Chapter 2

The Boundaries and Frontiers of Work Based Knowledge

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Introduction

This chapter shows how evolving epistemologies and a development model of knowledge, underpins Work Based Learning Studies (WBLS) at Middlesex University. The characteristics of work based knowledge are outlined in order to convey its applications (for this defines the content) in communities of practice. The main purpose of knowledge in work based learning is to enable communities of practice and individuals within them to acquire the right knowledge and abilities that make them improved and more effective as communities and practitioners. New concepts of knowledge are expanded and extended given that 'knowledge' has become a commodity in what is often termed 'a knowledge society'. The characteristics of work based knowledge are two-fold. Firstly, there is generic knowledge implicit in the work based learning level descriptors, for example knowledge about self development, becoming a reflective practitioner and researching and developing work based practice. Secondly there is particularised knowledge relevant to the context of the community of practice. This latter, unrestricted knowledge, may be drawn from existing knowledge and may also be knowledge that is generated within the context.

WBLS as a field of study has a particular range of epistemologies that extends the territory of knowledge that inform curricula to communities of practice outside the university and also within academic discourses. The epistemological properties and characteristics of work have been shown by Portwood (chapter 1) to be in themselves, learning based. Work based knowledge is concerned with the intrinsically social activity of work where it is not knowledge per se that constitutes important curricula in WBLS but the ways and means of knowledge production shared through external partnerships and student research and development projects. The sharing of knowledge through external partnerships has meant that those working in the field of work based learning recognise that higher education institutions are not the sole providers of high level knowledge. Work based learning and other intellectual cultures that have developed, challenge the values of cognitive rationality and are concerned with knowledge that is generated in a context of application and interdisciplinarity (argued below as multidimensional rather than interdisciplinary). The university's role in developing a work based curriculum for communities of practice and individuals within them, is both contributing towards and responding to changes in knowledge production and innovation. Such a reconstruction of the nature of knowledge is relevant to work based learning and emanates from discourses both inside and outside higher education.

The external discourses encompass changes in the wider context of contemporary society, especially that of work, that have brought about strong pressures for curricular innovation. A

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knowledge society means that universities are not the sole generators and maintainers of knowledge. The rediscovery and relegitimisation of knowledge traditions outside of higher education for which there has been little tolerance in elite higher education systems of the past, reflects the current widening of higher education's social and epistemological base. It also reflects the power of corporate groups, government initiatives and advances in technological means of communication as major contributors to external pressures.

Higher education has always had a transforming role in society that emanated from within, despite high status knowledge in the Professions and the need to be sensitive to the socio-economic climate. Internal discourses include ideological critiques of the content and organisation of curriculum knowledge. For example the disciplinary areas of the sociology of knowledge and of philosophy have challenged what counts as high level knowledge (Foucault 1976, Battersby 1989) and have questioned the drawing of artificial boundaries that cause knowledge to maintain an exclusivity (Bernstein 1971, Bourdieu 1973, Derrida 1986). More recently, those involved in the work and learning area of the curriculum have contributed to arguments about the nature of experiential and work based knowledge (Schön 1983, Barnett 1994, Eraut 1994, Boud and Miller 1996, Usher and Edwards 1994).

The above observations show that work based learning is taking on the knowledge issues that have resulted from discourses in higher education and wider, global social discourses. Such huge issues are outlined here because they have implications for the application of work based knowledge through the curriculum. Experiences at Middlesex University have shown that there are currently, certain polarities in people's thinking that are not useful and can detract from the formulation of global and inclusive perspectives that lead to effective, holistic models of work based learning. The polarities of thinking are discussed below.

Defining work and learning inclusively

Defining work in work based learning is regarded holistically and encompasses 'all purposeful activity' (Work Based Learning Network, 1999). Any academic evaluation of the study of learning based in work should therefore take a view of work that relates to its nature rather than to its capital benefits. There are two broad points to be made here. The first is that work often carries an economic imperative but not all work is paid employment. The second is that work usually has a practical purpose but in working towards specific goals or outcomes, theoretical knowledge also needs to be invoked.

Firstly, the polarisation of the knowledge and abilities in paid and unpaid work is not recognised at Middlesex where WBLS does not attempt to too narrowly define itself by restricting the boundaries of its knowledge base to paid work only. There are indicative models of work based learning that can be found in employing organisations. However, the cluster of models involving employee learning are not the only models of work based learning nor are they representative of the majority of people's experience of work (see below for a range of models). Further, it is recognised that people bring their experiential knowledge from both paid and unpaid work activity to whatever new work they undertake.

Secondly, the artificial polarisation of the vocational and the academic is challenged by Portwood's conception of 'the learned worker', (chapter 1). This polarisation emanates from understanding theory and practice as separate and as one necessarily preceding the other. It is broken down by viewing the practical applications of work and its underpinning knowledge or theorising, as cyclical and at some points in the cycle as taking place simultaneously (argued below as praxis). A higher education perspective on practical application, necessarily offers underlying theoretical

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knowledge. Existing, so called, vocational models of learning through work, where abilities in doing and thinking are usually measured as competent performance and operational skill can be underpinned though reflexivity and theorising in WBLS. Models of practice that appear to focus on the practical, benefit from higher education approaches to learning and knowledge through programmes of study that can add the kind of value for individuals and for communities of practice that is associated with university learning.

These two examples can be seen to represent a conflation, through work based learning, of what has hitherto been high and low aspects of intellectual culture. The contention is that work based knowledge identifies with pluralist ideologies and that standards should follow criteria that conform to a generic, higher education level but not necessarily to the conventions traditionally accorded on a basis of conformity to a subject discipline. For these reasons there is some controversy concerning work based learning because it may appear to be 'populist' and challenge a 'standard'.

A further tension is between an emancipatory knowledge interest and current concerns in higher education that universities are being 'used' to fulfil the short-term needs of a capitalist economy and thereby lowering or compromising values set out in many of the internal discourses. Indeed, while WBLS is currently developing and drawing from a range of philosophies, ideologies and a very broad range of epistemologies and methodologies, it is producing and evolving policy and practice that encourages greater student inclusiveness. Some educationalists are feeling compelled to contain WBLS within paid work, vocationalism and an organisational setting. There is a danger of claiming this version of WBLS as comprehensive. It leads to a reversion to the construction of a power dynamic that distorts the nature of work into a capitalist intellectual hierarchy especially a gendered relation to work (Oakley 1976, Butler 1993). In this instance, knowledge in work based learning would be marginalised and divided into subject knowledge which confines knowledge in an artificial but traditional way (Bourdieu 1977, Harvey 1992). Such narrowness would mean few alternative options for students who wish to pursue work based learning.

As further research into work based knowledge progresses, there is a need to re-evaluate all higher education aspects of learning in and through work. In doing so, we can embrace inclusiveness and add value to the domain of work for many more groups in society. Such re-evaluation will acknowledge hitherto subjugated knowledges that may, for example, be found in feminised occupations, voluntary organisations and the domestic and community spheres of work. Within all communities of practice there are standpoints from a variety of perspectives, for example from women who seek to take up authority in organisations and encounter situations where internalised images of power and authority intersect with organisational cultures and social stereotypes. There are many issues connected with higher education's responsibility to meet the long-term needs of people doing work.

Interestingly, the tensions between emancipatory knowledge interests and the need to provide capable workers for the economy is juxtaposed with the disapproval over the conflation of hitherto high and low aspects of intellectual culture. The resolution of these issues may be seen as WBLS continues to construct itself in different knowledge communities where differing versions are emerging through engagement with epistemological properties of knowledge forms. Or perhaps other influential parties at these different sites will have a dominant say in what constitutes work based knowledge? Will it be those in universities who want to develop work based knowledge as set of tools useful for fitting students with capabilities that encompass what is meant by graduateness and capable practitioners? Will it be the reformers who wish to see higher education open to a much wider group of people in society on the grounds of democracy? It may be that both perspectives can be satisfied. The needs of the national economy for a more highly educated workforce and research that supports profitability, has led to initiatives such as those recommended by the Council for Industry and Higher Education (CIHE 1996), for universities to provide

curricula and pedagogy that will support and develop the UK workforce through partnerships between government, industry and universities. The Fryer Report (1997) recommends that 'successful expansion of workplace learning to all will have to be based upon a broad, inclusive policy framework which is supported by a strong foundation of provision which develops learning skills and widens participation through equality of opportunity'.

It is still the case that funding for the development of work based knowledge comes mainly from sources that seek to develop knowledge that furthers important and significant advances for the workforce. Entering into another polarisation of bad developers and good reformers may not be helpful. All the stakeholders (eg. funding bodies, university academics, employers, community leaders, student representatives) are responsible for making a case for work based knowledge, and especially for the higher education community to intellectualise the case by conducting research, and progressing teaching and learning.

A development model of knowledge

WBLS uses radically different and changing approaches to learning and to knowledge for which there are many parallels that can be drawn from the ideas of post-structuralist thinkers such as Derrida, Lyotard and Foucault. Their ideas are at the forefront of reasoning taking place in education that requires educationalists to rethink their premises and traditional constructions about learning and knowledge. Taking action on this reasoning is vital if higher education is to play a significant role in meeting the needs of people in a knowledge driven society. Some writers consider that the change in the way concepts are translated into action constitutes a new paradigm within education.

The knowledge content of WBLS cannot be approached with the conception of existing university disciplines in mind. There are several differences from the traditional model to take into account when approaching a definition of work based knowledge as higher education curricular. Knowledge is traditionally defined by educationalists and imparted to students using specific learning outcomes. However WBLS recognises bodies of knowledge that are outside the university and derived through a multidimensional and interprofessional, work based frame of reference. The knowledge of work based learning is not defined in the same way as knowledge in traditional subjects; it includes unrestricted knowledge that is concerned more with the process of practitioner led, development and management of knowledge. The distinctiveness of this intellectual system is in its ability to construct for itself and orchestrate for others, learning systems, rather than in its 'ownership' of cognitive values. For an example of how learners can construct knowledge rather than absorb existing knowledge, see Lester (1996).

The development of knowledge in WBLS in communities of practice outside of the university causes the learning descriptors to be interpreted in the context of the cultural knowledges of those communities. The programmes usually undertaken by practitioners in their field are assessed against the value higher education places on the knowledge gained from their practice and how university systems operate to include or exclude such knowledge. The ability to justify, analyse, evaluate and communicate effectively determines the level of significance from an educational point of view.

Work based knowledge is marking out its own intellectual territory for itself, (Becher 1989). There is 'expert' knowledge in the field of study concerning planning and engaging in work based programmes of study about which specialists in other subject areas may not be familiar. At Middlesex the new Masters/ Doctorate in Professional Studies which started in 1997 has further enhanced our approaches to knowledge that further explores the field of study at doctoral level.

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The programme is exhibiting a range of distinctive features that are contributing to our growing understanding and impacting on the WBLS curriculum and related research (see chapter 12).

A key distinction needs to be made in order to understand the knowledge content of WBLS. The distinction lies in appreciating that awards offered at NCWBLP are *in* work based learning and they are not awards in a particular subject for people who are studying that subject *by* work based learning. Where work based learning is treated as a mode of study only is for example where students may undertake work experience to gain practical experience about existing curricula or where a university develops awards for people at work which may then be delivered in-house. If work based learning were a mode of study only, the university would set criteria, which it considered appropriate for a predetermined award, and the student would then have to study appropriate knowledge that afforded outcomes that met those criteria. In WBLS each award is negotiated through a learning agreement and this includes the negotiation of appropriate learning outcomes (see chapter 6).

Organisational learning

Organisations with whom the NCWBLP works include those from the public sector, private sector, voluntary organisations and community groups. The main aim is always to achieve excellence in professional practice and organisational change. A partnership approach between employee/student, the university and the organisation helps ensure that the needs of all parties are met.

Advisers and assessors in the university are able to use expertise from higher education's tradition of individual learning whilst extending the university's knowledge through organisational partnerships. The interests of the NCWBLP in this area are in knowledge management, organisational learning, intellectual capital and other areas such as innovative change management. Companies can use WBLS to increase the intellectual capital of their organisation. This is in their interests because efficient management of knowledge makes the best use of human resources.

Knowledge management within organisations is about the way knowledge is developed and directed and this will be unique to the organisation. Knowledge in organisations is that which enables people to associate meaning with data that in turn generates information upon which they can take action and disseminate effectively. The need for knowledge management has come about because technological and global relationships have changed the nature of the knowledge an organisation needs and because the knowledge intensity of products and services is increasing whilst people stay in their jobs for a shorter period. A Learning Organisation that sets out to develop its people, thus ensuring a benefit to the organisation in terms of its intellectual capital and an incentive to employees in term of their self-development, is enhanced by having its knowledge managed effectively.

Models of work based communities of practice

WBLS is not easily defined because it is designed to be flexible, it is a customised programme and it is multidimensional but it does have particular characteristics. There is a sharing of some characteristics, with other fields of study in higher education such as the holistic and interdisciplinary nature of Cultural Studies and Women's Studies, the 'real world' approach taken in Business Studies, the multi-communications and use of technology in Computing subjects, the context bound nature of vocational subjects and the broad view taken by those involved in academic literacies who also see literacy as social practice. There are few essential characteristics,

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but there will be a cluster of characteristics in the different models. Consequently some work based activities fall more neatly and convincingly into a 'definitive description' than others.

Some descriptions of models of WBLS at the university may help clarify the profile of some typical work based learners. The models are not definitive and within each, there are many variants. This is because they are all based on the flexible structure that aims to suit the individual within their community of practice. The learning is not limited by traditional discipline boundaries; it is mainly concerned with the application of useful knowledge and the effectiveness of learner as worker.

Model cluster 1
A programme of work based study is planned with support from and account taken of a community of practice

In model 1, a currently effective model of WBLS is described where mature people e.g. managers, administrators, police officers, who have probably worked in their profession for at least five years, develop themselves further by undertaking research and development in their organisation. This is an effective and, for the university, successful definition of the vocational aspect of WBLS, and it is related to a particular aspect of Continuing Professional Development. For example, most organisations use a competence-based management development framework such as the NVQ standards. Specific needs are improvement of communications skills, responsiveness to customers, broadening of managers' thinking; understanding of core management skills and to equip non-managerial staff for future promotion.

In WBLS all these dimensions can be covered with other added benefits, for example to develop people more in terms of their abilities to be reflective about how their work fits in with the team or group and to theorise and re-evaluate processes. A further personal benefit is the university award and the personal sense of achievement. The benefits to the organisation or group are improved staff morale, greater managerial flexibility, improvement in quality and greater understanding of the value of training and development, in general all of which can lead to financial business benefits.

Examples of this cluster of models are where individuals approach Middlesex University independently, agree to undertake work based study and then approach their community of practice for support and/or agreement. Another example is where Middlesex has a partnership link with an organisation that does not involve any particular company based strategy for professional development but individuals are encouraged to engage with Middlesex's generic work based programmes.

Model cluster 2
A programme of work based study is planned within a community of practice which is not structured to provide support or support is not sought

A second, less definitive, but equally rigorous model can be where no partnership organisation is involved. The student's work based project may only have a tenuous link with creating a model of good practice in the work place. Or, it may create good practice that only benefits the practitioner or group of practitioners who undertake the study. However, the project has been customised, invoked and conducted from the perspective of an individual or individuals with learning from a range of sources, both formal and informal. The project will have a specific target audience in mind eg. it may have both interest and value in the community and include the views, experiences and interests of local people. Here is where work based learning as a mode of study cuts straight

across the characteristics of WBLS as a field of study because individuals have to be key agents in the design, timing and content of their study and also how and in what context the study will take place. This cluster of models serves to show how work based learning can take place in communities that are not highly structured organisations.

Examples are; a domestic or community project conceived by an individual, a self employed person, someone working in paid employment who does not want their employer to know that they are undertaking a programme of study.

Model cluster 3
Specific provision for practitioners has been negotiated between the university in partnership with an organisation

Model 3 is where NCWBLP have an agreement with an employer or voluntary organisation. Through this route, the university in partnership with the organisation considers the working practices, development of employees (personal and career) and organisational development. The focus is on the individual within an organisation and there is therefore relevance to the employer or sponsor and involvement in the negotiating of the content (learning outcomes) of the awards which the individuals undertake.

This model has several sub-models, for example some organisations are enabled to have their organisational learning accredited and then build this learning into individual awards.

Other organisations go further and are particularly interested in setting performance and knowledge criteria which they expect their staff to meet through undertaking the programmes. Devising a capability framework within which existing programmes and core competencies that relate to organisational objectives are developed and accredited does this. The framework should fit into an integrated staff development plan. Employees then aim to achieve a profile of capability within the context of the organisation's objectives. Working with management and workers to develop the framework ensures institutional support that is owned by everyone. These frameworks have increased the range of possibilities in assessing learning within organisations.

The degree of employer support varies, for example to what extent the student is sponsored, given study time and the opportunity to share the experience with others. The programme is tailored then to suit each organisation and include organisational objectives that tie into the university's generic level criteria and therefore qualify for appropriate university awards.

Middlesex has developed several partnerships like this, each with a unique programme of study appropriate for the particular community of practice. Insofar as WBLS is a field of study with its own epistemologies, it is important to acknowledge that all these models are work based learning. However, universities may choose to specialise in a limited range of models.

The characteristics of work based knowledge

A breadth of knowledge
The knowledge required for doing work requires breadth as well as depth. Work based knowledge is necessarily inter-cultural and it is also characterised by the use of technology as a means of knowledge transfer and the nature of communications in teaching and learning.

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The breadth of knowledge making in work based learning incorporates concepts and ideas that have to be brought together by an organisation, group or individual. The articulation of a mosaic of learning creates a depth of knowledge in itself. The depth is built from the connection of superficialities (mundane or tacit knowledge) with specialist knowledge into a synthesis of understanding and new knowledge. Work based practice brings about what has been described above as interdisciplinary knowledge but it is more than a matrix of facts drawn from the disciplines. Work based learners draw on the professional, the academic and a third dimension described in Costley and Doncaster (2000) as the sphere of the experiential (which includes the personal), to generate new knowledge. Learning accredited by Middlesex, recognises high level learning that has taken place outside the university. The recognition of this learning by the university includes a requirement for students to engage in reflective practice about the knowledge they have gained. The process of reflection itself brings about a reassessment and often, new understanding by students, of how this knowledge has been gained, synthesised and applied.

Students gain knowledge in many ways, reflect deeply on the whole of their learning and are invited to fuse it together themselves by constructing their own areas of learning rather than university specified modules. The process can be revealing and expose a repository of knowledge previously unexplored by the student. This is because knowledge is usually bounded between experiential knowledge and formally taught knowledge; formal learning in education institutions and experiential learning through work experience being the traditionally acknowledged ways of assessing current standing. Knowledge is bounded again by different kinds of experience (workplace, community, domestic etc.) and in formal learning, between disciplines. When the two sets of entities are broken down and explored in synthesis according to their application, new work based knowledge is revealed. The epistemological characteristics of work based learning therefore compare more to Heller's (1984) conception of a 'seamless robe' with its implications of continuity and coherence.

Managing learning and managing your own knowledge

WBLS students are practitioner/researchers and this highlights the importance of autonomous learning; students must know how to select and study a phenomenon from their own work situation. By undertaking research and development in a community of practice, the significance of a multidimensional approach becomes apparent as what is studied (subject or area of study) and how it is studied (methodologies) is defined by the needs of the community of practice. It is the practitioner knowledge within situated practice that provides the context for the study in WBLS, not a particular, specialised subject area.

The majority of WBLS students are experienced practitioners who have developed the ability to learn autonomously and wish to improve themselves, their practice and their capability within their community of practice. WBLS suits these people because of its mode of learning and the nature of the field of study.

The mode of learning and the field of study (the 'how' and the 'what') in work based learning, complement each other and are often inextricable for work based learners. Students' situated practice is viewed through their own understanding and constructions. The individual's constructions are usually related to the group or team with whom the individual works. Students customise their own programmes with advice from academics, based on their own experience and perceived needs to complete a programme which will enhance their work based practice and often add to the intellectual capital of an organisation (eg. employer, sponsor).

The construction of knowledge outside of the university means that learning must take place in a way that is more associated with andragogy (self-direction of learning) than pedagogy (being taught by teachers). Work based learning is generated, controlled and used within a community

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of practice and brings new understanding to andragogical principles as the role of the worker becomes also that of learner. The mode of learning enables students to work at a distance, using open learning techniques, as self managed learners in their work related context, 'the ability to learn on one's own... has suddenly become a prerequisite for living in this new world' (Knowles 1970). An added component in work based learning to Knowles' understanding of andragogy is that 'on one's own' effectively means 'away from the classroom' but within a community of practice.

Such contextualisation of knowledge necessarily involves practices associated with andragogy. The learned worker is managing time, the direction of the study path, the nature of the knowledge and the means by which it is being researched and developed. Andragogy then is not only self-management of how learning is planned but also managing the nature of the knowledge sought for the purpose of developing oneself into a more effective practitioner. Knowles (ibid.) states 'it is no longer realistic to define the purpose of education as transmitting what is known'. The control of knowledge is thus shared between the individual, the organisation and the university.

Work based praxis

The mode of learning starts to blur into the field of knowledge when we consider praxis. Aristotle's practical knowledge and Marx's notion of praxis both focus on the legitimacy of knowledge gained through practice. As WBLS promotes methodologies that approach knowledge development for people doing work, the mode of learning has to be grounded in their particular communities of practice.

The view that universities conduct research to build up a body of knowledge that is then taught as a 'truth', has been questioned for some time and there are alternative theories based on experiential knowledge and knowledge that serves to improve efficiency (see, for example the case of performativity in Lyotard 1984). Action or practice provides the possibility of learning through a reflective and analytic interrogation of practice. Our work, particularly that in Continuing Professional Development has shown us that practice is not atheoretical (Eraut 1994). People know how to act and what to do based on their understanding of a situation. A critical evaluation of such action is embodied in praxis.

Praxis, in work based learning relies on the context of the community of practice in which students/practitioners are engaged. Each context, with its own networks and codes of interaction, also has its own social and conceptual framework that gives it meaning. In work based learning, research and development and reflective practice are located within a real social and work based community that gives them meaning, rather than illustrated through hypothetical or devised examples. The focus on 'real' research and development projects and reflection on 'real', pragmatic and applied activities is what makes work based learning meaningful to students/practitioners. The meaningfulness and the implicit understanding of the context are starting points for them to theorise and become more reflective, innovative and critical in their practice.

Universities have not controlled such practical knowledge because the expertise lies outside the university and the cultural norm of universities has been resistant to the nature of practical knowledge. WBLS is able to work with these knowledges because it perceives the mode of learning and the field of study as linked. Also it has developed generic knowledge and flexible learning and recognises the learning practitioners already have. From this student-centred starting point, students are facilitated into theorising from a position of some existing expertise. Work based knowledge then, flows back and forth between practical work and theoretical practice.

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There is a complex interaction concerning work based praxis. Practitioners need to understand reflexively their practice through the political and cultural aspects of theory. The particular politics and culture of the organisation or community within which the student/practitioner works will influence the theorising. Good students/practitioners will also theorise within the global or macro view of the situation.

Project-driven knowledge

The knowledge derived from research and development is constructed by an individual or group who incorporate a matrix of methodologies and epistemologies relevant to the project on which the learner(s) is/are focused. WBLS has brought together and further developed approaches and methods appropriate for work based research and development (see chapters 3 & 7), incorporating issues such as organisational theory, collaborative learning, insider as researcher, professional ethics, networks, technology; relationships between curriculum, work and knowledge, and the practitioner/academic relationship between knowledge and work. The findings and recommendations found in work based projects continue the production and building of knowledge. The subject matter of the projects and the methods employed to investigate each unique situation becomes a rich source of new knowledge for the university.

Learning based in work and development of work based knowledge through student projects is very often a collaborative activity. Higher education has traditionally given a priority value to the individual, seen as guru, master, genius, expert etc. However, Habermas (1981) formulated a concept of 'communicative rationality' as against 'cognitive-instrumental rationality'. He considers the solution to technical problems as depending on interactive relationships that involve processes of learning and arriving at mutual understanding so 'every action oriented or reaching understanding can be considered as part of the co-operative process of interpretation aimed at situated definitions that are intersubjectively recognised' (Habermas ibid.). A further conceptualisation of work based knowledge is through the processing of knowledge in a group or team of people where individuals contribute in collaborative ventures of learning in producing projects (see chapter 7).

Conclusion

Work based learning is a practical application of the more recent academic/philosophical discourse of poststructuralism that critiques epistemology. It shares the post-structuralists' interests in the language representation of truths and how there are only 'versions' of texts, that are always open to interpretation and subjectivity (see Derrida's 1986, critique of logocentrism and positing of 'supplementarity'). To interpret a singular truth to a text, Derrida asserts that another text is created that is potentially infinite because language has an endless provisionality of meaning and there is therefore no end to interpretation.

The practitioner knowledge within work based learning is a version held by an argument that has to be made, based on insider knowledge that has undergone vigorous research and development from a reflective practitioner. It has been held as subjugated knowledge, previously neglected by universities because it does not subscribe to universality and the technical-rationality mode of practice. Methodologically, it was/is seen as anecdotal, situationally specific and not generalisable. Work based learning is itself a subjugated knowledge that can work in retrieving other subjugated knowledges. This is because it is a knowledge generating practice and is, at once, its own theory, philosophy and praxis

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Through a reflexive approach work based learning recognises the need to make deliberate choices about values. It is involved with all work, paid and unpaid. Locating itself in discursive paradigms of critique and change, it recognises the tensions between the economic interests of market systems and the democratic agenda of educationalists. Work based knowledge according to WBLS at Middlesex is a version that relates to epistemology as discourses that are external and internal to the university that incorporates power relations and contradictions. The reflective practice involved in the process of work based knowledge production and the focus of knowledge 'outside' of the university gives work based learning the platform to challenge traditional notions of epistemology that assert 'objectivity', 'value-neutrality' and the exclusivity of knowledge in subject disciplines.

In challenging traditional boundaries, work based learning has the capacity to conflate or reconstruct, to break down boundaries but in doing so, builds new but temporary frontiers. It moves between the private and the public sphere, requires people to look at themselves and allows them to reflect through their familiar contexts. The uncertainty felt by removing familiar boundaries is expressed by Usher and Edwards (1994):

> 'The setting of boundaries and limits is something which is almost second nature to us and in opening up the yawning gap of infinite dissemination all our certain reference points and unconscious pre-suppositions seem to be in danger of dissolution'.

By removing boundaries and foundations, everything becomes relativistic and can feel out of control. Meaningful arguments can be made by the practitioner or group of practitioners within a particular community of practice. Work based learning therefore validates 'the self'' in a context whereas objective models may invalidate such subjective practitioner knowledge. Through their reflective practices, knowledge is generated in those practices where people have their own particular identity as subjects in a specified context that has a particular language and culture. The constitutive effect of the discourse arising from a language and culture within a work based context makes the context central to the production of work based knowledge.

Learning based in work demands outcomes and closure. Although we know in lifelong learning, practitioners will subject work based knowledge to continuing development, dissemination and reconstruction, there is still a consistent demand for an end product. The seemingly unwieldy and limitless process of generating knowledge in work based learning is restricted by the requirements to complete a task which has a tangible outcome or product within a given amount of time, to be succinct and to tailor the work for academic and professional purposes.

The apparent limitless models of work based learning are restricted by level descriptors that contain the knowledge of WBLS in the university to working with communities of practice involved with higher level knowledge. Also, the university may only work with people who are being funded in some way and the university may choose to work with those areas where it has built up certain expertise or where there may be a certain prestige or incentive to work there. These are the frontiers for work based knowledge.