despite positive feedback, he often expresses dissatisfaction with what he is writing, and openly discusses the fact that sometimes he is not prepared to try to accommodate lecturer feedback into his work. He wants to get good grades, but even more, he wants to write in a way that is meaningful to *himself*, and he's not achieving this. This private definition of learning and success can be found, expressed differently each time, in all of the participants' narratives.

Participant talk about 'learning' tended to be framed in terms which were quite different from those used by researchers or lecturers. It would have been hard to make sense of this talk about learning if it had been analysed cross-sectionally, but it became much easier to understand the nature of each person's engagement when considered in relation to their own conditions and history. Interestingly, though, at the moment that the nature of engagement with learning suddenly began to become clear, 'learning' itself seemed to disappear as any kind of recognisable generic entity.

When considered in the context of each person's specific orientation towards their life overall, the nature of their academic engagement was no longer mysterious²³. Sheila's hesitancy, Patricia's determination, Jacks' optimism and Will's struggle are not the result of past educational experience, social class or gender, but an evolving and particular response which continually emerges out of the combined interactions of contexts 1, 2 and 3. The particularity of orientation provides one possible answer to the question of how and why people involved in intentional forms of collective learning activity experience participatory practices differentially, are differentially engaged, and produce differential results in terms of assessment outcomes. Whilst orientation offers one possible explanation of the nature of academic engagement, however, it only goes part of the way towards making sense of the assessed outcomes of learning, in terms of the participants' essays and grades.

Context 2: the group(s) or institution(s) which the focus system is embedded within

A cross-sectional analysis of narratives is problematic in one sense, in that elements which recur as 'themes' are disembedded from the multi-context, historical specificity of each longitudinal narrative. This means that the ideas represented in the theme lose the coherence and meaning which they have in their longitudinal context. Seen as traces of institutional interactions, however (albeit mediated by the historical specificity and meaning-making processes of each participant), the cross-sectional analysis of talk may at least be able to raise questions about aspects of institutional conditions, practices and effects.

In general terms, the participants were very positive overall about what was happening, even if they found it difficult or felt that they didn't understand it very well. The longitudinal

²³ The nature of academic engagement is mysterious in relation to the large body of research which uses the approaches to learning framework. Though this research suggests that the majority of students take a surface approach, it can say little about the nature of this approach, or suggest possible reasons for its adoption (other than that a surface approach is taken because the student perceives the context to demand reproduction).

analysis suggested that, for the students who stayed in the system, what they were experiencing was helping them to achieve the goals they had set themselves, although, as discussed above, there was often a large discrepancy between what they were trying to achieve and what their discipline-based tutors wanted them to achieve.

Some aspects of the data could be read as suggesting that participants and tutors did share understandings of purpose of process as these might be described by academics. Sheila, for example, felt that:

Writing essays is a very good way of learning. It concentrates your mind, and you learn to put things in order. You can read a book on your own, but you wouldn't necessarily understand it... In a learning environment you get a breadth of understanding you wouldn't get from television or the newspapers. That was why I wanted to come here... I felt I would learn different points of view, and I certainly haven't been disappointed.

When it came to discussing process and purpose in relation to more specific aspects of writing for assessment, however, talk often revealed a range of competing, half-understood ideas about what was required:

I think it's maybe actually understanding the question, what the question means. You have to get inside someone's head, and understand, you know, what they want, or what they are expecting. ... You should be able to pick up what the tutor is looking for. But there is flexibility, and you're encouraged to put your own thoughts in. I don't know how flexible they are – do they want it reproduced back or some other interpretation of what they were teaching?...What happens if you interpret differently to how they see it? Do they allow that sort of flexibility? (Sheila, English and Politics)

In an essay, well, they want you to produce your ideas, your version of events, in your own words, using other people's ideas but in a way that doesn't result in you actually copying. But how are we going to argue against these people who've been doing it for years, who still haven't come up with a definite solution or answer to any of the questions they set out? You know what they're getting at, in so many senses, and yet there's always a counter argument, and I've got to conclude. It's got to be my ideas, got from the subject that these experts, who know what they're doing, though they still haven't decided how they're going to go about doing it... You say to yourself, well, I've got my ideas and argument, but is he right, or is he right, and who's wrong? What I put down on paper I feel is my perspective of all these theories that are going on between them.

I think there is enough information, but it's just deciphering this information, and putting down. I've got information I've got books, its not as if I haven't got enough sources. I've got that, but it's back to the moment of inspiration again.... (Will, History and Politics)

From one point of view, it could be argued that what these participants express *is* learning; that this is Terenzini's (1999) 'challenge to change'. The participants are thinking and questioning, slowly learning to make sense of the discipline through preparing assessments and getting feedback on these. However, over the years, the participants show varying degrees of moving towards a greater sense of the 'purpose of it all' as might be expressed by an academic. For a lecturer, it seems relatively straightforward;

We try to teach them that history is very complex and there is no single explanation. A lot hinges on the reliability of evidence, we spent quite a lot of time discussing who is telling the truth here, inverted commas round 'the truth'. You have to deal with the topic critically rather than a narrative, you're not trying to tell a story you are trying to explain what happened.

We expect them to be able to construct a coherent argument which is cogent and which uses evidence... We show them evidence, put two arguments against each other, show the way in which historians differ and trying to make them critical of historians. Because it's in a book it isn't true – that's something I think they find quite difficult. It's just practice...

We explain what they are expected to do in a history essay, which is structure, analysis and evidence... have a go and see what happens and learn... you won't necessarily hit it off first time, but eventually, if you keep working at it you will.. It's difficult, all students find handling evidence difficult. It's a bit like riding a bike, I suppose. ... Analysing, dealing with concepts, searching out evidence. The ability to look at an argument and say, does it stand up, and where's the evidence?

History Professor/ Access tutor

A comparison of the metaphors used by participants (in interview) and lecturers (in written feedback) when discussing purpose and process reveal subtle but potentially important differences. Much of the language used by lecturers was about solidity, firmness, as if the discipline was something to be grasped, taken hold of; an entity to be wrestled with and disciplined. Clear lines of thought were to be nurtured and developed, until in the end the essay would emerge as a logical unity. The processes involved were those of cutting, pruning and disciplining; ordering, reducing, and condensing; a focussing or sharpening of view. The participants had a sense of this disciplinary solidity, but their overwhelming impression seemed to be of the way that its nature was obscured from them. They talked of the hidden and mysterious nature of both discipline and process; the difficulty of guessing what was right and wrong, of making discoveries and mounting attacks. For them, the essay was not so much the result of successful disciplining but more a container; something into which you put things, or from which things were removed. For some the process was one of building, constructing, moulding. For others it was more vague, seeming to merge with more creative and literary notions of writing, involving teasing, weaving and inspiration.

Participants also talked about aspects of writing that were never mentioned by the lecturers. They talk about the sheer difficulty of 'getting your thoughts onto the page'; of a desire to write what you feel, to present who you are, and the exposure felt in putting yourself onto the page in this way. They often had a great interest in knowledge in the sense of facts and information; whilst lecturers took facts for granted and tended to criticise 'description', participants were often fascinated just to be finding out about things which were new to them. The participants tended to talk about writing as a process in itself, often with little or even no mention of the discipline, of evidence, or of things such as the way that different disciplines related to different forms of evidence. The value of essays was often expressed as a general sense of having to go through the process in order 'to show understanding', with usually little mention of developing critical or questioning approaches towards evidence. In many ways the participants were using sophisticated version of school discourses; talking about getting things right and wrong, trying to work out what the teacher wanted.

Assessment texts: emergent effects of the interactions of contexts 1, 2 and 3.

When looking across the texts produced by the four participants discussed above, one of the most striking aspects of the data was the way in which the diversity, intelligence, passion and subtlety of each person's engagement seemed to become flattened out by the assessment process. Although there was individual diversity of grades across different subjects, grades only improved marginally through the years, if at all. Despite the very high levels of insight, determination and questioning present in the narratives (much of which might suggest a 'deep' approach to learning), few of the students ever achieved first class grades²⁴, and those who graduated during the research study achieved lower second class degrees. These results accord with assumptions underpinning discourses of 'educational background', IQ, and normal distribution curves; all of which expect the majority of students not to be capable of achieving high grades. The level of sophistication demonstrated in the narratives, however, raises questions about these assumptions of 'normality'.

In terms of his tutors' expectations about developing arguments on the basis of evidence, Jack does appear to 'get it' over time, at least to a large extent. He has a better entry level of literacy than Will and by the end of his studies he can more or less handle paragraphs, knows how to signpost and usually manages reasonable punctuation. He makes good use of citations, though he only ever uses direct quotes throughout the five years. On essay feedback proformas, the distribution of ticks suggests that he is structuring arguments quite well in relation to questions. Written comments, however, suggest that he is often descriptive and that he tends not to go into the level of detail which lecturers are looking for.

Sheila has a higher entry level of literacy than Jack. Over the years, however, although proforma ticks indicate that aspects of her work are 'good', she persistently receives comments about having too much narrative, not sticking to the question, not making a convincing argument, and not organising her work clearly enough. Her written expression becomes clearer over time, at least in the subjects she feels confident in, and she does become better at doing a subtle kind of descriptiveness, going beyond straightforward recounting of facts. But she never really engages in the way her tutors appear to want her to. She misses the real analysis; mainly reporting on different views in the literature, without analysing these. Sheila was one of two students who came for a tutorial/interview to discuss her writing shortly before she graduated (she was full-time). Key points from this discussion are summarised below:

- Doesn't break question down, see separate parts and deal with these systematically.
- Doesn't understand how to use/discuss definitions (just remembers tutor stressing their importance).
- Sees the problem as 'writing a lot at the beginning and then running out of words at the end' and links this to not having a plan.
- Talks about structure, but doesn't appear to have any way of articulating this, understanding it, or doing it
- Seems to write from a kind of feel of what the topic is about, and a kind of feel of what an argument might be
- Questions are 'like a bridge hand' – she seems mystified that they are always different (contradicts her idea that everything should 'click into place')
- The more she reads, the more confused she gets
- Doesn't think about audience

²⁴ Jack and Sheila did sometimes get 1C for an essay, showing that they were 'capable' of this level of work. The 1C was usually eradicated once the essay grade was combined with the exam grade.

Will has the lowest entry level of literacy, although from the start he achieves similar grades to Sheila and Jack. Like them, he receives a lot of positive feedback in terms of the general proforma categories. He often gets 'good' or 'satisfactory' for focus and structure, clarity of expression, use of argument and evidence, and referencing. In written comments, however, he is told that he is long-winded, too detailed, heavily narrative, too descriptive and often unclear. He is repeatedly told that his discussion is too general and that there is insufficient analysis; he seems to become overwhelmed with detail and finds it difficult to pull out salient features. An analysis of an essay he brings to discuss with the researcher in his third year (part-time) has the following problems:

- Essay makes a good attempt to keep to the point, but goes off in the middle
- No sense of paragraph structure; overall structure scattered. My attempt to do a flow chart of linear points repeats things like 'overview again, in more detail. Lots of different points'. All of the information seems relevant, but it is scattered throughout paragraphs, coming across in a kind of cyclical fashion – answering the question almost in a spiral, rather than in the linear logic that is likely to be expected.
- He does define his terms, but in a scattered way. He does talk about the main issues, but in a distributed way.
- Doesn't think about audience
- Perceives the task overall as one of reducing large quantities of information (but this seems to be a problem of limited concepts to describe what's happening, not a 'reproductive' view of knowledge)
- Gets overwhelmed with huge quantities of notes and materials
- Knows, can talk about, what is required, but has no idea how to actually do this

Texts that students write for assessment are expected to be evidence of *the learning that is recognised by the discipline*. In their narratives, the participants generally expressed satisfaction that they were learning a great deal. However, what the participants defined as learning was often at odds with what was recognised by the discipline/institution. The texts that they wrote for assessment did show development over time, but this development was often in regard to things which the institution might not have recognised, or had much interest in (such as meeting a deadline, achieving a pass, writing clearer sentences, getting information, having better punctuation).

It seems that much of what they learn, over many years of hard work and careful attention, is largely what their tutors take for granted. Of the four students discussed here, only Jack really learns to make basic arguments on the basis of evidence. Even with Jack, there are certain fundamentals of academic writing that even he never learns, such as how to use indirect citations. Sheila, Will and Patricia gain a great deal for themselves, but, in terms of the discipline, they appear to make little progress in terms of the key means of operating in their disciplines. Whether or not the concerns of 'the disciplines' are, or should be, of relevance to students is a question open to debate. It might, however, be reasonable to assume that the experience of 'higher' education would at least teach students to be able to analyse questions, manage texts, and structure their thoughts into logical written narrative.

Orientation, engagement and written outcomes

From a complex adaptive systems perspective, the written outcomes of each participant's experience of study are not the result of past educational experience or orientation (aspects of context 1); of assessment practices or pedagogical techniques (aspects of context 2); or of culturally mediated relations of power (contexts 2 & 3). It is the interaction of all three types of context which produces the final outcome. In Jack's case, the combination of his relentless optimism, and the fact that his goals and outlook matched those of his teachers quite well, resulted in a fairly high level of success; as measured not only by grades, but also in terms of

how he understood the focus of his disciplines (History and Politics) and his ability to construct arguments on the basis of evidence. This is despite having no educational or work experience since the age of 15, and living in the most deprived area of the city. In Sheila's case, despite past educational success and a professional work life, her caution and tentativeness continually seemed to act as a brake on her desire to expand and explore. Her talk of largely impenetrable aspects of disciplinary expectations, combined with advice she received from other students and increasing demands from her family, resulted in some degree of success but this was at the same time constantly being destabilised.

Will's determination and humour make it possible for him to persist in his studies despite his ongoing experience of struggle and war (and the fact that his attendance at the university increases the range and frequency of his battles). University is, in some ways, as bad as he feared it would be, in terms of obstruction and frustration. Unlike Sheila, he becomes very skilled at articulating both what he is supposed to be doing, in disciplinary terms, and what he feels he is not doing, in terms of both his own and the institution's agendas. Despite his high level of introspection and skills of 'metacognition', however, his ongoing engagement with both disciplinary assessment practices and the feedback he received on his work seem to do little to help him develop either his own or the discipline's agendas for writing.

When Patricia's combination of terror, sense of alienation, and avoidance mingle with the expectations of her department, things gradually change from bad to worse. After initial optimism and hope on the Access course, her continuing resits and the negativity of ongoing feedback on written gradually work together to create even more alienation and frustration. A number of chance failures at the institutional level contribute to this, such as not receiving a letter with the date of a resit, or being the first practice student for a novice placement supervisor. The really big institutional failure is the fact that no-one, over a period of almost five years, and despite frequent meetings with people such as the head of school (who was also Dean for teaching and learning), suggested that she might be tested for dyslexia. After arranging to be tested independently, she was found to be quite severely dyslexic around the start of her final year. There is no single event or set of conditions which is responsible for either success or failure in any of these cases; it is the combination of conditions and interactions which produce the effects which continually emerge.

There are three issues to consider in response to what has been discussed here. The first is the discrepancy between disciplinary/institutional and participant ideas about the nature and purpose of learning. The second is the idea that the longitudinal analysis through time suggests that the nature of individual engagement with the 'learning processes' of higher education is not at all mysterious. The way that these participants approached and narrated what they were doing was logical and consistent within their own terms of reference, as they narrated their positions at the centre of their own unique constellation of 'multiple presents' (other dynamic systems), and in the context of their own histories and attempts to continually act upon their own lives.

Paradoxically, however, this understanding of the meaning of learning for each person cannot be seen as an argument for attempting to develop new forms of theorising and researching learning at the level of the individual. If people-as-dynamic systems engage with institutional learning in ways that are to some extent always unique, then the logical consequence of this insight must be to accept that students are, in one sense, always unknowable. Although learning may *be* understandable, such understanding is usually *not available* in most situations (and there are arguably ethical reasons why no attempt should be made to understand people at this level). In this sense, the most important implication of a dynamic systems investigation of context 1 is that it underscores the need to shift research attention to the interactions of context 2, the institution and the discipline; to look in more detail at the conditions and practices which are working together with individual orientations to produce particular forms of outcome and engagement. This is issue three.

In relation to the idea of orientation, perhaps the most that can be done in response to this is to create a clearly defined space for the recognition of its logic and power. The interactions and practices of context 2, however, are observable, and can be acted upon.

Questions about assessment...

These are not lazy, unmotivated or unintelligent students. And yet, in History, English, Politics and Social Work, over a number of years, these students do not really learn to build arguments, to confidently manage the texts they are exposed to, to sort out their thoughts clearly, or to structure their writing in a systematic and logical way. They are descriptive, overwhelmed by the detail of the texts they read, and unable to see that what they write does not have logical connections or clarity. As already mentioned above, the level of sophistication and determination present in the narratives suggests caution in terms of attributing these effects to IQ or lack of motivation. All of the participants discussed here are the first in their family to go to university, but the one with the most higher education experience is not the one who 'learns' the most, in terms of working out, and doing, what is expected. Though these participants had undoubtedly benefited from 'flexible access', whatever attempts might have been made by their tutors to 'support a range of teaching and learning styles' and 'value diversity', this does not appear to have been very successful in terms of either student understanding or assessed outcomes.

Much of what the participants said in the narratives would fit into the lower levels of the 'conceptions of knowledge' model (see Marton & Saljo, 1984/1997), and much of what they said could also be seen as indicating a 'surface approach' to the subject. But much of what they said was also consistent with a 'deep approach' and none of the participants saw the teaching context as demanding reproduction. They were fully aware of the complexity of the disciplinary task, and often able to talk cogently about many of its components. Overall, they appeared, quite simply, to be *in the dark*. It was as if someone had given them a violin and told them that they had to go off and work out how to play a symphony, and not come back until it was complete. Or presented them with a surgeon's knife, and told them to come back when they had worked out how to operate without causing loss of life.

There were variations of this sense of 'being in the dark' for all of the participants in the study. Although this is a small study, these results resonate with many other studies, and with many personal experiences of higher education teaching. From this perspective, it might be argued more broadly that, in the Humanities and Social Sciences at university level, higher education arguably does not 'teach what it tests'. The students in these examples were assessed on their ability to make arguments on the basis of evidence, but they were never taught how to do this. In any other area of education, to assess a student on something they have not been taught would be seen as serious failure of responsibility.

Years of research have shown that changing the assessment task to an academic's idea of a task that will 'encourage deep approaches' usually has little or no effect (Case & Marshall, 2009). The results of this study support Northedge's (2003) claim that many students are 'locked out' of the discipline, and that they may remain locked out for the duration of their studies. If students are unable to 'apprehend the structure' of the discipline (Laurillard, 1987), it is likely that what happens is that they fall back on half-remembered school discourses and practices; not because they 'perceive a demand for reproduction' but because they have no idea what is going on. They are simply using what little is available to them to try to make sense of something which is largely unintelligible.

Changing assessment type, whilst important, is not likely to eradicate surface approaches because assessment alone cannot model, describe or create the processes which constitute engagement with the discipline. Without teaching, students are constrained by the limitations of their own experience, which can be difficult to transcend unaided. A great deal of teaching

in higher education could currently be described as *exposure to content*, which is not the same thing as *exploring and learning processes of engagement*. The former is what many people in higher education might regard as teaching; the argument of this paper is that both higher education, and the disciplines, might benefit from re-thinking what we mean by this word. It is arguably teaching which has to change. The student cannot 'take responsibility' for learning the assumptions and practices of a discipline which they may not initially even be able to see.

There is, of course, a very strong argument which says that what makes this type of education 'higher' is precisely that students 'have to work it out for themselves'. But much of the evidence, both from this study and from a range of other sources, is that students new to disciplinary work often do not work out very much at all. This is arguably partly because academics cannot themselves see how much they are taking for granted about what is involved in the practices of the discipline. For example, when a student is asked to write an essay in response to a question (g, below), the following capacities are assumed:

- **a) Oral rhetoric:** *The ability to ask questions, use evidence and persuade (verbally).* All students can do this in their every day lives.
- **b) Disciplinary oral rhetoric:** *The ability to ask questions, use evidence and persuade, as appropriate within the discipline (verbally).* Most students learn to do this quite quickly in seminars.
- **c) Text genre:** *The ability to handle/strategically access dense genres of the discipline.* A large number of students have difficulty with this.²⁵
- **d) Exposure:** *'Getting your thoughts/self onto the page', feeling judged, uncertain.* This is rarely discussed but is often a large part of writing, for students and academics alike.
- **e) Linguistic form:** *Understanding how to punctuate, make paragraphs, construct sentences.* This is usually seen to be beyond what should be taught at university, and yet without an understanding of paragraph structure, for example, it is difficult to write a coherent text.
- **f) Written rhetoric:** *Being able to write a persuasive text as a result of asking questions and finding appropriate evidence.* Participants in this study demonstrated initiative and skill in this area in their entry test essay, when they had not yet become confused about disciplinary expectations.
- **g) Written disciplinary rhetoric:** *Being able to write a persuasive text as a result of asking questions and finding appropriate evidence, as appropriate within the discipline.* This is where a majority of lectures might wish to start...

Issues connected with c) d) and e) may interfere with g). A) to f) are not in most people's schema when it comes to talking about 'writing' or 'assessment' at university.

Students could be taught how to ask the type of question that is asked in the discipline; how to generate questions in relation to statements or topics; how to locate relevant ideas and question evidence in texts; how to manufacture a claim in relation to texts and questions; how to use extracts and ideas from texts to support claims; and how to build logical connections

²⁵ In a study into Masters level learning, Francis & Hallam (2000) found that the text genre which most commonly appeared on reading lists was the genre that the students had the most difficulty with

between ideas²⁶. Whether or not these processes are required in order to write essays or to produce a different kind of assessment, all of these things are likely to be required, at least to some degree, at least in the Humanities and Social Sciences. Far from ‘spoonfeeding’ or ‘giving students answers’, exploration of such issues in relation to specific, concrete examples of disciplinary practices and texts would arguably open a content area out into further complexity, rather than making things ‘easy’ for students.

Conclusion

I would like to close with a few questions. Some of these are general questions which arise from the study, whilst others arise specifically in relation to the themes of the seminar series.

- *Whose learning is higher education concerned with?* Students may be learning something quite different from what we, as educators, wish them to learn.
 - Does this matter?
 - How and why?
- *What is learning at university (in the Humanities and Social Sciences)?*
 - Is it what students learn within their own contexts and agendas?
 - Is it particular ways of thinking and dealing with evidence that are specific to disciplinary areas?
 - Is it something more generic, such as the ability to interrogate one’s own position, ask questions of evidence, make written arguments that are clear and unambiguous?
- *Is disciplinary thinking important in the new higher education?*
- *If it is, what aspects of it are important, and why?*
- *Are we justified in not teaching what we test, in not teaching students how to do the things that we assess?*
- *How can conventional fears about spoonfeeding and standards be transformed into an understanding of how we might engage students explicitly in exploring the processes of the discipline?*
- *If the motivated, determined, intelligent students in this study had such trouble working out the nature of the disciplinary challenge, what are the implications of the mutual miscommunication documented here for unmotivated, or more disengaged students?*
- *If these problems exist, and are often not being addressed, within current higher education pedagogical structures, what are the implications of digitisation and pedagogical practices, which are likely to be based on the same assumptions about learning and assessment?*
- *Is the ‘largely literary structure of the university’s DNA’ justified?* Writing is often a means of communicating an argument, which could also be done verbally. Which is the focus: the argument, or the ability to write the argument?

²⁶ See Haggis, 2006b for a fuller discussion of these ideas. An important element of this argument is that these activities would have to be a part of *discipline-specific, subject teaching*, rather than being offered generically by study skills or writing specialists. This is because knowledge is contextual, in all senses. The ability to carry out the processes of the discipline *is* the discipline; such processes arguably cannot be taught generically.

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