REVIEW OF CURRENT PEDAGOGIC RESEARCH AND PRACTICE IN THE FIELDS OF POST-COMPULSORY EDUCATION AND LIFELONG LEARNING

FINAL REPORT
Revised

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PREAMBLE: A note on evidence and conclusions

This Report represents a Review of current pedagogic research and practice in post-compulsory education and lifelong learning. The approach taken for the Review (discussed in more detail in Section 1.3 of the Report) is based on the 'triangulation' of data from various sources. The sources include: books and Journals, web-based material, conference abstracts and reports; 'grey' material (i.e. non-published sources); interviews with practitioners and experts. A full list of the materials used, and experts consulted, is provided in an Annex to this Report.

Triangulation essentially means synthesising evidence of different types and from different sources, in order to arrive at conclusions. This 'synthetic' approach does not claim to be 'scientific', in the sense that the Review has not carried out systematic checks on the internal consistency, reliability and reproduceability of the data used. Indeed, one of the key conclusions of the Review is that more systematic reviews of the evidence available, including 'meta-analysis' of existing research results, needs to be prioritised in future phases of the Teaching and Learning Research Programme.

Furthermore, this conclusion itself reflects a more pervasive set of realities underlying pedagogic research and practice. The key realities are: firstly**,** there is little established 'evidence base culture' in teaching and learning. Secondly, pedagogic understandings are shaped by different – and sometimes conflicting – patrimonies across each sector. Thirdly, however, there has been a significant – and complex – degree of 'inter-breeding' between the sectors of post-compulsory education, and it is often difficult to attribute a particular set of pedagogic 'outcomes' to particular sources of evidence. Fourthly, practices are either grounded in the day to day minutae of 'chalkface' learning delivery (and hence ungrounded in theory) or, conversely, are tied to a particular 'grand learning theory' and are unsubstantiated in practice.

Given this background and context, we have deliberately resisted linking the conclusions drawn by the Review (as set out in Section 5) to particular evidential sources, except where it was considered helpful to 'signpost' conclusions and observations to specific authors. Rather, these conclusions can be though of as 'composites' or 'alignments' of different constructions of 'pedagogic reality' associated with different stakeholder perspectives. They remain, therefore, the responsibility of the authors of this Report.

GLOSSARY OF TERMS

Action learning

Action learning involves a group of people working together for a certain period of time, focused on the work-based issues brought by each individual to the group. Typically, the process takes the form of a reflective conversation in which the practitioner, with the support of colleagues, draws on his or her experiences to understand the situation, attempt to frame the problem, suggest action, and then re-interpret the situation in light of the consequences of action. Action learning can however be implemented on a greater scale within the organisation, involving groups sponsored by the organisation with group advisers as well as groups initiated by employees.

Andragogy

Defined as the art and science of the facilitation of adult learning, distinguished from child-oriented "pedagogy" in terms of learner self-direction, application of knowledge and experience, learning readiness, orientation to the present, and problem-centredness

Behaviourism

School of psychology that studies only measurable behaviours, originating from the work of Pavlov and perhaps best represented by Watson, Hull and Skinner. Associated with laboratory learning in animals. In pedagogy, tends to influence theories and practices dealing with 'rote' learning.

Cognitive social learning

Not to be confused with cognitive theory (see below). Most heavily influenced by Bandura (1986), who proposed a continuous, reciprocal, dynamic interactive model that accounts for both the learner and the environment in which he or she operates. Its three elements are: the attributes, values and attitudes of individuals; their behaviour; and environmental or situational factors. The first element includes what Bandura calls self-efficacy which relates to an ability to execute a task or successfully perform a role.

Cognitive theory

Theory and practices that are linked to problem solving, with its interest in the way in which learners make effective use of the resources in their environment not only to solve problems but also to pose problems. Examples include heuristics like those observed by Scribner (1984) among a number of occupational groups including bartenders, photocopy repairers and process operators, and by Carrerah *et al* (1985) among street kids.

Communicative Action

Theory grounded in the influence of the Frankfurt School, and Adorno's contention that technological logic represents the rationale of domination. Developed in the writings of Habermas (1992). Habermas distinguishes two types of rationality: cognitive-instrumental rationality, which is directed at the successful realisation of privately defined goals, and communicative rationality, which is aimed at reaching understanding in social action. Habermas further analyses the conditions of communicative rationality through an examination of speech-acts.

Communities of practice

Term developed by Lave and Wenger. Essentially maintains that Learning is about participation in communities of practice; becoming engaged in socially organised activities and so about membership and construction of diverse social bonds with other participants. Acquiring competencies and skills is almost secondary with respect to these processes of constructing new social identities and ways of thinking.

Conscientisation

Approach developed by the radical pedagogue Paulo Freire, rooted in community-based education and notions of 'listening to the community'. Part of a set of kinds of knowledge, pedagogy and educational relationships encouraged by emancipatory learning - those which are formed in solidarity with the interests of the least powerful in society. The reason for collaboration is to work with the least powerful to gain more autonomy and independence, more control over their own lives, and to bring about change in the interests of greater equality and social justice.

Constructive alignment

An approach towards identifying good practice in teaching and learning developed by (Biggs, 1999). What is important for quality student learning is achieving a balanced system in which the components of student factors, teaching context, learning process and product or outcomes support one another.

Constructivism

Theory and set of practices around learning based originally on the work of John Dewey. The term refers to the idea that learners construct knowledge for themselves – each learner individually (and socially) constructs meaning – as he or she learns. Constructing meaning is learning; there is no other kind.

Critical theory

Draws on the ideas of the Frankfurt School, and the work of Adorno and Marcuse. Uses the concepts of Habermas (see 'communicative action' above)

on the social mediation of speech and learning. Foley (1998) has made use of critical theory in seeking to understand the dynamics of informal learning processes whereby people in different sites develop critical consciousness, i.e. an understanding of themselves as social actors in struggles for autonomy and liberation. Personal experience is thus the necessary point of departure, but for critical consciousness to emerge people must gain theoretical distance from their subjective experience.

Dialogic reflexivity

Concept developed by Giddens (1994). He argues that the proliferation of social movements and self-help groups in recent years is directly related to the growth of the information society, and reflects a heightened self-reflexivity. Such movements have played a major role in retrieving power from 'experts' and in the lay retrieval of expertise, and are instrumental in the growth of informal learning.

Didactic learning

Generic term to denote learning that follows the 'traditional' model of a teacher-student relationship, where the teacher is the 'expert communicator' of knowledge and the student the recipient.

Distal forces

Distal forces can be defined as the diachronic and synchronic factors that shape teaching and learning practices at the macro-level – i.e the external socio-cultural environment encompassing key structural dimensions like demographics and socio-economic stratification systems, together with historical processes that define the cultural and social discourses and social relations affecting learning in a particular period. Usually used to mean the opposite of 'proximal forces' (see below).

Dividing Practices

Term used by Foucault to denote how, throughout history, societies have used 'technologies' to exert power and control over populations, essentially by taking control over an individual's physical, social and mental life. One of the ways in which this power and domination is exerted is through pedagogy. The school is therefore an example of a 'dividing practice'.

Ethnomethodology

Term coined by Garfinkel to denote the study of everyday human practices, concentrating on how individuals make sense of the world and construct their own 'social reality'.

Experiential learning

Based on Kolb's (1984) experiential learning cycle which underscores the importance of some kind of dialectical interaction between action and reflection and has been widely used in studies of informal learning. A more refined version, dealing with some of the more simplistic elements of Kolb's model, is found in the work of Boud, Cohen and Walker (1993) whose interest similarly is in experience as the foundation of, and the stimulus for, learning.

Framework Programme

Research and Development Programmes implemented by the European Commission, typically on a four-year cycle. Includes significant amount of expenditure on learning and learning technologies.

Gestalt theory

German school of psychology that argued essentially that the nature of the parts is determined by and is secondary to the whole thing. Emphasises the importance of 'top down' rather than 'bottom up' research.

Instructionism

Commonly used in pedagogy to denote the 'opposite' of constructivism – i.e. teaching and learning that is based primarily on a teacher-student relationships (see 'didactic').

Learning patrimony

The cultural and historical forces that shape philosophy, policy, theory and practices around learning in a particular space and time. At the macro level, an example is the school curriculum in a particular country.

Legitimate peripheral participation

Term used by Lave and Wenger that transfers notions of 'learning by doing' and apprenticeship into a general theoretical perspective or what they call a new 'analytical viewpoint on learning' which they term *legitimate peripheral participation*. This generative social practice is the process by which a beginner, novice or 'newcomer' becomes an expert or 'old-timer'

Meta-analysis

Research technique based on a 'review of reviews' i.e. systematically analysing and synthesising the results of a number of studies on the same theme in order to arrive at a judgement of 'what works'.

Pedagogy

In Greek, literally means 'slave who takes master's son to school'. Currently, is generally taken to be synonymous with 'instruction', covering 'teaching methods' and 'teaching styles'. In this Review, however, the definition of pedagogy is extended to cover learning that takes place outside formal 'teaching situations', for example in informal learning.

Performativity

Term used to denote 'post-modern' approaches to education, primarily in the Higher education sector, that focus on assessment and outcomes, and the relationship between teaching and skills needs in the modern economic world.

Phenomenology

A method of enquiry developed by Husserl, which takes philosophy to begin from an exact introspection of one's intellectual processes. In pedagogy, it refers to a set of ideas, drawing on Heidegger's concept of 'being in the world', and the use of 'tools' in learning. Tools possess an objective relation, and the perception of tools as well as their actual use enable the mind to progress to new knowledge.

Proximal forces

Typically used in teaching and learning to denote the organisational and immediate factors that shape, and influence the outcome of learning, such as the classroom setting; the gender mix of learners – as opposed to macro-level 'distal forces'.

Scaffolding

Term derived from Vygostky's theories on learning. Based on the idea that individual learner's have a 'zone of proximal development' – a bounded margin in which what they can learn in a particular timeframe, is limited. *Scaffolding* refers to the supports the teacher provides to help the learners carry out a task. It may for instance require a teacher to carry out parts of the overall task that the learner cannot yet manage. It involves a kind of cooperative problem-solving effort by teacher and learner in which the express intention is for the learner to assume as much of the task on his or her own, as soon as possible

Situated learning

Situated learning theories are based upon the notion that the context in which learning takes place is an integral part of what is learned. Situations may be said to co-produce knowledge through activity (Brown, Collins and Duguid, 1989). Moreover, a situational learning perspective holds that most thinking and learning is a communal or collaborative activity. The process of knowledge and skill acquisition therefore is not one whereby individuals make

their knowledge their own independently of other contextual influences, but one in which they can make it their own in a community of others who recognise and share a sense of belonging and knowing within a context (Bruner 1986).

Social capital

Concept used in adult, community and informal learning to explore the 'wider benefits' of such learning in terms of things like community identity and citizenship. According to Field (2000) community based and informal learning can both stem from and help to create the kind of social capital that is needed to enable the most excluded groups and communities to break through the profound external obstacles and internal constraints that are inhibiting regeneration and renewal.

Transformative learning

Concept that links learning to individual and social empowerment. Mezirow (1996) comments that the social context is of great importance in determining whether transformative learning will result in collective social action. This is much more likely to occur, he believes, when such learning occurs within the context of a social movement that involves serving a larger cause; when many role models, group support and opportunities for collaborative discourse are available; and where there is encouragement for active participation in social action.

Virtual Learning Environment (VLE)

A number of theorists and practitioners in the field refer to VLEs as a narrow field of learning management software systems that support on-line methods of delivering course materials, primarily within the Higher Education sector (Britain and Liber, 2000). In this review, defined as any set of learning arrangements that involves the application of telematics systems and information and communication technologies (ICTs) to promote learning.

EXECUTIVE SUMMARY

Overview and Key Objectives

- This Review of current pedagogic research and practice in post-compulsory education and lifelong learning was commissioned by the ESRC in the context of planning for Phase III of the Teaching and Learning Research Programme. The aims of the Review are to better understand current conceptualisations of pedagogy and review current evidence and understanding that could improve teaching and learning practice and lead to improved learning outcomes.

Key Research Questions Addressed and Sectors Covered

- The key questions considered by the review are as follows:

    - What is the current state of the art in understandings of learning and teaching processes with regard to post-compulsory education sectors/domains?
    - How do learning and instructional processes affect learner attainment and pedagogic effectiveness?
    - How are learning and teaching arrangements and configurations informed by current understandings of teaching and learning?
    - What are the factors that appear to shape pedagogic understandings and assumptions within and across the main sectors identified?
    - What is known about what does and does not work in different sectors and contexts?
    - In what ways do 'proximal forces' – for example 'learning patrimonies', learning cultures and regulatory frameworks – affect pedagogic approaches and practices?
    - What appear to be the main gaps and challenges in current knowledge and understandings of effective teaching and learning practice?

- The education and training sectors covered are: higher education, adult education, work-based learning and continuing professional development, and informal and community based learning

- The review draws on the following data sources: key published material (books; academic journals; research reports; policy documents and statements); 'grey' literature (including unpublished research reports; material from websites); interviews with key experts; statistical analysis (including citation analysis and keyword frequency counts of bibliographic databases; analysis of research funding in education and training)

What is the current state of the art in understandings of learning and teaching processes?

- The current state of the art is 'eclectic': understandings of pedagogy – and the methods and practices commonly adopted – vary from sector to sector.

Moreover, most of the debates are normative and value-laden: they arguing for the primacy of one approach over another rather than the appropriateness of different practices to different settings and purposes.

- A 'new pedagogy' is emerging, drawing on constructivist theory and practice as its main source of understanding. Within this, four main types of 'pedagogic method' can be identified: expository methods; interactive methods; conversational methods and experiential methods. But the most important feature of the 'new pedagogy' is the altered configuration of the whole educational research enterprise.

- In the 'post-modern' educational enterprise, the very nature of knowledge is perceived differently. The curriculum, in terms of both content and process, reflects this through a move away from propositional knowledge to knowledge seen as contextualised and contingent, as well as, often, more immediately applicable.

- The core issues and propositions about learners, learning and teaching have not altered; rather, the societal context in which these questions are now posed has changed. Within an operational agenda that addresses how to teach and how to support learning, the questions take a different specific form and lead to different issues. However, it is not clear whether 'fundamental' understandings about how people learn and how learning is best supported have changed in any 'absolute' sense; or whether we have merely become more adept at making the connection between pedagogic inquiry and 'classroom' practice in ways which generate higher levels of 'output' success.

How do learning and instructional processes affect learner attainment and pedagogic effectiveness?

- A more pertinent question could be: "How do conceptions of learner attainment affect learning and instructional processes?" Some writers argue that the emphasis on attainment effectively reinforces a separation of learning from assessment and neglects the significance of 'process' as opposed to 'outcomes'.

- Notions of 'perfomativity' are beginning to dominate pedagogic debates in post-modern western society – particularly in the Higher Education sector. This is creating tensions between the social and the highly individualistic consumer ethic identified as the key to post-modernity, and between the rediscovery of learning as a social activity and the rise of self-directed and virtual (web-based) pedagogies.

- Too little is known about the relationship between pedagogic arrangements and learning outcomes to meaningfully compare competing models.

- Pedagogic effectiveness is highly dependent on context and the measurement of this effectiveness is itself context-dependent. A major

problem identified by the Review is that the measurement of pedagogic effectiveness tends to be limited to the immediate confines of the 'theatre of instruction'. Unless pedagogic models and approaches incorporate understandings of the 'life world' outside the learning setting itself, they cannot be entirely effective.

How are learning and teaching arrangements and configurations informed by current understandings of teaching and learning?

- It has not been possible in the course of this Review to uncover with any confidence what research findings the different communities of practitioners do in fact use and to what effect. Additionally, the communities of research and discourse across the sectors of post-secondary education are often quite closed, self-referencing, with poor transfer and transition across boundaries either of research or of knowledge and its application.

- Rather little is known about the processes of knowledge management, production and diffusion and about how to manage knowledge flows from research into practice (as also into the areas of policy-making and funding). What does seem to be the case is that knowledge production is lagging behind the evolving 'new pedagogy'.

- Against this broader background, the Review did uncover a number of examples of innovative teaching and learning arrangements. There is a need, however, for systematic review of the relevance and effectiveness of these innovations.

What are the factors that appear to shape pedagogic understandings and assumptions within and across the main sectors identified?

- The key driver in the 'new pedagogy' is recent government policy, within which learning has been explicitly identified as the main catalyst for economic competitiveness and growth. This also situates learning within a broader arena, justified by concerns for 'citizenship', social integration and equity.

- There has been a marked degree of 'mixing' of methods and practices across different settings and sectors. For example, previously 'discipline-specific' instructional methods have migrated across disciplinary boundaries – particularly the infiltration into mainstream teaching of formerly marginalised approaches from adult and community-based education.

- The re-configuration of the 'learning setting' in response to these drivers has meant that pedagogic understandings are much more concerned with: the de-centering of knowledge; the valorisation of other forms of knowledge and ways of knowing; supporting the learner as consumer; working with knowledge as 'social', distributed rather than individualised; learning rather than education.

- With one or two exceptions (for example, medical training) there is little established 'evidence base culture' in teaching and learning. Furthermore, as discussed above, pedagogic understandings are, firstly, shaped by different – and sometimes conflicting – patrimonies across each sector, but, secondly, there has been a significant – and complex – degree of 'inter-breeding' between the sectors.

- We do not know enough about the 'goodness of fit' between the prescribed, subscribed and ascribed roles of the 'new pedagogy', and the needs of the different stakeholders involved.

What is known about what does and does not work in different sectors and contexts?

- Old issues and discourses are constantly reinvented but still remarkably little is known about what really works. One key emergent issue that appears quite pivotal in terms of the new proximal forces (knowledge workers and society) and the new discourse is – how do we create/know we have created – independent learners? It implies high priority for research on congruence between new intended outcomes and assessment methods.

- The Review has identified a host of examples of 'good practices' that are either grounded in the day to day minutae of 'chalkface' learning delivery (and hence ungrounded in theory) or, conversely, are tied to a particular 'grand learning theory' and are unsubstantiated in practice. A key task for TLRP is therefore to conduct systematic reviews and meta-analysis of 'what works'.

- Without these systematic reviews, we cannot say anything concrete about 'what works' over and above the relatively banal. A summary of the evidence on 'what works' for each of the sectors addressed in the Review is provided in the 'Sectoral Reports: Annex I' appended to this Report. In summary, the evidence suggests that what works is dependent on factors like:

    - whether the pedagogic approach and learning arrangements adopted are consistent with the socio-cultural context in which learning takes place;
    - the motivation of the learners (although motivation, and in particular its relationship to 'learner-empowerment' remains a contested issue in the literature);
    - the competencies of 'teachers' and 'mentors' in the new roles required by the 'new pedagogy';
    - the extent to which the expectations raised by learning can be met outside the immediate learning environment (and particularly in relation to delivering on 'life chances' like job opportunities);
    - the extent to which the teaching and learning process is geared towards the 'pace' of the learner;

- the extent to which learning arrangements address the particular socio-cultural characteristics and 'life world' of excluded groups;
- the goodness of fit between learning arrangements (and learning content) and the purposes of learning (for fun; to enhance self-esteem; to enhance the career).

In what ways do 'proximal forces' affect pedagogic approaches and practices?

- This is a key element in the puzzle of understanding 'what is done in the name of pedagogy' and understanding 'what works'. It remains a puzzle for three main reasons. Firstly, the definition and concepts underlying the use of the term 'proximal' in education and training are confused and contested. Secondly, understandings of proximal forces are inextricably linked to particular pedagogic paradigms, and their associated theories of human development. Thirdly, proximal forces themselves appear to be context-dependent, and will vary in relation to particular 'learning scenarios'.

- The terms 'proximal' and 'distal' themselves need to be unpacked. 'Proximal' is used in the education and training literature to denote, inter alia: the categories of knowledge or 'building blocks' of learning; the factors affecting the process of learning and the outcomes of that process.

- It is probably more useful to consider the interface between proximal and distal forces in shaping learning outcomes rather than to distinguish between the two as separate conceptual or categorical frames. A more useful frame of reference might be Polanyi's (1968) notion of a 'heuristic field' or 'field of discovery', where learning is mediated through what Polanyi terms a 'from–to' or 'proximal–distal dimension'.

- Moreover, the interplay between proximal and distal forces, and particular configurations of proximal factors that affect learning outcomes, will be significantly shaped by particular 'learning scenarios'.

- More theoretical and conceptual work is needed on the proximal–distal relationship in learning. There is a particular confusion in the literature between the diachronic and synchronic dimensions that shape 'proximal' and 'distal' structures. Effort is needed to define more sharply the definitions underpinning notions of proximal and distal forces, and how these definitions relate to particular pedagogic paradigms. In turn, more work needs to be done on identifying those proximal elements that are associated with the adoption of particular pedagogic models in particular learning scenarios (for example, the use of a constructivist learning model in a virtual campus).

What appear to be the main gaps and challenges in current knowledge and understandings of effective teaching and learning practice?

- There are extensive gaps in current knowledge and understandings of effective teaching and learning practices. Across teaching and learning as a whole, the main gaps are associated with:

  - The nature and effects of post-modern 'distal-proximal interactions' on pedagogic theory and practice (for example the drive towards the 'de-centering' of knowledge; the focus on assessment and performativity; the demand for 'just-in-time' skills; the re-invention of lifelong learning).

  - The effects of the introduction of Virtual Learning Environments and information and communication technologies (for example whether they are really new forms of learning, or old, re-packaged pedagogies; whether they imply new learning and teaching roles for all stakeholders; how to assess their effectiveness).

  - The nature, and implications of, the re-configuration of the education and training infrastructure in the new post-modern climate.

  - How the knowledge-production process operates, particularly at the interface between 'theory' and 'practice'.

  - What works, for whom and under what circumstances.

  - How do we know we are properly measuring what works.

- Against these over-arching questions, there are a number of 'gaps and challenges' that have been identified within the context of the particular 'sectoral reviews' of post-compulsory education carried out as part of the overall Review. These are discussed in detail in Section 2 below, and in the 'Sectoral Reports: Annex I' appended to this Report. In summary, they highlight the following.

Key conclusions and recommendations

- Two sets of priorities for research in Phase III of TLRP have been identified by the results of the Review. A first set of 'over-arching' priorities are as follows.

- There is a need for analysis of the structural basis of post-compulsory education – what are the sectoral overlaps? What are the inter-relationships between Higher education, Adult learning and lifelong learning? What 'cultural logics' shape understandings of these sectors?

- A key theme for Phase III should be the relationships between 'meta-theories' of psychology, political economy, grand theories of learning; middle theories of learning and practice, and how these affect outcomes.

- A key conclusion of the Review was that very little is known about 'what works'. Priority should therefore be given to meta-analyses and reviews of reviews in order to lay the foundations for an evolving evidence base.

- 'Performativity' and an 'assessment culture' are driving understandings of pedagogy. This suggests a requirement for research on innovative evaluation methodologies and critical reviews of assessment paradigms. Part of this research effort should focus on 'attainment and context' – the relationship between learning outcomes and the application of these outcomes in 'real life'.

- There is a need for research that concomitantly recognises the micro-level contextualised nature of pedagogic practice and the need for more comparative understandings. This directs attention to research that explicitly contributes to developing frameworks, typologies and analytic tools that could allow for comparisons across different pedagogic configurations.

- Priority should be given in Phase III of TLRP to understanding the knowledge production and dissemination process. Moreover, the Programme should devote resources to actively supporting more effective knowledge diffusion through 'support measures' that promote the engagement of the different stakeholders involved.

- The utilisation of Virtual Learning Environments and ICTs in teaching and learning is increasingly pervading pedagogic theory and practice. Priority should therefore be given to: understanding and unpacking the pedagogic models underpinning the design of learning VLEs; unpacking the 'grand visions' and 'cultural logics' that shape design; identifying what works in what contexts; developing innovative assessment and evaluation methodologies.

- The Review also identified research priorities that are specific to the sectors addressed. These are discussed in Section 5 below.

1. Introduction

1.1 Overview and Key Objectives

This Review of current pedagogic research and practice in post-compulsory education and lifelong learning was commissioned by the ESRC in the context of planning for Phase III of the Teaching and Learning Research Programme. The focus of Phase III of the programme will be on post-compulsory education and lifelong learning. In preparation for this next phase, a team from the Tavistock Institute was commissioned to undertake a brief 'state of the art' review of current pedagogic research and practice. The aims of the review are to better understand current conceptualisations of pedagogy and review current evidence and understanding that could improve teaching and learning practice and lead to improved learning outcomes. The main objectives were to:

- review and synthesise current pedagogic knowledge, understandings and practices in the field of post-compulsory education and lifelong learning.
- describe the main ways in which teaching and learning is conceptualised and the kinds of frameworks that are used.
- review the evidence base for improving teaching and learning practices.
- identify some of the gaps and priorities that could be addressed in the next round of TLRP research funding

1.2 Key Research Questions Addressed and Sectors Covered

The key questions being considered by the review are as follows.

- What is the current state of the art in understandings of learning and teaching processes with regard to post-compulsory education sectors/domains?
- How do learning and instructional processes affect learner attainment and pedagogic effectiveness?
- How are learning and teaching arrangements and configurations informed by current understandings of teaching and learning?
- What are the factors that appear to shape pedagogic understandings and assumptions within and across the main sectors identified?
- What is known about what does and does not work in different sectors and contexts?
- In what ways do 'proximal forces' – for example, 'learning patrimonies', learning cultures and regulatory frameworks – affect pedagogic approaches and practices?
- What appear to be the main gaps and challenges in current knowledge and understandings of effective teaching and learning practice?

The education and training sectors covered are: higher education, adult education, work-based learning and continuing professional development, and informal and community-based learning

1.3 Summary of the methodological approach

The review incorporates both primary and secondary data gathering activities, combining documentation analysis and expert interviews. A core set of research activities was undertaken, as follows.

1. A preliminary checklist of key issues and questions regarding pedagogics that relate to the priorities of the TLRP was prepared. This was based on the questions summarised above, papers made available by ESRC regarding the priorities and directions of TLRP and further guidance offered by the Programme Director.
2. Existing sources, reviews and already available source material a) for each sector/domain and b) regarding pedagogy more broadly, were scanned and mapped, using the above checklist.
3. Experts and practitioners were consulted as to 'grey-material' and practice-based sources. Particular informants were selected to match the needs of the study. This consultation was mainly carried out through telephone and email communication.
4. Main sources not already available were obtained following a scan of published sources, web-based material, conference abstracts and reports.
5. Both existing and newly obtained material were reviewed in relation to checklists of key issues and questions and the overall aims of the study, with the aim of identifying current understandings and research needs. This included a content analysis of key journals (keyword searches to identify the frequency and clustering patterns of the 'core' and 'cross-cutting' themes identified, for example 'motivation'; 'learning styles').
6. An analysis of research projects in education and training funded under the European Commission 'Framework' Programmes.

A list of the journals scanned, together with a list of material included in the review, and a list of experts consulted is annexed to this report (Annex 2).

1.4 Contents of this Final Report

This document provides a summary of the progress of the Review, together with key conclusions and recommendations. It is set out as follows.

- Following this introduction, Section 2 provides an outline of the characteristics of pedagogic research in the sectors covered (i.e. higher and further education, work-based learning and continuing professional development, and informal and community based learning)

- Section 3 provides a discussion of key cross-cutting themes that are common to the different sectors covered, with a particular focus on the relationship between pedagogy and learning outcomes.

- Section 4 provides responses to the key questions posed by the review, in the light of the available evidence.

- Finally, the concluding Section – Section 5 – outlines the Conclusions and Recommendations of the Review, with particular reference to the implications for future priorities for Phase III of the ESRC Teaching and Learning Programme.

The attached Annexes comprise:

Annex 1: a set of sectoral reviews that discuss in more detail the results summarised in Section 2.

Annex 2: a list of source material (key references, together with journals scanned).

SECTION 2: STATE OF THE ART OF CURRENT PEDAGOGIC RESEARCH AND PRACTICE

2.1 Introduction

This Section provides a summary of a state of the art review of current pedagogic research and practice in the fields of post-compulsory education and lifelong learning. The sectors covered are:

- Higher Education;
- Adult Education;
- Workplace learning and continuing professional development;
- Informal Learning.

The review draws on the following data sources.

- Key published material (books; academic journals; research reports; policy documents and statements).
- 'Grey' literature (including unpublished research reports; material from websites).
- Interviews with key experts.
- Statistical analysis (including citation analysis and keyword frequency counts of bibliographic databases; analysis of research funding in education and training).

For each sector covered, the review addresses:

- the key conceptual, theoretical and methodological debates shaping pedagogic approaches and practices (including conceptions of knowledge, learning and teaching);
- the policy environment and other forces affecting practices;
- the key pedagogic practices shaping teaching and learning activities;
- the evidence available about good practice and what works;
- the main gaps in state of the art knowledge.

The review of state of the art starts with the results of an analysis of bibliographic database searches. This was implemented to firstly provide an overview of 'what is being done in the name of pedagogy' and, secondly to validate and supplement the set of data sources used for the Review as a whole.

2.2 'What is being done in the name of pedagogy?' A bibliographic database review of post-compulsory education pedagogic research and practice

2.2.1 Introduction

In order to look in a more structured way at what has been done 'in the name of pedagogy' in post-compulsory education and lifelong learning, and to help provide an overview of the knowledge base in the domain, we looked at two main English language bibliographic databases:

- ERIC – Educational Resources Information Centre in the U.S.A., and
- BEI – British Educational Index in the U.K.

Both of these cover the range of peer reviewed journal literature as well as a wide range of grey literature fairly comprehensively. (On the searches we performed on ERIC, slightly less than a quarter of the returned records were journal articles, the rest being books [approximately 10%], conference proceedings, monographs and other grey literature.) ERIC contains in excess of one million current records. BEI contains in excess of one hundred thousand current records.

Both ERIC and BEI can be searched in a structured (Boolean) fashion through the commercial Dialog search engine (among others). Both can also be searched directly through their own websites.

In organising this Review we were grateful for the advice of Alan Gomersall, associate director information and dissemination at the ESRC UK Centre for Evidence Based Policy and Practice at Queen Mary, University of London, and to David Cooper Orton, information officer at STM Search at the British Library who, together with a Tavistock Researcher, undertook the actual Dialog searches.

2.2.2 Database Structures

Both ERIC and BEI use carefully selected thesauri of descriptors to construct their bibliographic records. These descriptors are applied in a consistent fashion, as much as possible, by the database cataloguers. Thus the descriptor-based structure of these databases are in themselves an important artefact of the current state of research in our area.

ERIC

In ERIC 'pedagogy' is considered to be a synonym for 'instruction' and this in turn is related to 'teaching methods' and 'teaching styles'. ERIC contains a large literature on instruction, mainly organised on a subject basis, and virtually all addressing compulsory, basic or remedial education.

Where pedagogy is considered in post-compulsory settings, the discourse would appear to be more about what we might call 'anti-instructionism' as about instruction *per se*. For example, when we looked at a random sample of 10 (out of 654) 'pedagogy' AND 'higher education' returns (on a search of titles and descriptors) all 10 addressed critical, constructivist, historical or ''revolutionary'' approaches.

ERIC distinguishes 'andragogy' as a descriptor clearly from 'instruction'/'pedagogy'. 'Andragogy' is defined in ERIC as:

> The art and science of the facilitation of adult learning, distinguished from child-oriented "pedagogy" in terms of learner self-direction, application of knowledge and experience, learning readiness, orientation to the present, and problem-centredness.

Since 1997 ERIC has also included the descriptor 'popular education' (this is frequently associated with Paulo Freire's critical pedagogy) and since 2000 'transformative learning'. However, as will be seen below, the actual extent of material to be found on ERIC relating to andragogy, popular education or transformative learning for post-compulsory education and lifelong is quite limited (less than a thousand records on post-compulsory education). This suggests a narrow current evidence base.

With regards to post-compulsory education, ERIC uses the descriptors 'adult education', 'higher education', 'college instruction' (which covers just that – college *instruction*), 'continuing education', 'community education', 'lifelong learning' and 'professional continuing education'. ERIC does not use a descriptor such as workbased or workplace learning but does have various work-related descriptors such as 'work environment' and 'job skills'.

BEI

In BEI 'instruction', 'pedagogy' and 'teaching' are subsumed within the descriptor 'teaching process'. As with ERIC, records in BEI with the descriptor 'teaching process' are largely concerned with compulsory, basic or remedial education. BEI also uses 'andragogy' as a descriptor and in the British Educational Thesaurus 'andragogy' is related to, among other things, 'adult education', 'adult learning', 'adult students', 'leaner centred methods' and 'learning strategies'.

As regards post-compulsory education, BEI uses the descriptors 'adult education', 'community education', 'continuing education', 'lifelong learning', 'further education', 'professional continuing education'. While BEI has many work-related terms in its thesaurus, it does not use a descriptor or a synonym descriptor for 'workbased' or 'workplace' learning other than the general term 'work'.

2.2.3 Search strategy

We tried a number of broad search strategies – searching on several bibliographic fields or performing a full text search for the association of pedagogic concepts with post-compulsory education and lifelong learning. This created a huge amount of search 'noise': a large number of returned records that proved to only have the most tenuous link to the matter in hand.

Therefore we restricted our searches to combinations of relevant descriptors (using Boolean 'AND' searches). This involved finding records with *substantial content,* in the view of the cataloguers, relating to *both* pedagogy (in our definition, i.e. 'andragogy' in ERIC's definition or 'teaching process' in BEI's definition) *and* post-compulsory education and lifelong learning.

The quantitative results of these searches are tabulated in the following tables:

ERIC

First term	Operator	Second term	No. of records returned
Andragogy	AND	Higher Education	132
		Adult Education	305
		Continuing Education	38
		Continuing Professional Education	14
		Community Education	8
		Lifelong learning	47
		Work	17
Popular Education	AND	Higher Education	13
		Adult Education	36
		Continuing Education	3
		Continuing Professional Education	0
		Community Education	3
		Lifelong learning	8
		Work	5
Transformative Learning	AND	Higher Education	11
		Adult Education	37
		Continuing Education	6
		Continuing Professional Education	0
		Community Education	3
		Lifelong learning	10
		Work	5
			Total = 701

Pedagogy	AND	Evidence	(all fields) 117
		Effectiveness	(all fields) 43
		Higher Education	(title+descrit)654

BEI

First term	Operator	Second term	No. of records returned
Teaching Process	AND	Higher Education	103
		Adult Education	9
		Continuing Education	0
		Professional Continuing Education	0
		Community Education	0
		Lifelong learning	0
		Further Education	2
		Work	23
Andrag*			(Full text) 24
Andragogy		Work	3
			Total = 161

Given the very low returns on our preferred descriptors on BEI for everything other that 'higher education', we tried am additional variety of related terms – including 'educational environment', 'instructional design', 'teaching methods', 'teaching styles' and 'learning strategies'. These, with two exceptions, only produced a handful of returns when combined with 'higher education', 'adult education', 'continuing education', 'community education', 'further education' and 'lifelong learning'. While the descriptor 'teaching methods' did produce 70 returns when combined with 'higher education' and 68 when combined with 'further education' most of the latter on inspection appeared to deal with methods of instruction.

Authors

After receiving each of the search results tabulated above we asked Dialog to rank authors by their number of publications on the topic – nothing significant was revealed by this analysis, with authorship being extremely widely spread.

2.2.4 Looking for 'evidence'

The above tables show that the total quantity of literature that deals with substantial issues of pedagogy *and* post-compulsory education catalogued on ERIC and BEI is not enormous.[1]

[1] While it should be acknowledged that a significant number of 'single' records in both ERIC and BEI are in fact extensive collections of conference proceedings, this does not necessarily mean that the relevant literature is more extensive than we describe. The descriptor may refer only to one or two papers in a volume and it is also to be noted that research of any great originality/significance presented at conferences will usually be re-published in another form in due course as a single or multiple texts in the peer reviewed journals.

Therefore we examined, by means of a basic content analysis, how much of this literature appeared to relate to *evidence* of (original research on) pedagogic effectiveness as opposed to conceptual work based on extending *existing* bodies of theory and empirical research or simple descriptions of practice. We searched for records of literature that appeared to document empirically grounded theories, i.e. more than working hypotheses based on one or two cases and models based on several cases. We sought pedagogic models that had received wide empirical confirmation in a variety of settings.

We conducted this analysis on ERIC records only (there were too few relevant BEI records to analyse meaningfully). We selected 10% (70) of the 701 records returned by our searches. The selection was of every 10 records as returned. Where the record was not sufficiently informative we selected the next in sequence. Where texts did not report on original research they are classified as 'conceptual only' or 'descriptive only' depending on the preponderence of their content (most of these texts contained a combination of conceptual and descriptive material). Where texts report on original research the significance of this research is classified as 'contains working hypotheses', 'contains model with limited empirical support', or 'contains model with wide empirical support'.

Content analysis of 10% (70) of returned ERIC records

Conceptual only	Descriptive only	Contains working hypotheses	Contains model with limited empirical support	Contains model with wide empirical support
35	15	12	5	3

n = 70

The above table shows (as does the literature and our expert interviews) hard empirical evidence (whatever its epistemological status) seems to be thin on the ground. While less than one in twenty items in ERIC appeared to contain models with wide empirical support, meta-analysis of the more limited original research might well provide such in the future.

Much of the conceptual literature in this field (particularly the grey literature) appears to be practice-based (or 'grounded') theory. Indeed it was noticeable that much of the conceptual literature has been produced by authors who are both educational researchers and practitioners and who are no doubt writing against the backdrop of extensive personal case-based experience. It should also be noted that a significant amount of what was classified as 'conceptual' was educational or advocatory in its intent ('educating the educators').

2.2.5 Conclusions

Following from this bibliographic review we might conclude that, on the face of it:

1) Pedagogic practice in post-compulsory education and lifelong learning appears to break down into three main categories:

    I. Education explicitly organised on didactic (instructional) principles (including a great deal of further/college-based education as well as basic and remedial education),

    II. Education explicitly organised on andragogic (learner directed, learner centred, problem based, experience based, situated) principles (including a sizeable amount of continuing professional development, community education, workbased education).

    III. Education organised on some combination of didactic and andragogic principles (instruction 'wrapped around' some element of learner centering). (The degree of the combination is not likely to be clear either to researchers or indeed to those actually teaching. This probably includes a good deal of current pedagogy in higher education.)

2) There is a pressing need for more meta-analysis that draws together diverse empirical reports on experiences of using particular pedagogic/andragogic models.

3) There is space for a great deal more original research which classifies and evaluates the effectiveness of specific pedagogic/andragogic models in use in post-compulsory education.

4) There is a need to build a better understanding of the empirical basis underlying much of the conceptual/educational/advocacy literature produced by researcher-practitioners (perhaps by extensive interviewing and/or detailed content analysis of texts).

Using the research examples derived from the above bibliographic searches, supported by material drawn from other sources (expert interviews; our own databases), we present below a more detailed review of 'what is being done in the name of pedagogy' in each of the post-compulsory education sectors identified by the research brief.

2.3 Adult Education

2.3.1. Key conceptual and methodological debates

Among the several sectors of post-compulsory education identified by ESRC for this review, the 'sector' – called for convenience Adult/Community Education (AE and ACE) – is the most problematic. AE occurs within the further and higher education sectors as a now abiding and significant element. Continuing professional development (CPD) and work-based learning (WBL) are sub-sets of ACE. The boundaries are historically fuzzy. The emergence of the lifelong learning paradigm has widened the territory and made issues of scope and definition more problematic still. At the same time these characteristics and tendencies define in one way the central questions to be confronted in this review.

A second central difficulty concerns a shift in discourse and intent from education and teaching to learning. Studies of pedagogy in a lifelon-learning / learning-society context pivot on this question. They are more acute for ACE than for the other sectors addressed in this Review.

2.3.2. Policy environment and other forces affecting practice

ACE reflects some influences (proximal forces) common to all sectors. In the Thatcher era, the 'great tradition' at the heart of adult education, the WEA and university extramural courses, was driven to meet assessable criteria and to deliver outcomes within Conservative policy. The long-term adult residential colleges came under similar pressure and were similarly transformed, while seeking to adhere to their access and equity mission. In recent years, the emphasis on lifelong learning and social inclusion are supporting a revival of adult education and training in targeted area improvement type schemes seen to have a place in the public political spectrum.

Meanwhile the informal and incidental areas of adult learning remained problematic within and on the fringe of the ACE 'sector' or community, as well as problematic to government. They are hard to define and support. Yet they remain valued and protected on principle if not in resource terms within the loosely bounded 'sector' approximately represented by NIACE.

A new feature of the drive to create a knowledge nation or learning society with a knowledge economy as its practical heartland is the wish of the Blair Administrations. This feature is to understand and take advantage of informal if not incidental learning, and to use its potential to enlist more adults excluded from formal education into the numbers required to reach ambitious participation and qualifications targets. This offers a central opportunity and threat for the 'sector' with its distinct ideals-based 'patrimony' of access, equity, citizenship and education.

2.3.3 The key pedagogic practices shaping teaching and learning activities

The heritage of adult education is strongly dominated by the liberal tradition of education for purposeful self-development, often therefore for citizenship if not political action. Civic participation represents an abiding strand.

Personal development or self-development is sometimes aligned with this purpose, sometimes largely detached as its own end. Therefore intellectual and recreational courses are given similar merit as part of the rights and accoutrements of a prosperous and open society, whether subsidised or on a full self-financing or for-profit basis. Part of this strand involves developmental therapeutic and counselling work, mostly on a peer support basis, and part involves essentially cultural, intellectual and recreational activity where the social and civic aims are absent or, often, covertly subscribed in an ill-substantiated way.

2.3.4 Evidence available about what works

The amount of 'scientifically known' knowledge in the sector is modest. There is a strong tendency towards ambivalence apropos quantitative research. There are some areas of sustained inquiry and evidence-based practice, mainly to do with participation. There is less of a synthesis or consensus about pedagogy as applied to the different zones of practice, despite a wealth of often small-scale, mainly descriptive or modestly analytical studies and accounts of 'classroom' practice. By virtue of its scattered, piecemeal, grounded and small-scale character, much has a folksy quasi-anecdotal character. The field of ACE is so vast that more comprehensive studies (larger in either breadth, depth or timescale) are daunting, and would be costly. They may be of limited value unless the purpose and potential utility are clearly defined.

The diversity of adult learners (as types, individuals, communities, characterised across plural dimensions including age, gender, SES, ethnicity, disability or need, and learning intention) bewilders. It challenges efforts to undertake generalisable study of an empirical and pedagogic nature. Little is known that has strong scientific validity about the results of different teaching methods for different students groups with different purposes. The terrain is rich in heart-warming examples of triumph over adversity, including paucity of resources, richer in myth than in unassailable evidence.

Central propositions about 'what works' that still command a following and are now more widely adopted include:

- Adults bring experience to a course that it is important to recognise, value and engage with. They contribute and add to knowledge by bringing this experience into engagement with 'validated' disciplinary knowledge. Both the subject and the teacher can gain.

- The teacher is above all a facilitator and a mentor, as well as a source of information.
- The adult class is a community of learners providing important mutual support. Tapping this energy and creating a learning environment in which students feel confident to speak and learn freely is part of the skill of the adult educator.
- More generally, the context and environment – social, informational and physical – of learning is crucially important.
- It is important to start where people are at and where their interests are, rather than impose an alien framework upon them. At the same time the teacher takes them forward, and does not simply stay where they are. There is an element of negotiation and leadership as well as the essential 'student-centredness'.
- Students vote with their feet. They will stay away if they are not motivated and involved. Participation is essential. Active learning which is seen as 'relevant' is a means to this.

2.3.5 Gaps in state of the art knowledge

The problem is not principally one of what we know or where our pedagogic evidence falls short, but whether more systematic research attention is likely to be welcome, benign or fruitful. The subject for inquiry should be the effect on incidental learning of its systematic attention by the 'educative society' as a pedagogic form.

What we do know about the sector is that a number of long-term propositions about how adults learn remain live and strongly owned within and now beyond the ACE community; this constitutes an important set of factors in asking whether there is a significant and fruitful research agenda for ESRC support. This migration of influences and ideas is a subject worthy of scrutiny both for its intrinsic interest to social science and for its possible utility for programmes of social and pedagogic amelioration.

Much of the history of ACE has been dominated by certain philosophical frames of reference and forms of discourse, whether or not explicitly acknowledged. It has tended towards the dichotomous, good struggling with less good, partly within the sector and tradition, but more often as reinforcement for a set of uniting values in a world seen as shallow, self-seeking or philistine.

Within the 'sector' there is an old and long-standing debate over standards or quality. This tends to anchor in disciplinary authority – teach (and learn) the subject and its discipline rather than teach the student. In this regard, little is known about adult 'empowerment' and 'classroom resistance'.

There was a related conflict over the value of different discipline fields, less as a hierarchy of pure and applied, or disciplinary versus problem-oriented as in the HE patrimony, than in terms of social value and relevance (politics and economics ahead of fine art, let alone macramé). This connects to a not

always openly articulated belief in ACE as a means to civic and political ends – active citizenship – rather than self-fulfilment through the arts.

There is a pragmatic issue and one of principle about *informal* shading into *incidental* learning. Many ACE professionals operating in or close to these areas find the very notion of pedagogy irrelevant if not offensive. The process of practice-oriented research for enhanced quality of learning (outcomes) such as the ESRC project represents, is fundamentally problematic in that it operates from within a deeply entrenched 'patrimony of education and teaching'. This cannot actually conceive of or value learning as its own process and end outside the education domain. Even key ACE bodies such as NIACE drift into this mode. The danger is of devaluing and further marginalising socially important learning activities, simply because they cannot thus be comprehended and corralled. The very process of definition as a subject for pedagogical research may be seen as more destructive than is justified by any knowledge and understanding which the research might produce.

Another research agenda relates to how pedagogic practice is influenced and enhanced. It requires looking explicitly at the flows of influence from values, ideas and ideals which reside in the ACE tradition, and which have survived the changes especially of the eighties to grow again in different settings, sometimes with new terms and in hybrid forms. A better understanding of these processes would tell us something about how ideas move and influence pedagogy – 'classroom practice' – across sectors, throwing light on dissemination and innovation processes.

It is possible that more familiar evaluative research on the relationship between pedagogic strategies and learning outcomes could increase understanding about how different kinds of adults learn different things in different ways with more or less success. This would have to be approached with an awareness of the need for significant funding, and patience, for modest empirical gain. There may be merit in considering a grounded study of unpublished and grey studies of adult learning strategies and outcomes in different arenas. This might systematise and build on this knowledge, perhaps reactivating and extending some of the more promising.

2.4 Work-Based Learning and Continuing Professional Development

2.4.1 Current conceptual, theoretical and methodological debates

WBL is not a homogeneous concept but encompasses a variety of overlapping and competing paradigms, each based on different theoretical premises and understandings and manifested in different practices. Whilst there is a seemingly wide consensus about the workplace as a key resource for learning, a closer examination of the theories and practices considered part of WBL reveals diverse conceptions of both learning and the workplace. What unites WBL is its pragmatic or instrumental focus; what it lacks however is a theoretical drive (beyond the many different learning theories on which it draws).

WBL is facing in two directions. One direction is the VET system, where the interest is in the articulation between the world of education and the world of work but primarily conceived within the curriculum-centred, skills-oriented framework of VET. The main thrust of developments within this orientation is the idea that *all learning, no matter how acquired, is worthy of recognition and credit.* The other direction is the workplace as a learning environment where learning is understood as a process embedded in production and organisational structures. Learning is about participation in communities of practice; becoming engaged in socially organised activities and so about membership and construction of diverse social bonds with other participants.

The middle ground in WBL is occupied by those researchers and practitioners who are seeking to establish common ground between the two orientations. Their main focus is on the kinds of learning strategies and practices that lead towards the acquisition of skills and competencies seen as necessary for enterprise competitiveness and the effective functioning of the labour market.

The way in which these different clusterings in the field of WBL draw from learning theory is different. Those approaching it from a VET perspective rely primarily on behaviourism and cognitive theories of learning that are highly individualistic and atomistic. The middle cluster, whilst based mainly on the same theories, also draw from functionalist and contextual theories which emphasise situatedness and interaction. The third clustering around the learning organisation is more eclectic still, drawing from functionalist, contextual, socio-historical and anthropological theories.

The emphasis on lifelong learning and the learning society has generated renewed interest in various forms of 'continuing' education, development and training. This can be variously described as continuing vocational education, continuing professional development, or even continuing inter-professional development. Sheila Galloway[2] describes how CPD variously combines professional regulation, skills updating and building 'a sense of collective responsibility to society' (quoted by Galloway from Welsh and Woodward, 1989). In summarising thinking about professional learning, Galloway identifies a number of 'influences'. These include:

- Donald Schon on 'knowing in practice' and the reflective practitioner;
- Stenhouses and Kolb in education, and the extended role of the educator through action research; and,
- Lave and Wenger's concepts of 'situated learning', communities of practice and 'legitimate peripheral participation'.

These influences are seen as being especially well-suited to non-routine and complex settings where professional judgements have to be made. This framing of CPD coincides with other literatures and approaches, many of which draw on Lave and Wenger's notions of situated learning and

[2] Galloway, S. (Ed) Continuing Professional Development: Looking Ahead. A Symposium organised by SKOPE Oxford. May 2000.

communities of practice[3] [4], just as many emphasise learning from experience drawing on various Organisational Development, facilitation and animation approaches to learning[5] [6]. It is worth noting that these conceptual frameworks, given their emphasis on the non-routine, are particularly difficult to reconcile with notions of systematic evidence and generalisable good-practice.

2.4.2 What is driving/shaping practice in WBL?

A number of developments – such as a more knowledge-intensive economy - have elevated the importance of WBL, making it more central to the discourse of education and training. There has been a growing emphasis on the idea that, associated with the rapid pace of change in technology and the growth of an 'information society', the nature of work is changing. The keys skills and competences are no longer the traditional forms of specialised knowledge and skill, but the core skills which enable workers to become multi-skilled, work in teams and acquire new skills, competences and roles as these are required.

As a result, the enterprise is increasingly seen as a main, or even *the main*, source of learning for a large proportion of the working population. Indeed, as policy makers have increasingly been relying on the market to address labour market issues (including skill formation), the enterprise has grown in prominence as an arena for learning and training. In addition, for a host of other reasons ranging from the new production and technology configurations to the emergence of work-based learning as a strategic tool, the enterprise itself is increasingly regarding learning and training as a key instrument in its quest for competitive advantage. In general, there is an increasing realisation that the way an organisation learns is a key indicator to the way it innovates and remains profitable. Indeed, contemporary theorisation on organisations (underpinned by human capital theory) holds that knowledge-building is the key source of advantage in this post-industrial era. Within this context, the concepts of work-based learning, organisational learning and the 'learning organisation' have become prominent.

2.4.3 What is known about WBL (i.e. what do key studies tell us about learning and knowledge production)?

Within the literature on WBL, we find many different typologies of WBL which are attempts to deal with the limitations of earlier typologies. These are well described by Simons (1995)[7].

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[3] Lave, J. and Wenger, E. (1991) Situated Learning: Legitimate Situated Learning. Cambridge University Press. Wenger, E. (1998) Communities of Practice: Learning, Meaning and Identity. Cambridge University Press.

[4] Brown, H. (2001) Reflections on the development of a collaborative learning community for CPD: The creative network. Paper presented at Higher Education Close Up Conference 2, Lancaster University, July 2001.

[5] Boud, D. and Miller, N. (Eds) (1996) Working with experience: animating learning. London, Routledge.

[6] Peile, E. (2000) Better learning for better doctors? Towards improved training in General practice. Paper presented to BERA conference September 2000.

[7] Simons, P. (1995) 'New roles for HRD officers and mangers in learning organisations'. *Best Practices in Learning Organisations. Measuring the Reality.* ECLO International Conference Proceedings Warwick 1995.

The first domain refers to off-the-job training, which has been the dominant form of WBL in the past. Whilst there is a growing doubt about the efficiency of this heavy investment in training – hence the interest in a non-training response to achieving competitiveness-enhancing competence – a main thrust has been the reform of training to link it more closely with the strategic business intent of the organisation and to adopt pedagogic strategies that enhance the prospects for transfer from the training environment to the workplace. This is sometimes expressed as a shift from decontextualised to contextualised training. So, for example, companies are increasingly linking training more explicitly to company goals and introducing pedagogic practices aimed at relating 'learning assignments' to problem-solving, task-centred activities and other targets as specified in the business plans.

The second domain relates to learning in the workplace which is structured, managed and validated by external educational providers in partnership with production professionals (employers/managers/supervisors), learning professionals (teachers/tutors/trainers) and worker-learners. Often described as models of *alternance,* it includes for example various forms of (modern) apprenticeship. A main impetus for this kind of WBL has been the concern to make an explicit link between what students learn in the classroom and what they might be doing when they enter the labour market (the relevance argument) as well as an appreciation that learning and motivation for learning are mediated through activities embedded in a context that makes sense and matters to the learner (the pedagogic effectiveness argument). The domain includes characteristics of on-the-job training and more informal learning processes embedded in work practices, but it is generally structured by an externally driven curriculum and commonly learners do not have the status of employees.

The third domain covers the many forms of intentional, structured and organised learning that have an explicit pedagogic strategy. We use the generic term on-the-job learning (OJL) to refer to all those activities that are aimed at developing the competencies of employees by supporting, structuring and monitoring their learning.

These may be ranged along a continuum from those that have minimal educational intervention to those that are subject to employer control in terms of content and intent. The activities can be grouped around three principal forms of OJL, each of which is underpinned by a different constellation of learning theories: the structuring of learning opportunities in the workplace; participative modes of action-reflection; and social learning.

The first form of OJL includes a variety of strategies that can be integrated into normal management practices in the allocation of work and the organisation of support for work. They include for example job rotation, sequencing of the learner's activities, increasing the variety and complexity of

work tasks engaged in by the learner, creating opportunities for learner awareness of skill and performance.[8]

The second type of OJL includes participative modes of continuous learning aimed at development and change in the workplace. Action learning involves a group of people working together for a certain period of time, focused on the work-based issues brought by each individual to the group. At the heart of these models based on action-reflection learning and learning from experience are new ways of thinking about feedback, questioning, talking, reflecting and making sense of experience - for individuals to learn but also for that learning to be shared with others in teams and used to make changes in the organisation.

The third type of OJL is aimed at *social learning* that supports the mutual construction of new knowledge and a critical awareness of worker roles. It entails a process of dialogue, launched by the utilisation of a cognitive or socio-cognitive conflict or some challenging problem, in which people frame and reframe experiences, seek and integrate perspectives, experiment with different ways of doing things - formally or less formally through trial and error, and critique their new understandings. Engestrom (1994), working within an activity-theoretical paradigm, takes such an approach, based on a model which he calls 'investigative learning in work practice'.[9]

The fourth domain of WBL, unlike the other domains, is not structured by some pedagogic intervention but by the cognitive, social and material foundations of the context that informs work practices, routines and behaviours. Zuboff (1988) captures the essence of this kind of informal, pervasive learning when writing about informated design activity: *'the behaviours that define learning and the behaviours that define being productive are one and the same. Learning is not something that requires time out from being engaged in productive activity; learning is the heart of productive activity. To put it simply, learning is the new form of labour.'*[10]

The kind of learning that is privileged here has little to do with individual skills and competencies; rather, it is a profoundly social process, shaped by the stock of background knowledge, cognitive frames and imageries that actors bring and routinely enact in a situation of action. This 'formative context' shapes the way people perceive, understand, make sense, perform and get organised in a situation.[11] Learning essentially involves becoming an 'insider' - to acquire that particular community's subjective viewpoint, to learn to speak its language, to behave as community members. Workplace learning then is

[8]These have been elaborated by Margaret Levy in the various publications of the Work Based Learning Project. In particular, *The core skills project and work based learning* (1987) London: FESC/MSC

[9]Engestrom, Y. (1994) *Training for Change, New Approach to Instruction and Learning in Working Life,* Geneva: ILO.

[10]Zuboff, S. (1988) *In the Age of the Smart Machine.* New York: Basic Books.

[11]The notion of 'formative context' is developed by Ciborra, C. & Lanzara, G. (1994) 'Formative contexts and information technology: understanding the dynamics of innovation in organisations' in *Accounting, Management and Information Technology* 4, 2, 61-86.

best understood in terms of the communities being formed or joined and personal identities being changed.[12]

Many companies have been eager to embrace WBL, not particularly because of its connections with lifelong learning, but because it is seen as an important component of what Senge (1990) has termed the 'learning organisation'. Eraut *et al* (1998), however, argue that, what they term work*place* learning, is a largely hidden element of lifelong learning and one which has not been accorded the eminence it deserves in policy documents. They argue that *formal* learning in the workplace (the main focus of UK government policy) provides only a small part of what is learned at work.

According to Farrell a defining feature of the 'new work order' is the focus on learning. It is not simply that people must learn in order to do their work; work has always been associated with the preservation and dissemination of established knowledges and the production of new knowledges. What is distinctive about the current emphasis on workplace learning is this centrality and the prominence it affords 'co-operative' learning. This form of learning is explicitly *social* in character. The knowledge it generates does not accrue to a single individual, granting that individual expertise and status, it is 'distributed' amongst people and technologies. Co-operative learning is also highly context specific; it is 'situated' in specific, culturally organised settings (Lave, 1988, Gee et al., 1996).

As workforce development moves closer to the workface, the climate of the workplace becomes more significant for learner support (Stern and Sommerlad, 1999). New methods of learning carry with them implications for new methods of learner support, including coaching and mentoring (Ashton, 1998; Brown and Keep, 1998; QPID, 2000).

2.4.4 The pedagogic aspects of WBL and CPD

The pedagogic aspects of WBL can be thought in relation to the features of work in terms of:

- its socio-cognitive demands (e.g. task complexity, what specific kinds of knowledge and skills the worker needs to be able to use in order to perform the work competently)
- its socio-interactional requirements (e.g. whether one needs to work in and interact with teams)
- the importance of the job within the organisation (e.g. the impact that the specific task has on the larger work process, on the organisation and on the relative prestige or status of the worker).

Pedagogical strategies will vary depending on what kinds of knowledge are available, how they are represented, what it takes to access them and what participants can do with them to formulate further knowledge. These questions are partly technical (what does one have to be able to do, to read, to understand) and partly political (who is allowed access and who is not).

[12]Brown, J.S. & Duguid, P. (1991) "Organisational learning and communities of practice: towards a unified view of working, learning and innovation' *Organisation Science, 2(1) 40-56.*

Another way of describing the knowledge features of the workplace is Basil Bernstein's concepts of classification and frame. Both the division of knowledge into categories (classification) and the determination of who controls access to that knowledge (frame) are socially defined and politically enforced. A workplace in which classification is weak (i.e. in which knowledge is lumped into broad, amorphous and permeable types) is a very different learning environment from one in which knowledge is strongly segmented into neatly constructed categories.

Finally, features of the larger environment within which an organisation is situated will also affect the distribution of knowledge-use inside. Here one can include (i) market conditions; (ii) regulations; and (iii) technology. One way of summarising the relationship between organisational culture and pedagogic arrangements affects learning outcomes is presented in the table below.

Organisational factors shaping pedagogy and learning in the workplace

	More learning	**Less Learning**
Socio-cognitive demands	Trainee's tasks require knowledge and skill	Trainee's tasks are not challenging
Socio-interactional demands	Trainee has heavy contact with others of varying statuses and roles	Trainee has little contact with others
Pragmatics	Trainee's tasks are important to the organisation	Trainee's tasks are peripheral to the organisation
Access characteristics	Access to the knowledge of the workplace is available to trainee	Access to the knowledge of the workplace is unavailable to trainee
Classification	Weak: less division of workplace knowledge	Strong: workplace knowledge is highly segmented
Frame	Weak: access to the knowledge of the workplace is not controlled	Strong: access to the knowledge of the workplace is highly controlled
Social organisation	Workplace roles are not highly segmented or hierarchical	Workplace roles are highly segmented and hierarchical
Workplace culture	Workers believe in collaboration and learning	Workers are status-oriented and competitive and the trainee is given low status
Production process	Less division of labour; work teams are used	High division of labour; Tayloristic

Source: Hughes, K. L., Thornton Moore, D. (1999), *Pedagogical Strategies for Workplace Learning*, IEE Working Paper No. 12

As with other thematic areas work-based learning is not devoid of paradoxes. For example, there seem to be two opposing trends in work-based learning practice. Specifically, although there is an increasing focus on collaborative work and learning within organisations, at the same time there is no real training in this area, apart from the action learning perspective. Moreover, the existing management information systems and organisational policies are still geared towards the individual rather than the workteam. The same applies to the institutional and regulatory frameworks for learning assessment and certification. These are still supporting individualistic, self-guided learning

against work contexts that are increasingly underpinned by co-operative and social modes of learning.

2.4.5 What are the acknowledged gaps in our understanding of WBL?

The literature reviewed above is clear regarding the advantages, challenges and bottle necks in relation to WBL, but the 'how' question is not tackled in a coherent way. Part of this has to do with the fact that most authors approach WBL from within a specific framework, e.g. from an institutional angle, from an organisational angle, from a pedagogical angle, etc. Findings in literature on how to implement WBL in practice are thus fragmented.

WBL is not an isolated area of research or practice; it is embedded in a wider frame of contextual processes. It is impossible to talk or write about the relationship between learning and work, without considering the current shifts and changes affecting the organisation and distributing of work, the nature of work and the requirements set by 'work'.

Looking at work from the perspective of its learning potential is fundamentally different to looking at it simply in terms of competencies needed in order to perform the job well. Thus there is a need to carry out research in how economic, technological, organisational, social/societal developments are helping shape the nature of WBL, and the learning experiences for those involved.

The pedagogical aspect of work-based learning has attracted much attention (albeit most of the research has been conceptual rather than empirical) and different models have been proposed that identify workplace and job characteristics that can determine the learning potential of the job (Ostenk, 1995). However, there is a need for more empirical research on how to create an environment that is conducive to and supportive of learning in the workplace.

The current pedagogical models that underpin most research focus on specific elements of a pedagogic framework, e.g. on structuring the workplace as an environment for learning unrelated to different organisational forms. There is a need to develop an adequate framework establishing coherence between the different dimensions involved in the design of effective learning in different organisational settings. For example, Brown (1995) suggests that pedagogical audits based on these elements could provide the basis for linked pilot and action research studies.

Research is required into the link of new learning theories and organisational realities. Despite the increased recognition of the importance of tacit knowledge, there is a need for more empirical research into how this tacit knowledge can be recognised and capitalised on. Similarly, despite the increased importance of team working in organisations and the considerable theoretical and empirical material on how teams function, there is little known about learning processes in groups. As a result, action research is needed in relation to team learning and learning in teams.

An emerging issue for further research is that of the networked organisation as well as the implications for pedagogy of knowledge management. There is also a need for further research into the interface of individual/group and ICT for learning purposes. To date, there has been little research on how action learning can be most effectively supported and facilitated by ICT. For example, why is it that some learners are more likely to use ICT than others?

Another area which requires more research is the way work-based learning features (or not) in the behaviour or the various actors/stakeholders involved in the process. As it is, very little research has been undertaken in which the different and sometimes contrasting views and stakes of the various groups. In particular there is a lack of research in relation to workers' experiences of work-based learning.

Finally there is likely to be merit in extending the general metaphor of 'communities of practice' to empirical studies that compare how continuing professional learning occurs in different communities of practice.

2.5 Higher Education

2.5.1 Conceptual and methodological debates

The conception of knowledge that has been dominant in academe is knowledge that is abstract, disciplinary based and valued for its own sake. The acknowledgement of other sources of knowledge as worthwhile has seen a recent rise to prominence of experiential learning, evident also in university teaching practice. Abstract, propositional and universal knowledge is thus set alongside localised and particularised knowledge, drawn from a multiplicity of experiences. Constructivism, an expression of the decentering of knowledge, draws on local and particularised knowledge to challenge dominant disciplinary discourses, structures and power relations. Fields of study outside the strongly bounded disciplinary tribes are more likely to adopt such a relativist view.

Our conception of knowledge in contemporary society is changing in another important respect. Knowledge now serves varied purposes. One clearly discernible tendency relates to knowledge being valued for what Lyotard (1984) termed its 'performativity'. At the societal level, this is usually taken to mean that the purpose of knowledge is the optimising of efficient performance of the socio-economic system (Usher, 2001). In terms of educational purposes, it represents a shift away from critical enquiry (enlightenment) and personal transformation towards learning experiences where knowledge utilisation is uppermost.

There is evidence in the literature of increasing interest in the student learning experience, and a shift towards more student-centred teaching and learning. This seems to have been driven primarily by quality agendas as well as reflecting a greater responsiveness on the part of institutions to the changing demographic profile of students entering higher education.

What we are beginning to see in the literature is an acknowledgement of the difficult questions around the professional role of the academic in the face of contested knowledge, a stronger voice of students as consumers, and institutional requirements for accountability that may run counter to a student centred approach.

Although recognition of the importance of informal learning processes alongside the formal ones is relatively novel in higher education, there has been a strand of research and practice concerned with the quality of the student learning experience which has come at this obliquely. The notion of 'learning rich settings', more commonly found in discussion of workplace learning, is also beginning to find its way into the HE literature (for example, Knight, 2001).

Constructivism, now widely favoured as an approach to teaching, also raises questions about the worth and validity of different kinds of knowledge and knowing. Some academic teachers taking a more critical, reflective view of their teaching are exploring the limits to constructivist teaching approaches, or the circumstances in which it is an effective approach.

However a critical or reflective view on pedagogy in higher education is not widely found in the literature. Pedagogy tends to be presented in technicist terms – as decontextualised ideas and practices – rather than located in a social and philosophical space.

In a recent article on their ESRC-funded project on this topic, Malcolm and Zukas (2001) open up questions about the dominant psychological paradigm in teaching and learning in HE, and the narrow way in which pedagogy has been conceived. They point to the way in which our understanding of the teaching and learning process has been dominated by the explicitly psychological visions of the learner and teacher. Thus the research and practitioner literature on teaching and learning in higher education is highly individualistic in focus and preoccupied with the learning bit of the self. The model of the learner most strongly represented in the literature is a bundle of behaviours, attitudes and dispositions – often wrapped up in the concept of preferred 'learning style' or 'learner identity'. Failures in learning are readily attributed to deficits in learners, lack of appropriate abilities, skills dispositions of strategies; and occasionally deficits in individual teachers.

Reviewing the literature, we have been struck by the eclecticism in the utilisation of theory. Practice tends to be hitched to particular concepts and ideas, some with an enduring relevance but others reflecting passing pedagogic fashion. Conscientisation (Freire), scaffolding (Vygotsky), learning styles (Kolb), deep and surface learning, reflexive practice (Schon) have been joined in recent times by the voguish 'communities of practice' (Wenger). Clearly these concepts have value to teaching staff as ways of reflecting on and innovating in their teaching practice. But they are often used as technologies, rather than as heuristic models of practice with a much stronger theoretical and philosophical base. Moreover, the focus on tools for practice means that context, ideology and values need not be discussed. Malcolm and

Zukas (2001), borrowing from Enwistle, refer to the 'undemanding craftwork' nature of teaching in higher education, subject to a discourse of procedures rather than explanations.

2.5.2 Policy and other forces affecting practices

Many analytic studies of higher education have observed the interiorisation into institutional values and purposes of external social and cultural forces. It is suggested that instrumentality, usefulness, adaptability and 'fit' for the existing system have become the dominant values in discourse about the aims of higher education (Brockbank and McGill, 1998). Among some policy analysts and researchers, such responsiveness of the system to the changing society is to be welcome. Educational systems and policies, the argument goes, should make it possible for individuals and organisations to keep pace with cultural change and to advance themselves in the changing cultural context.

A counter view holds that the university, as a key institution in the society, offers more value to the society if it can stand apart from it in some measure, adhering to cultural traditions of modern enlightenment rather than being captured by the utilitarian agenda (see for example Barnett's corpus of work). Educators have a professional responsibility to uphold truth and justice as criteria of value in the production and dissemination of knowledge, rather than adopting 'performativity' as the hallmark of the modern university.

A perspective on contemporary currents of thought and culture is offered by writers such as Usher (2001) and Bagnell (2001) in their analysis of lifelong learning as an arena of policy and practice. What is being generated in this contemporary cultural context is a new educational discourse, laying the ground for an emergent, new learning paradigm or patrimony. Usher and Bagnell, along with others such as Gibbon *et al* (1994), point to the lessening of the power of academics to define what constitutes worthwhile knowledge and serious learning. A feature of contemporary society is the *decentering of knowledge*. This is manifest in the legitimating of new sites and sources of knowledge creation and diffusion, and the devaluing of specialist, disciplinary based knowledge.

Other social and cultural currents in contemporary society include the shift towards participation in consumer markets as an important aspect of social identity and citizenship. A cultural context in which social agendas are defined by the interests of individual through their choices as consumers and producers, results in the dominance of economic considerations in the cultural realm. Consumer culture is marked by individuation and it is that which also characterises contemporary trends in informal learning. Consumerist culture, and the commodification of knowledge, is also shaping institutional and adult learning behaviour in the formal education system. The relationship between teacher and learner is reconstituted as a market relationship between producer and consumer.

Those responsible for the management of higher education have been more exposed to external environmental forces than academic staff at the front line of teaching and learning. The proximal forces having greatest impact on universities are mediated through political/channels – policy directives, accountability requirements and mechanisms. Such instruments convey the values of the new or emergent learning patrimony, fuelled by new economic and managerialist concerns. Successive waves of policy initiatives are expressions of the government's performativity agenda and its growing demand for greater accountability from the education system. As Atkins (1999) notes, there has been a steady stream of reports and papers urging the higher education sector to take key, core, transferable and employability skills into the heart of students' learning experience.

A great deal of the commentary on broad social and cultural trends in society, and its implications for higher education, is pitched at an analytic level. Only occasionally does it connect up with a discussion of pedagogic issues, and even less often is it anchored in empirical research.

However, Ron Barnett's exposition of criticality has successfully built a bridge to pedagogy, and has been found useful by researchers taking a more grounded empirical approach to innovative pedagogies (Savin Baden's work on problem based learning, for example).

McInnis (2001) brings together an analysis of societal changes with empirical research into changing patterns of student engagement and goes on to draw out the pedagogic implications at institutional level. He cites empirical research findings from Australia and elsewhere on the changing outlooks and priorities of young people, offering some insightful observations on changing levels of student identity and student engagement with the university experience. What these studies indicate, he suggests, is a fundamental shift in the ways that many young people now see their futures and the place of the university experience in the scheme of things. Part of the problem of responding to these changes, McInnis suggests, is the deeply embedded notion of the 'ideal undergraduate' student and a somewhat romantic notion of the student experience that simply ignores the new realities of student choices and flexible delivery possibilities.

2.5.3 Pedagogic practices

The established learning patrimony, although under challenge, has an enduring, stable character about it. It is embedded in institutional arrangements, norms, traditions and behaviours and thus has a 'taken for granted' character about it that is not readily amenable to change. There are also strong defenders of the dominant learning patrimony, among education theorists and philosophers, but also among the disciplinary 'tribes and territories' whose own canons of knowledge are at prospective threat from the decentering of knowledge and emergent new sites of legitimate knowledge creation.

But changing values and ideals are progressively internalised and incorporated into the 'formative context' (Ciborra, 1994) of the institution and over time they shape the emergence of a new learning patrimony. One new trend evident in the literature is the preoccupation in very recent years with assessment and learning outcomes, and a marked decline in interest in the substantive content area of curriculum and its organisation. This is consistent with the dominant accountability agenda, but it also signifies a shift away from mastering knowledge towards the management of knowledge. Students are expected to acquire the capabilities and competences for managing knowledge as part of a lifelong learning or 'learning to learn' agenda, rather than being expected to assimilate knowledge. There is a shift to operational criteria – what students are able to do, and their ability to apply knowledge. 'Employability' – a set of generic skills considered useful in employment contexts, is embodied in course documentation, module descriptors, and built into records of achievement or transcripts. The employability agenda is also reflected in a host of schemes and projects aimed at creating working relationships between higher education institutions and employers.

Curriculum planning has largely gone down the outcomes led path, within a rational planning model . The ingredients of such a model include a tight coupling between goals and objectives, curriculum and choice of instruction methods, and assessment of learning and evaluation – consistent with the view of the universe as determinate and linear. . As Knight (2001) observes, rational curriculum planning has a commonsense quality about it that fits well with the managerialism of the public sector. Such a model, he suggests, is ill-suited to the complex learning with which higher education institutions are concerned. Complex learning is indeterminate and non-linear. It calls for attention to the quality of the learning environment and learning communities. Curriculum planning needs to be concerned with the spaces, interactions, experiences, opportunities and settings in which formal learning takes place. In such a process model, curriculum planning becomes mainly a matter of orchestrating good learning processes with each other, the content (the topics that subject/area experts identify as worth studying), the available learning time and other resources.

A second trend reflected in the literature is the recognition and validation of other kinds of knowledge besides disciplinary based knowledge. Recognition that a multiplicity of activities in many different contexts involve learning, and hence may be deemed educational, is evident in the incorporation of workplace learning into academic programmes and the emphasis on situational learning. In many of these new approaches to work based learning, what is significant is that the role of work is not a discrete element of study, or the issues arising from problems encountered in work merely as subjects of assignments, but rather work is the curriculum which shapes the entire programme of study. Many issues arise at the juncture of academic knowledge and other kinds of working knowledge: can practical wisdom be granted the status of formal knowledge? Can such forms of knowing, including tacit knowledge, be assessed? What weight should they be accorded in the framing of a curriculum?

Thirdly, the concept of 'managed learning environments' (MLE) is creeping into the discourse of the HE teaching and learning literature. In the dominant learning patrimony which has hitherto characterised higher education, the 'managed learning environment' (though not called such) related to teaching and learning processes in the lecture room, seminar or tutorial and the laboratory. It was time and space bound, with an established pattern of social relations between teacher and student(s). The learner was assumed to be engaged in deliberate learning demanding cognitive energy and concentration, as well as dispositions and motivations to exert effort, to persist, to seek out.

The managed learning environment in contemporary university settings is far less bounded, with separation of time and space. Increasingly, it includes combinations of real time learning and virtual learning; and formal learning in an institutional setting alongside other modes of learning in workplace, community or simulated settings.

Such fluidity in what constitutes a learning environment, even where it is defined by institutional parameters, carries different implications for student learner identities and for social relations between teacher and learners.

2.5.4 Good practice

We might say that pedagogy is uncontested. If so, this would suggest that pedagogy is being conceived in relatively narrow, technicist terms. The debates and issues where there is any 'heat' tend to be focused at a higher level on goals, purposes and values of higher education, although these are translated into pedagogic choices (e.g. teaching methods or approaches that foster critical enquiry, or the adoption of operational curricula).

One of the reasons pedagogy is uncontested, if seen mainly in narrow technicist terms, is that there has been a maturing in thinking about the choice of instructional strategies and methods. Rather than 'good' (small group teaching, constructivist approaches) and 'bad' (lectures, transmissive approaches), the current understanding of good practice is 'constructive alignment' (Biggs, 1999) or what the Tavistock (1996) has elaborated in its configurational approach. Appropriateness is now the key principle.

Teaching and learning are frequently used co-jointly, to cover all possibilities, with little recognition of the distinctiveness of each. We might say there has been a 'failure of theory' to inform our understanding of learning. The grand learning theories– behaviourism, cognitivism, constructivism, gestalt, humanistic, activity and social reproduction – are used more as points of orientation or legitimating narratives. Researchers and practitioners appear more comfortable with 'middle level theories'[13], although there is little

[13] 'Theories' such as Mezirow's 'perspective transformation, Kolb's action learning theory, situated learning theory (Scribener), experiential learning theory (Boud), constructivism (Dewey), legitimate peripheral participation (Lave and Wenger) and other lesser known theories or theoretical perspectives are most commonly cited.

consensus on how these line up with the grand theories or what their derivative roots are.

There are many examples of innovative pedagogic practices reported in the literature. These tend to be situated within the dominant or traditional paradigm and so can be incorporated into existing practice without requiring significant change in institutional arrangements or established processes. Miller (2001) suggests that most new teaching practices tend to originate from a concern with teaching more efficiently, or meeting the demands of the QA agenda. They are not pedagogically driven. Atkins (1999) suggests that the employability agenda, for example, is likely to be accommodated through incremental adaptation of the curriculum rather than any significant shift in what is taught and learned. There are other examples as well where what started out as 'radical' or innovative pedagogies have been absorbed or domesticated into the dominant paradigm.

Another area of innovative practice has been the introduction of autobiographical methods aimed at understanding the learner. This approach has a strong following among adult educators and others working with access and mature age students, where 'learning history and identity' is an important key to developing their latent potential. Again, it has been noted (Miller, 2001) that such methods can be used in a decontextualised way, or alternatively as part of an educational process within a different teaching and learning paradigm that challenges the traditional power relationship between teacher and student.

2.5.5 Gaps in state of the art knowledge

Our analysis of the main bodies of research and practice that coalesce around the different frameworks we identified has also allowed us to identify what might be some of the gaps in our knowledge and understanding:

1. There are well theorised studies now of learners and learners identities, and of what experiences they bring to the teaching and learning space. Although we know a great deal about teaching, there has been little work on teachers' identities and on how these shape their understandings of pedagogy and their choices of pedagogic activities.

2. There is little systematic work on the institutional learning setting as an active constituent of learning, and not simply a background to learning. Whilst different strands of research have attended to particular features of the learning setting and there is a body of reflexive writing in adult education especially which has problematised setting, what is lacking for the institutional setting is the kind of theorised studies which are found in the workplace learning and adult/community/informal literatures.

3. The decentering of knowledge in contemporary society has eroded the authority of established bodies of disciplinary knowledge, giving new legitimacy to local and specific knowledge.

A common view is that constructivist approaches, so widely favoured in higher education pedagogic circles, can handle such different knowledges. We found in the literature a few recent studies of a critically reflective kind which have identified key tensions in the teacher-student relationship around constructivist approaches. We see value in further studies that build upwards from practice, and encouragement for more reflexive practice and sharing of practice in this important domain.

4. There is a large body of research relating to the quality and intensity of student engagement with the institutional experience, and its contribution to student outcomes. Meta analysis has shown that the amount of effort students put into their academic studies, and their involvement in the life of the university, was the key to positive student outcomes. The 'institutional experience' of many students in the contemporary world is very different from the one that existed when much of this research was undertaken. Student-student and staff-student interactions have changed, and increasingly students will move between virtual and real learning environments as part of their educational experience. What was previously taken for granted as part of the institutional 'formative context' will increasingly need to be managed.

2.6 Informal Learning

2.6.1 Key conceptual and methodological debates

Informal learning is an ill-defined and messy concept that lacks theoretical foundation. It is eclectic and pragmatic in focus, and literature on the topic is very patchy. Scant as it is, the literature is mainly located within frameworks that draw on adult and community theories, concepts and practices. Adult education and learning is itself informed mainly by psychology, with little sociological or cultural analysis. A danger exists however, in focusing narrowly on micro processes rather than on some of the broad macro processes, as it is the macro processes that shape to some degree the opportunities for informal learning.

Another feature of the domain of informal learning is that its theories and concepts reflect tensions and contradictions. Some take a narrow definition of learning, shaped by a particular 'learning patrimony', one that is focused on the nature of educational practice. Other models adopt a much broader perspective, in which almost all forms of social interaction are seen as involving learning. A key contradiction is that between the traditional 'individualistic' (and instrumental) orientation, and newer learning theories, with an emphasis on the social dimension. This implies a shift away from seeing learning as a primarily individual, mental activity towards a focus on other outcomes and benefits associated with informal learning than individual skills, attributes and knowledge. These 'wider benefits' include things like social capital, capacity-building and citizenship.

There is no well defined field of informal learning, hence the very patchy literature on this topic. Behaviourist models do not feature prominently in accounts of informal learning although there are circumstances in which instructional methods may be seen as entirely appropriate to the task at hand. More commonly in the literature on informal learning we find examples of instructional models which depart from this purely behaviourist paradigm. Two examples are andragogy and experiential learning. Both Knowles (1984) and Kolb (1984), the respective adherents of these two approaches, have substituted a degree of learner-centredness for the expert control of behaviourism. Learning theories, located in the interpretative paradigm derived from humanism and phenomenology, are well represented in informal learning practices. There is a strong element here of self-reflective learning, directed at discovery and new understanding that 'allows for the chance of becoming something more' (Merriam and Heuer (1996); Mezirow (1991). There is as well a more radical strand of theorising, influenced by the critical social science of Habermas (1988) and the pedagogic work of the Brazilian Paolo Freire (1970) whose ideas have been influential in adult and community education circles.

The key to learning, these writers hold, lies in people understanding the way in which social, cultural, historic and economic forces shape meaning and, through this understanding, becoming empowered to act on these forces.

Recent grounded studies, undertaken in diverse contexts or settings, have however made a significant start on the task of conceptualising and theorising informal learning. Notable among these are:

- A detailed empirical study of learning, citizenship and change in a cross-section of local voluntary organisations by Elsdon, Reynolds and Stewart (1995);
- A grounded, learner-centred study of learning in a range of workplace settings by Eraut, Alderton, Cole and Senker (1998);
- A grounded analysis of local education as practised by community workers using informal learning methods (Smith, 1995; Jeffs and Smith, 1990).
- A set of diverse case study examples of radical adult education practice in community organisations and social movements, informed by analysis and theorising of popular education as a model of informal learning (Foley, 1999).
- A series of review undertaken by Coffield (2000), which concludes that overall the domain of IFL is a "submerged and neglected" field.

2.6.2 The policy environment and other forces shaping practices

As with all the sectors covered, a key driver in shaping practices is recent government policy, within which learning has been explicitly identified as the main catalyst for economic competitiveness and growth. This also situates learning within a broader arena, justified by concerns for 'citizenship', social integration and equity.

Thus, in the UK, a feature of a range of initiatives outlined in recent Green and White Papers, in the DfEE's Report to Parliament (4202, March 1999) and in various social exclusion strategies is the broadening scope of educational policy. The 'New Start' programme for disaffected youth; education for citizenship; the Adult and Community Learning Fund; and various community regeneration programmes (Neighbourhood Renewal, New Deal for Communities etc) now sit alongside initiatives for work-based learning and training, individual learning accounts and the University for Industry.

However, it is important to distinguish between the initiating circumstances of informal learning as an emergent phenomenon, occupying social and organisational space, and the reasons why individuals get involved in that process. The initiating circumstances of informal learning can be of three main types: an effort by key 'movers and shakers'; the consequences of a broader 'social movement'; or a programme or project based on a defined policy agenda. Many informal learning initiatives originate as a result of the activities of a key entrepreneurial individual or group of individuals. In some instances, informal learning is a 'by-product' of another key issue – for example in two cases reviewed– 'Faith in the Community' and 'Surfers against Sewage', for example, the origins of the informal learning initiatives were rooted in initial concerns over environmental problems.
Whether initiated by an individual 'learning entrepreneur'; involving a broader social movement like SAS, or set up as part of a strategic development initiative, informal learning actions develop through a combination of the right people in the right place at the right time.

Because informal learning 'phenomena' often originate 'organically', in response to unmet needs such as poor housing conditions, they initially at least, tend to have broad agendas, minimal infrastructure and flexible (if any) organisation. This provides a high degree of potentiality for development and change. Informal learning. can be seen therefore as an evolutionary process, in which the learning that happens in response to this initial need triggers other needs. These can be 'latent' – where participation in learning unearths additional needs that have hitherto remained hidden - or 'transformed' – for example where participants develop a need for additional learning as a result of participating, such as the need to acquire IT skills

By the same token, informal learning initiatives may not be (and may not need to be) sustainable or transferable. Whether (and in what ways) an initiative should grow, and whether (and how) it can be transplanted and adapted to other locations and settings depends on the balance between 'context' and 'commonality'. The sustainability and transferability of informal learning is dependent on the following factors:

- It must meet a continuing need
- To be sustainable, the learning must be incorporated into institutional practices and agencies
- There must be funding available to enable the initiative to continue, or to be replicated elsewhere.

2.6.3 Key pedagogic practices

The key defining characteristics of informal learning (and the distinctions between it and formal learning) are related to factors like developing a greater capacity for self-determination and self-evolution, or emphasising the social embededness of learning rather than its individual focus. Essentially, a defining feature of informal learning is that it is not as bounded as 'mainstream' education and training by 'learning patrimonies'. The Review suggests that informal learning encompasses a diversity of arrangements, actors and practices:

- It takes place in community colleges, penal institutions, in pubs, at home, and on the beach.
- It is delivered through a range of mechanisms: for example, television 'soap operas', a mobile 'computer gym', theatres, community workshops, videoconferencing and 'faith meetings'
- The 'learning process' encompasses outreach work (for example on depressed housing estates); self-managed learning; computer-based learning; conventional lecturing; mentoring; and broad grass-roots 'social movements'.
- The learners are frequently self-selecting, rather than 'target groups'; they can be highly differentiated and united by a common need rather than class, age or ethnicity – but can be highly homogenised, for example people living with HIV.

Compared with 'formal' education and training – which generally tends to be highly structured and highly bounded in terms of content and delivery – informal learning happens in all sorts of places; involves different kinds of participants, and uses a variety of platforms and methods. It doesn't to the same extent as formal learning reflect the 'narrowness' of 'learning patrimonies' (the socio-legal and political frameworks of education). Indeed, a characteristic of informal learning, particularly when it takes place in an unstructured setting – for example 'Surfers Against Sewage', a social movement that started with a bunch of surfer activists campaigning for cleaner beaches and led to a mass educational movement on environmental issues -– is that its participants do not perceive themselves to be 'learning'. It encompasses a diversity of arrangements, actors and practices. It reflects subscribed, emergent and highly contextualised needs, rather than the 'operational' needs of formal education and training policy and practice. Where there is a demonstrable need – for example the need to mobilise the untapped and latent skills of young people on a housing estate and harness these to regeneration initiatives -then informal learning can emerge to fill that need

2.6.4 The evidence available about good practice and what works

The Review has identified a wide range of good practices and examples of what works. They key variable for 'success' is that the learning suits the needs, expectations and 'life world' of those participating.

Although, en masse, participants in informal learning constitute a relatively heterogeneous population, the evidence also suggests that different types of informal learning will attract particular groups of people with a common need, a similar set of values, and shared expectations. Sometimes this common identity is self-selecting, some times it is strategically targeted as part of a policy initiative. A number of examples investigated by the study, involve this type of 'targeted' learner. These include Brookie Basics (basic literacy skills for adults); Heart n' Soul (the learning disabled); Back to Work (people living with HIV/AIDS); DJ Masterclass and Downham Youth (disaffected young people); Northern Animateur and Peabody Trust (residents on housing estates with high unemployment rates). These different types of people get involved in informal learning essentially because it creates an 'opportunity space' around some unmet need (for example: improving conditions on the estate; getting a better job; realising environmental improvements).

Against this background, informal learning works when it successfully conquers the barriers and resistance to continuing participation. These include:

- Negative previous experiences of education and training. Particularly for adults who have left school early, without qualifications, returning to learning is fraught with problems like fear of not being able achieve something, or being perceived to be stupid

- Financial constraints. For many people, particularly the long term unemployed or lone parents, informal learning may incur real costs – for example course fees; learning materials; travel – and opportunity costs - for example spending time learning when you could be earning money.

- Access problems. People can be either geographically isolated from learning resources and opportunities (like in rural areas) or socially isolated (for example in poor inner urban areas).

- Inertia. On the individual level, resistance to starting something new is often a key barrier to getting involved. At the institutional level, bureaucracies are sometimes slow to respond to emergent learning opportunities, particularly with regard to funding. In other instances, informal learning – particularly when it takes the form of perhaps a radical social movement – can generate hostility by institutional agencies who feel threatened by it.

Essentially, the examples of good practice underline the importance of: flexibility in the funding, management and evaluation of informal learning. Informal learning encompasses a diversity of arrangements, actors and practices. It reflects subscribed, emergent and highly contextualised needs, rather than the 'operational' needs of formal education and training policy and practice. As a result, in the context of national policy-making, investment decisions and programme initiatives should allow scope for flexibility, and not privilege initiatives that aim to support transitions between informal learning and formal learning or as pathways to employment.

Equally, it should be recognised that 'having fun' is a key motivating factor driving participation in informal learning. The very fact that learning is sometimes a 'hidden' agenda subsumed within another activity – like going to a beach party held by 'Surfers Against Sewage' – can often be a key factor in overcoming the resistance to learning of people who are otherwise hostile to, afraid of or sceptical about learning. Policies aimed at encouraging wider participation at the national level should therefore be flexible enough to support initiatives that may reflect radical alternatives to 'mainstream' education and training.

2.6.5 The main gaps in knowledge and understanding

The Review highlights the need for more research, principally in innovative ways of facilitating informal learning, This should focus on: adapting informal learning to learner profiles; investigating the effectiveness of learning technologies and supporting skills development in this area; developing pedagogies for supporting self-paced learning; identifying and enhancing the effectiveness of mentoring systems. This recommendation will particularly benefit practitioners – those who develop and manage learning opportunities. The Review also highlights a need at all levels – in terms of national policy; at the local level, and for practitioners on the ground - for more research in how to evaluate informal learning and assess its outcomes.

Because of the complexity and diversity of informal learning, evaluation should be shaped by the following guiding principles: multi-dimensionality; contextualisation; the adoption of a 'criteria-based' approach; the use of normative assessment measures, and the inclusion of process and developmental evaluation.

3. CROSS – CUTTING THEMES

3.1 Introduction

This Section firstly draws together the results of the sectoral review of theory, research and practice discussed above in Section 2. On this basis, it synthesises the review results in the form of a 'mapping framework' depicting the relationship between the conceptual and methodological foundations of pedagogy; the policy and socio-cultural background; the organisational and 'practice arrangements' in which teaching and learning takes place, and the factors affecting learning outcomes. Secondly, it provides a 'comparative map' of 'what is being done in the name of pedagogy' across these sectors.

In addition, this Section provides a discussion of key cross-cutting themes of relevance to Phase III of the ESRC Teaching and Learning Programme. These have been selected in response to the results of the review provided in Section 2 above, and in response to discussions with the Programme Steering Committee. The themes reflect common preoccupations and debates that can be identified in the theoretical and practice literature, and in discussions with key stakeholders. Two key themes discussed in detail are:

- The use of Information and Communication Technologies (ICTs) in teaching and learning – with a particular focus on 'virtual learning environments' (VLEs)
- Assessment

3.2 Mapping Framework

Figure 1 is a representation of what might be termed the 'distal-proximal interactions' affecting learning outcomes. The Framework illustrated in Figure 1 envisages learning outcomes as played out within a bounded setting or 'learning scenario'. Typically this scenario is institutional in form (a higher or further education establishment for example) although the boundaries can be fluid (a 'community-based initiative' in informal learning; a 'virtual campus', for example). Proximal forces are defined as the socially-supported institutional and organisational factors that directly shape the immediate process of learning within a particular scenario. They include physical elements (such as classroom layout); normative elements (such as classroom rules and procedures); socio-cultural elements (such as the nature of group interaction); psycho-social elements (such as previous experience of learning); organisational elements (such as the structure of the curriculum). The distal forces can be defined as the diachronic and synchronic factors that shape teaching and learning practices at the macro-level. At the broadest frame of reference, the external socio-cultural environment provides an 'envelope' – encompassing key structural dimensions like demographics and socio-economic stratification systems, together with historical processes that define the cultural and social discourses and social relations in a particular period.

Figure 1

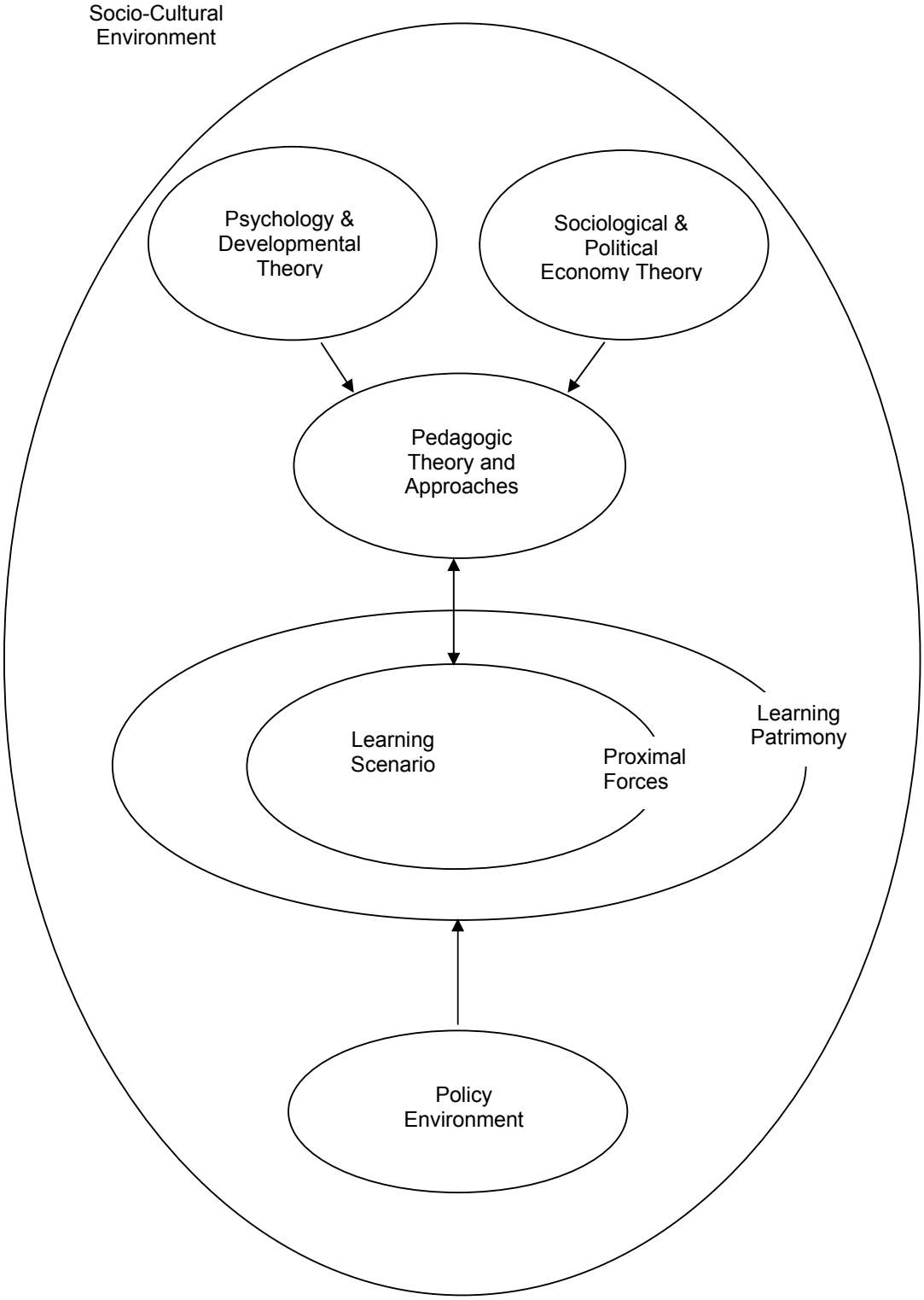
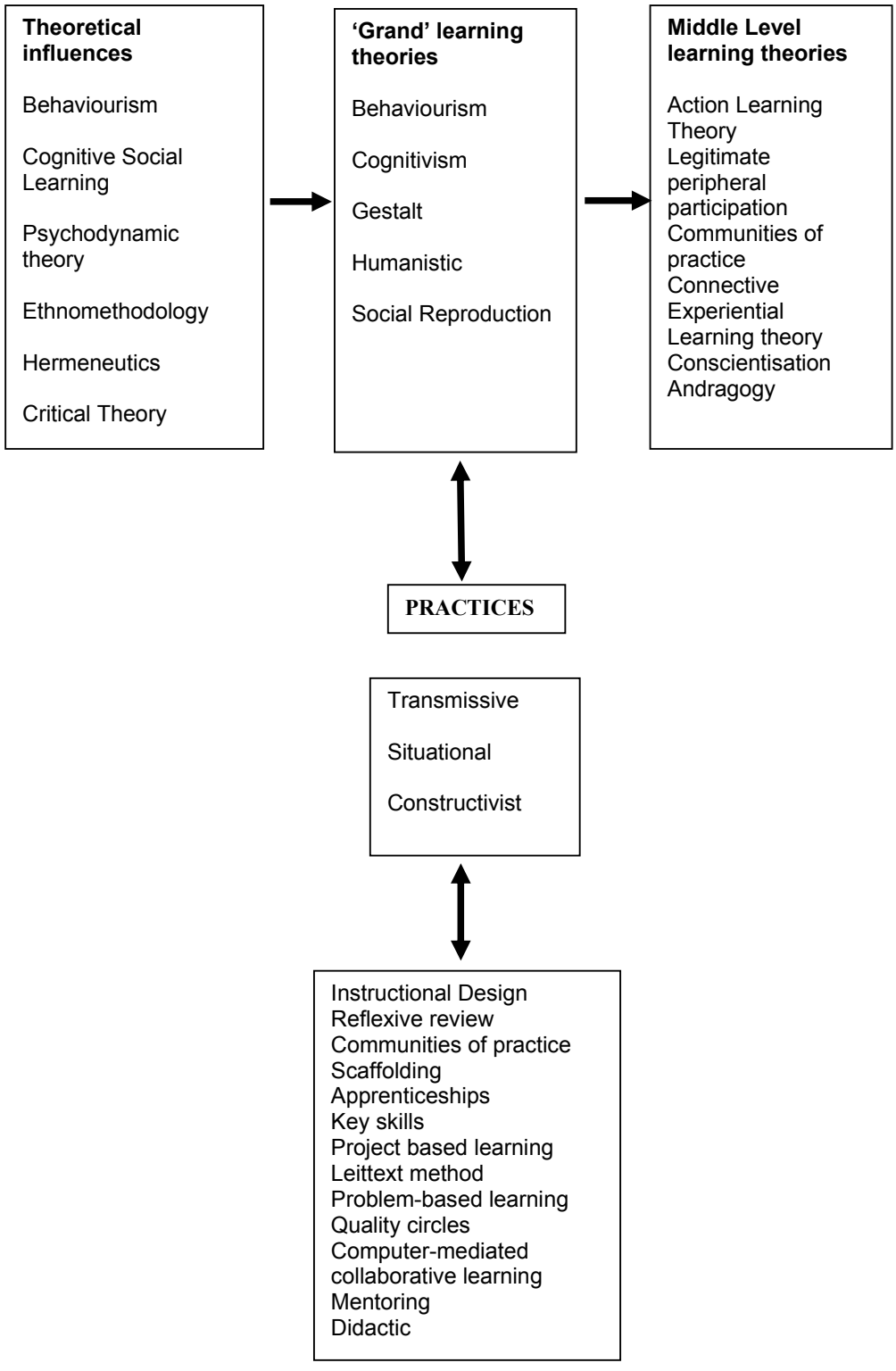

Socio-Cultural
Environment
Psychology &
Developmental
Theory
Sociological &
Political
Economy Theory
Pedagogic
Theory and
Approaches
Learning
Scenario
Proximal
Forces
Learning
Patrimony
Policy
Environment

Figure 2


Theoretical influences
Behaviourism
Cognitive Social Learning
Psychodynamic theory
Ethnomethodology
Hermeneutics
Critical Theory
'Grand' learning theories
Behaviourism
Cognitivism
Gestalt
Humanistic
Social Reproduction
Middle Level learning theories
Action Learning Theory
Legitimate peripheral participation
Communities of practice
Connective
Experiential Learning theory
Conscientisation
Andragogy
PRACTICES
Transmissive
Situational
Constructivist
Instructional Design
Reflexive review
Communities of practice
Scaffolding
Apprenticeships
Key skills
Project based learning
Leittext method
Problem-based learning
Quality circles
Computer-mediated collaborative learning
Mentoring
Didactic

For the purposes of this review, three particular expressions (or discourses) of this socio-cultural envelope are of particular significance. Two of these - a discourse around psychology and developmental theory , and a discourse around sociological and political economy theory – shape the 'formal' (or explicit) knowledge base of 'pedagogic theory'. A third discourse is centred around policy debates and policy initiatives.

The interaction between these distal and proximal forces shapes 'learning patrimonies' – which can be thought of as the heuristic field that both internalises the cumulative knowledge evolving via the external socio-cultural environment (in the form of both formalised procedures – such as legislation governing educational practice – as well as the collective 'sensemaking' that takes place as pedagogic practices are undertaken on a day to day basis) and externalises new knowledge emerging as a result of these practices.

As discussed in Section 4 below, it is therefore misleading to envisage the interaction between 'distal' and 'proximal' forces as the interfacing of two separate and autonomous processes, or indeed the meeting of 'top-down' and 'bottom up' theory and practice. Instead, the framework proposed sees learning outcomes as one manifestation of an evolving dialectic between the discourses of teaching and learning and the everyday realities of pedagogic practices.

This framework is unpacked further in Figure 2. As Figure 2 shows, the dialectic between 'discourses' and 'practices' is mediated, on the one hand, in the interplay between 'meta-level' theories and concepts about the nature of human and social development (behaviourism; cognitive social learning; psychodynamic theory and so on); 'grand' learning theories (behaviourism; cognitivism and so on), and, in turn, what might be described as 'middle level' learning theories (action learning; conscientisation; communities of practice etc.) . This interplay shapes, and is in turn shaped by, the world of 'practices' that determines the ways in which teaching and learning are conducted in learning settings and scenarios across the different sectors. Broadly speaking, the 'design' of practices can be categorised into three basic categories: transmissive (i.e. essentially replicating traditional teacher-student relationships); situational (i.e. embedded in social relations) or constructivist (i.e. in which the learner is an active collaborator in the learning process and in the production of knowledge). These three categories decompose into a myriad of constituent elements, including instructional design practices; pedagogic audits; scaffolding techniques; problem-based learning techniques, and so on).

3.3 Comparative Map of the Sectors Reviewed

As underlined by this Framework, in this Review current practice is largely deduced from the pedagogic literature, which is seen as a mirror reflecting practice. This assumption, though partly tested by other knowledge of 'classroom practice' and by the advice of leading experts in the different arenas, remains an assumption.

What emerges from the review is a strong sense of the highly dynamic state of the field, the difficulty of thinking in terms of the familiar 'sectors' or 'settings', ' and the fragmentation of research and discourse among largely self-referencing 'communities' of researchers/practitioners. One key implication from this conclusion is that ESRC might wish to assign priority in Phase III to supporting work which directly or indirectly addresses this dynamism and fragmentation.

The Review also suggests that a four-way characterisation of the field is itself problematic. It appears to reflect the priorities and pressures recognised and felt by ESRC (which is itself 'inside the picture') and in the process to mix categories. Further and higher education are settings and also sectors well recognised and distinctly managed (though not beyond contest and not without operational difficulty). Workplace learning is a setting but not conventionally a sector. Continuing professional development is more a function, purpose or set of target groups than sector or setting. It could be put alongside young entrants to higher education; early school leavers; or third age adults. The fourth area has spread into the unbounded universe of lifelong and life-wide learning, across all sectors and settings but treated as a residual or 'dustbin' category. Yet the values, discourse and conceptualisations rooted in this field (broadly adult and community) have exploded, atomised, to colonise and take root in all four sectors and settings rather than remaining at the margins.

This sectoral heterogeneity is illustrated in Table 1, which summarises 'what is being done in the name of pedagogy' across the four sectors studied.

Table 1

Sector	Higher Ed	Adult	WBL and CPD	Informal
Main influencing theories	Strong cognitivist/'black box' tradition Now constructivist influences	Andragogy Constructivism Activity theory Conscientisation	Human Capital theory Activity theory	Andragogy Constructivism Conscientisation
Current pedagogic approaches and practices	Managed Learning Student-centred learning	Active Learning Experiential Scaffolding Vernacular pedagogy	Apprenticehships Connective Experiential Key skills Problem based learning Transformative learning Communities of practice	Social movements Social capital approaches Experiential Communities of practice Active learning
Drivers	'Performativity' 'De-centred' knowledge TQM and QA Transferable skills	Scarcity of Funding Transferable skills	'Just in time' demand Soft skills demands Customer-focused learning	Learning entrepreneurs Popular culture Lifelong learning agenda
Current debates and knowledge gaps	Teacher identity Generic teaching skills Performativity ICT-based learning Learner profiles Motivation Assessment	Use of VLEs and ICTs Assessment and attainment Role of AE in 'post modern' education	Use of VLEs and ICTs Skills assessment and Accreditation Group/team working Tacit knowledge	Use of VLEs and ICTs How to assess outcomes and value Should value be linked to transitions?
What works/good practices	Project-based learning Inter-professional education Autobiographical methods	Active citizenship Context-sensitive arrangements	Context-sensitive Match between learning expectations, outcomes and life chances	Context-sensitive Learning by stealth Community-based VLA's

As illustrated by Table 1, a number of common approaches, themes, drivers and gaps can be identified across each of the four sectors reviewed – although important singularities specific to particular sectors can also be distinguished. Key cross-cutting themes identified by the Review include:

- Intentionalities or purposes for learning.
- Motivation and empowerment.
- Learning environments, social context for learning.
- Learning resources (especially VLEs and ICTs).
- The role of the teacher/trainer (and the role of the learner).
- Learning outcomes, including their recognition, assessment and accreditation.
- Pathways and transitions.
- How the role of the teacher / instructor is defined

Of these, two particular themes of common interest were singled out by the Review. These are: virtual learning environments, and the assessment of learning. These cross-cutting themes are explored below.

3.4. Virtual Learning Environments

3.4.1. Definition of VLEs

In keeping with an environment that is still rapidly evolving, and in which theory and practice remain contested, there is no clear consensus about how virtual learning environments should be defined. A number of theorists and practitioners in the field refer to VLEs as a narrow field of learning management software systems that support on-line methods of delivering course materials, primarily within the Higher Education sector (Britain and Liber, 2000). These include, for example, Multimedia Content repositories and searching tools; chat rooms and conferencing systems; electronic notice boards; on-line assessment tools; e-mail. Perhaps the most advanced example of this type of VLE is the 'virtual campus' operated by the Universidad Oberta de Catalunya (UOC) in Barcelona, Spain, which for several years now has been delivering undergraduate and post graduate courses that are totally on-line.

However, we would suggest a much broader definition of virtual learning environments, to include any set of learning arrangements that involves the application of telematics systems and information and communication technologies (ICTs) to promote learning. These incorporate configurations of platforms and tools in which particular pedagogic models are embedded. We also extend the scope of VLEs to encompass not just the Higher Education sector, but adult learning environments, and with a particular focus on community-based education and training.

3.4.2. Theoretical and conceptual issues

Theoretical and conceptual work on the application of ICTs in Education and Training has been influenced by a broader literature on the increasing pervasiveness of ICTs in society – the so-called 'Information Society'. As Ihde observes our lifeworld has become irrevocably 'technologically textured' (Ihde,1990). A significant part of this literature has focused on the effects of ICT on social relations – particularly in terms of the relationship between ICTs and social exclusion. An important concept in this respect is the notion of 'dialogic reflexivity'. As a consequence of increasing professionalisation, the distance between 'expert cultures' and the broader public is growing fast. Instantaneous global communication, as Giddens (1994) puts it, "tends to produce cultural diasporas", where globalizing influences tend to 'evacuate out' local contexts of action. As a result, personal identity becomes highly reflexive, and everyday 'experiments with the self' become an intrinsic part of daily activities, utilising information coming from a variety of sources. Giddens therefore argues that the proliferation of social movements and self-help groups in recent years is directly related to the growth of the information society, and reflects this heightened self-reflexivity.

Such movements have played a major role in retrieving power from 'experts' and in the lay retrieval of expertise. Membership of such groups, and the underlying advances in social reflexivity that have driven them, also signal complex changes in traditional notions of identity, community- and by extension social exclusion and integration. The gradual disintegration of 'cultural segmentalism', traditional social structures based on geographical and ideological separation, as a result of globalisation and instantaneous communication, can be seen as highly liberating, in comparison with traditional communities that have historically tended to be repressive.

This suggests that informal learning (both individualised and more specifically community-based learning), utilising technologies like the Internet, will play an increasingly significant role in society, undercutting the dominance of traditional, institutionalised education and training. However, there is a prevailing ambiguity and ambivalence in the literature on technology and education that to some extent reflects a much longer established, and more profound, philosophical preoccupation with the nature of the relationship between 'artefacts' and social relations. Heidegger perhaps most famously expressed this ambiguity with the notion that a tool (or a technology) 'withdraws from proximal view' – that is its essence is concealed in its function (Heidegger 1962). In Dewey's terms, technology's capacity for 'proximal withdrawal' is a key factor in promoting learning, because 'things' are connected to nature. Tools possess an objective relation, and the perception of tools as well as their actual use enable the mind to progress to new knowledge.

The most pronounced schism in the literature on educational technology is between what is called (amongst other things) 'technological determinism' and 'instrumentalism' – sometimes known as 'social constructivism' (Woolgar, 1996). At their most radical the extreme champions of the deterministic perspective hold that technology is the key to more effective learning outcomes; better access to educational services and life chances, and the best bet for a truly reforming pedagogy. Some of the more populist writers argue that technology will mark the end of mass 'instructional' education, since virtual learning environments mean that society no longer requires an institutional base for education (Perelman, 1992). Conversely, C A Bowers, argues that a technological mindset has dominated thought and social practice in the west over the last three centuries, and it now determines every aspect of current pedagogic practice (Bowers, 1988). This perspective owes much to the influence of the Frankfurt School, and Adorno's contention that technological logic represents the rationale of domination. Further echoes can be found in the writings of Habermas (1992) on 'communicative action' and in Foucault's concept of 'dividing practices' (Foucault, 1978).

In terms of the major influences on instructional design in VLEs, the field is now dominated by constructivist pedagogic models and approaches. One example is cognitive flexibility theory (Jonassen et al, 1997) which allows for the introduction of ill-structured and complex knowledge domains into the learning environment in order to provide an antidote to what is believed to be the tendency towards oversimplifying conceptual knowledge in traditional

objectivist pedagogic approaches. Hypermedia is seen as a natural vehicle for cognitive flexibility theory, since in principle it is open-ended and non-linear (Spiro et al, 1990). Other important influences on pedagogic design for VLEs include the use of 'conversational frameworks' (Laurillard, 1993). This is derived from an established body of pedagogical literature based around 'self-organised learning' developed by Pask, which in turn draws primarily on Kelly's personal construct theory, Maslow's notion of 'hierarchies of need' Jungian and humanistic psychology and Polanyi's theory of knowledge (Harri-Augstein and Thomas, 1991).

3.4.3. Policy background and policy drivers

In Europe as a whole, the Jacques Delors 1993 report "White Paper on Growth, competitiveness and Employment" (European Commission, 1993) set the foundations for the development of a policy for integrating the Information Society in the EU in all sectors of the European economy, in the education sector and in society as a whole. It has been the single and most important policy approach for promoting the diffusion and evolution of ICT in the national educational systems of the member states. It also set the tone for education and training research in the IV and the V Framework Programme.

This was followed by the 1994 "White Paper on Education and Training. Teaching and Learning. Towards the Learning society." This document again stressed the need to support in practice the development of the learning society, which was further reinforced in the Lisbon Summit (Reding, 2001) and the report from the Commission to the Council and the European Parliament, "Designing Tomorrow's Education – Promoting Innovation with New Technologies adopted by the Nice European Council in December 2000. (CEC, 2000a)

The broader EU background of promoting 'virtual learning' against a policy backdrop of the 'seamless information society' has set the agenda for UK Government policy initiatives. A striking feature of a range of initiatives outlined in recent Green and White Papers and in the DfES Report to Parliament (4202, March 1999) is, firstly the scope of educational policy initiative and, secondly, linking such initiatives to the adoption of learning technologies to promote more participation in learning, and hence an explicit connection between learning and social exclusion. The 'New Start' programme for disaffected youth; education for citizenship; the Adult and Community Learning Fund; and the regeneration of communities, sit alongside work-based learning and training, the various New Deals and individual learning accounts and the University for Industry. These are linked to the National Grid for Learning; the roll out of the 'Connexions' services (including the use of smartcards and web-based skills profiling to encourage more participation by 14-19 year olds); the re-vamping of the National Council for Educational technology (now BECTA) and the National Curriculum for ICT.

This can in turn be set against the broader policy background of 'joined up government' – the integration of lifelong learning within an over-arching framework of 'e-government', and its place within the Government's vision of communications integration. [14] The e-Government Interoperability Framework (GIF) envisages that all key government services should be available electronically by the year 2005, and available over a wide variety of channels – including Digital Interactive TV (DiTV)

These policy initiatives are driven by a set of key problematics across all UK member states, including the UK (and indeed in the US): the prime imperative being to increase economic competitiveness, which in turn is thought to be linked to the following learning objectives:

- improve the skills base of workers, across all economic sectors, but particularly in the knowledge industries
- make them more entrepreneurial
- make skills transparent and portable
- make learning a lifelong process
- increase participation in learning
- improve integration between school/Higher Education/work
- improve competetiveness of MNEs and SMEs
- create a flexible and responsive knowledge base

3.4.4 What is being done in the name of pedagogy

The application of ICTs to education and training arrangements involves a complex and eclectic set of platforms, tools and pedagogic models. Mason (1998), focusing mainly on the Higher Education sector, suggests there are three basic pedagogic scenarios used in virtual learning environments. Firstly, the 'content and support' model is characterised by a relatively static body of content providing the core for courses, with limited interactivity – a model that most closely resembles traditional didactic instructor-student relationships. Secondly, the 'wrap around' model provides for instructional material that is 'wrapped' by activities such as on-line discussions. Thirdly, the 'integrated model' where learning is driven by collaborative activities. Frade and Cullen (2000), in a major study of new learning arrangements funded by the EC TSER Programme, concluded that the pedagogic models underpinning learning technologies can be classified in terms of their 'setting' – characterised by the social structure and interactivity of the learning scenario – and the 'learning paradigm' utilised (whether didactic; exploratory and self-organised; exploratory with support; collaborative) and the 'technical configuration' (multimedia; e-mail; chat rooms and so on).

Clustering these together, three broad types of VLE 'pedagogic configurations' can be identified: pyramidal, reflecting a 'pivotal' training provider, supplying user organisations as 'satellites', and generally providing a traditional instructional mode of learning delivery.; a 'nuclear' configuration, involving a learning provider working with collaborative user organisations,

[14] In, for example, the DTI White Paper 'A New Future for Communications', 2000

and a ‘networked’ configuration, involving self-organised and self-defined learning processes agreed by the collaborating users themselves.
An analysis of 171 EC Framework IV and V projects (participating in the Information Society Technology - IST, Telematics Applications -TAP and ESPRIT RTD projects in education and training, and 42 Targeted Socio Economic research (TSER) projects carried out by the review Team provides further evidence of how learning technologies are ‘clustered’ in terms of ‘pedagogic metaphors’. The analysis suggests, at least on the surface, a growing diversity of innovative pedagogic approaches. These can be broadly classified into the following clusters:

- Simulation systems (typically focusing on individual learners and a ‘cognitive constructivist’ approach) – also now using virtual reality platforms
- Interactive Classrooms (typically retaining the conventional didactic ‘teacher-student’ metaphor)
- The Virtual Campus (the conventional university re-vamped, except for isolated examples like Universidad Oberta de Catalunya)
- Knowledge networks (mainly involving and putting together constituencies of experts – a typical example is the co-laboratory)
- Learning communities (with an emphasis on social inclusion and co-production of knowledge)

However, there is still a prevailing tendency to drive forward towards the ‘big pedagogic metaphor’. In the mid 1990’s the cultural logic of VLE’s could be defined in terms of things like ‘ the Virtual European University’; ‘The Learning Office’, and so on. The current ‘big metaphors’, as exemplified by the ‘Action Lines’ of the IST Programme are:

- Open platforms and tools for personalised learning
- The flexible university
- Advanced training systems
- The school of tomorrow
- The learning citizen
- Trials and best practice addressing advanced solutions for on-the-job training in SMEs
- Self-Learning for Work
- E-Learning futures
- eLearning for European Youth in the digital age

In the Framework VI Programme, currently being finalised, there is only one grand ‘pedagogic metaphor’: learning on demand; customised to individual needs and delivered anytime, anywhere. This metaphor, it is believed, will be made concrete through ‘ambient environments’ – seamless open systems platforms that connect learning with health, transport, work and conspicuous consumption.

VLE's all address in one way or another the notion of 'learning'. However, there is considerable variation in how learning is interpreted and structured. On the whole, self-organised, self-managed and exploratory forms of learning, tend to occupy a secondary position to conventional didactic approaches.

New VLE's rarely imply new forms of learning. Even the more sophisticated pedagogic models adopted, for example those using 'scaffolded learning' approaches and models of 'cognitive apprenticeship' in many cases reflect, in reality, traditional pedagogic forms based on the private tutor-student relationship embedded within an Intelligent Tutoring System platform. So, with regard to TLRP III, it remains the case that the complexities involved in developing new VLE's are poorly understood. The VLE design process is still dominated by technical metaphors and technical choices (for example the advantages of using intranets v extranets; videoconferencing v Digital Interactive TV.) Similarly, the pedagogic implications involved in making those choices tend to be seen in narrow, functionalist terms (for example, is it necessary to enlist a 'human' tutor to support courseware?).

VLEs still typically comprise 'innovation images' reflecting a complex interaction between economic, institutional, technological and educational forms and processes. They frequently involve applications of stable technologies within new contexts and new domains, involving, for example, new forms of association and new forms of economic enterprise. Pedagogic models cannot be separated from these constituent dimensions and need to be 'unpicked' in relation to them.

3.4.5 What evidence is there for 'what works'?

There is a vast literature on the claims of different VLE pedagogic models and configurations. There has been no real systematic review of 'what works, for who and under what conditions'. From our own review, the following tentative observations can be drawn:

- The evidence does not suggest that 'new learning technologies' imply or precipitate 'new forms of learning'. What they tend to do is make conventional forms of learning more efficient and more accessible for more people.

- There is still to some extent a miss-match between engineering-led technical 'images' and user needs. Learners are rarely involved in the design and specification of learning technology developments and tend to be poorly-represented in piloting and testing activities. Again, to some extent, pedagogic models and understandings of learner needs have been limited within new learning technology applications.

- The drive towards 'open systems' and 'open source codes' means that there are an increasing number of commercial educational and training software systems on the market.
  These tend to be targeted towards particular market segments (for example adult learners; professional development courses for office

managers). These systems are not 'technology pure' but tend to embody a specific pedagogic model that is defined by the assumed characteristics and needs of the target market – or the 'image of the learner'. The evidence suggests that these 'learner images' are shaped by 'storyboarding' or caricatures of the target users, rather than underpinned by detailed user needs analysis. An important potential research theme for TLRP III therefore is to assess the 'goodness of fit' between these 'learner images' and the actual needs of specific categories of learner.

As concluded in other domain reviews, context is everything. The big issue for research is to systematically assess which pedagogic/technology configurations fit which context. Examples are:

- Universitat Oberta de Catalunya. UOC is probably the only successful and stable European virtual campus. Why does it work? because the pedagogic/technical configurations used are compatible with the 'life worlds' of its learners. UOC targets 'isolated learners' and the socially excluded (e.g. people in rural areas; single parents). The UOC system provides metaphors for learning that are 'situated' in people's everyday lives (e.g. virtual students Union; 24 hour 'ask a tutor'.

- Peabody Trust – Virtual Learning Ring and Computer Gym. Provides basic technology and 'collaborative community learning' pedagogic model for basic needs – to improve basic skills of people in 'sink estates'; to develop people's information gathering and information management skills, and ultimately, to improve the capacity and develop social capital of the community.

- In contrast, what doesn't work: Example: Electronic Village Halls (EVH's). This pedagogic model was imported from rural Scandinavia to inner Manchester. It provided 'learning by doing' hands on keyboard skills for lone parents and Bangladeshi women. Despite winning a 'Bangemann Prize' for learning technology excellence, it was in reality a disaster. Why? Because I) no support systems (e.g. crèche facilities) for learners ii) raised expectations around transferable skills that were impossible to meet in the local labour market.

- Example: TRENDS – Telematics Training for Teachers. Large scale professional development service for 2,000 teachers from six European countries, using a common pedagogic model (on-line peer support and seminars; multimedia learning packs). Why did it not work? Because I) the common pedagogic model did not work in the different linguistic and cultural contexts. ii) there were significant problems around interoperability.

3.4.6 What are the gaps?

- A meta analysis and systematic review of what pedagogic/technical configurations work under which contexts. There is a huge amount of research findings from ESRC, TSER, TAP, DELTA, IST all of which, at least in principle, includes validation and evaluation reports. These data have never been systematically reviewed.

- The implications for pedagogic models, scenarios and practices of emergent technologies – with an emphasis on identifying the 'goodness of fit' between the scenarios used and the needs of learners. The key ones are: Digital Interactive Television (DiTV); Collaborative knowledge systems; convergence technologies.

- Motivation and empowerment. We still don't know enough about why, particularly socially excluded groups, do or don't use VLE's. This is particularly important given the emerging trend towards 'knowledge networks' and collaborative knowledge systems where the learner's role is not simply one of passive absorption of knowledge but as an active co-producer of knowledge.

- Are pedagogic models necessary at all at the margins of informal learning using VLE's? Is pedagogy redundant in the scenario of the 'seamless information society'?

- Knowledge transfer. How are pedagogic models and practices diffused into the design of VLE's?

3.4.7. Suggested research strands for TLRP Phase III

- Meta analysis and systematic review of peadgogic/technical scenarios in ESRC, TSER, IST, TAP Programmes.

- DiTV – can it deliver true community-based learning and enhance community capacity building?

- Why are some learners reluctant to empower themselves? what are the barriers and constraints to collaborative knowledge production VLE's?

- How can you make VLE's more relevant for people's everyday lives, particularly with regard to I) support infrastructures ii) goodness of fit between learning expectations and learning outcomes?

- What policy motivators drive the 'big visions' of VLE's and how relevant are they for learning?

- How is needs assessment carried out in the development of VLE's and why is it that in many cases there appears to be a poor goodness of fit between needs assessment outcomes and pedagogic design?

- Do community-based learning VLE's really work, and what is the impact on community capacity building and social capital?

- Benchmarking system for VLE's and a common set of evaluation indicators

- Research on organisational resistance and work re-engineering in work-based learning using VLE's.

- What new skills are needed for new teaching and learning roles

- How do SMEs form knowledge networks and how effective are they?

3.5 Assessment and Learning

One answer to the question 'what passes for pedagogy' in important parts of post-compulsory education, is assessment. It is widely agreed that assessment influences what is taught and how teaching and learning are 'delivered'. There is also widespread belief among educational researchers and practitioners that assessment can and often does constrain rather than enhance learning outcomes.

Assessment is important in current research debates partly because it brings together issues of access – especially for adult learners, who may have not achieved well in formal education or have vocational rather than academic aspirations – with issues of learning theory.

It has therefore become central to notions of a 'learning society' where all individuals are expected to pursue what Bloomer calls 'learning careers'[15]. Broadfoot (1999)[16] highlights the 'tension between the pursuit of greater validity whilst at the same time ensuring a sufficient level of reliability for summative purposes ….. '. This debate played out in England in terms of Records of Achievement (RoAs) and National Vocational Qualifications (NVQ's) is long running. Whilst skills can be assessed through application (the portfolio route), assessing underpinning knowledge in ways that are seen as reliable and publicly acceptable pushes for a degree of 'externality' in assessment. Broadfoot contrasts 'performative' and 'empowerment' visions of assessment, the former focusing on test results that categorise students and the places where they learn and the latter vision more concerned with 'effective learning' within an 'emancipatory discourse'. Ecclestone (2001) draws on the theories of social and cultural capital to argue that 'an outcome-based approach is fundamentally incompatible with negotiated learning and genuine ownership and generation of knowledge…..'

[15] Bloomer, M. (1997) Curriculum making in Post-16 education: The Social Conditions of Studentship. London Routledge.
[16] Broadfoot, P. (1999) *Empowerment or Performativity? English Assessment Policy in the late 20th Century.* Paper presented at the Assessment Reform Group Symposium on Assessment policy. BERA Annual Conference, 1999.

Ecclestone is especially concerned with learner autonomy as a particular form of cultural capital which she argues 'outcome based assessment regimes' do little to enhance.

Similar arguments and evidence has been mustered in compulsory, classroom based teaching and learning. Lorrie Sheppard has provided an historical overview of the way assessment for most of the 20th century, has been linked to behaviourist learning theory and how this effectively reinforces a separation of learning from assessment [17]. She argues for a new conceptual framework 'borrowing from cognitive, constructivist and socio-cultural (learning) theories' which acknowledges 'that learning is an active process of mental construction and sense making' and that following Vygotsky, 'both development and learning are primarily social processes'. Sheppard's arguments, although classroom oriented, are consistent in their logic and focus with others in the post-compulsory field who are not classroom irientated. Her concerns for assessments to be 'connected to contexts of application' and 'assessment of prior knowledge' are common themes in work-based and informal learning for adults. Cognitive and constructivist ideas underpin much thinking in many spheres of learning, in particular in discussions of what we have called 'virtual learning environments'. (See above in this report.) It is also recognised by practitioners and researchers in this sphere, that new frameworks call for new approaches to assessment.

Although there is long-accumulated evidence of how assessment contributes to learning[18] – even if often negatively – the emergence of new models and conceptualisations also suggests a range of new research agendas. As one recent paper[19] on assessment and learning argues, 'Changes in core assumptions permit new questions to be asked and new solutions to be found'. On the basis of the new theoretical perspectives and debates that we would highlight the following research priorities:

- the inter-relationship between assessment and learning in various post-compulsory settings;
- new models of assessment that balance validity and reliability yet support learner autonomy;
- the learning benefits of self-monitoring and self assessment;
- longitudinal studies that show how learning careers are shaped by assessment experience;
- empirical studies from the learners perspective on how assessment shapes learning experience and aspiration in the context of lifelong learning;

[17] Sheppard, L.A. (2000) *The role of classroom assessment in teaching and learning*, in Richardson, V. (Ed.) Handbook of Research on Teaching. AERA, Washington DC. See also '*The role of assessment in a learning culture'*, Lorrie Shepard's Presidential Address to the American Educational Research Association, April 2000.

[18] See for example Crooks, T. (1998) *'The impact of classroom evaluation on students'*, in Review of Educational Research 58(4) cited in Broadfoot (1996).

[19] Jensen, M. (2001) Mediating knowledge construction: towards a dynamic model of assessment and learning. Paper presented to September 2001 BERA conference.

- action research studies of assessment regimes that track and contribute to knowledge production among teachers, other 'intermediaries' and learners; and
- institutional and policy studies that focus on the dynamics that shape assessment regimes that are not learner orientated.

SECTION 4: RESPONSES TO THE KEY RESEARCH QUESTIONS

4.1 Introduction

As discussed above in Section 1 of this Report, the tender brief identified a number of key questions to be addressed by the Review. These were:

- What is the current state of the art in understanding of learning and teaching processes with regard to post-compulsory education sectors/domains?
- How do learning and instructional processes affect learner attainment and pedagogic effectiveness?
- How are learning and teaching arrangements and configurations informed by current understandings of teaching and learning?
- What are the factors that appear to shape pedagogic understandings and assumptions within and across the main sectors identified?
- What is known about what does and does not work in different sectors and contexts?
- In what ways do 'proximal forces' – for example 'learning patrimonies', learning cultures and regulatory frameworks – affect pedagogic approaches and practices?
- What appear to be the main gaps and challenges in current knowledge and understandings of effective teaching and learning practice?

This section draws on the results of the Review to provide a response to these key questions.

4.2 What is the current state of the art in understandings of learning and teaching processes?

- The current state of the art is 'eclectic'. A 'new pedagogy' is emerging, drawing on constructivist theory and practice as its main source of understanding. Within this, four main types of 'pedagogic method' can be identified: expository methods; interactive methods; conversational methods and experiential methods (see Heuer, 1996; Mezinow, 1991).
- Understandings of pedagogy – and the methods and practices commonly adopted – vary from sector to sector. Moreover, most of the debates are normative and value-laden:arguing for the primacy of one approach over another rather than the appropriateness of different practices to different settings and purposes.
- The most important feature of the 'new pedagogy' is the altered configuration of the whole educational research enterprise.
- Context has become an immensely significant element of the new pedagogy: both the context (changing environment, proximal forces) of the whole education enterprise itself but also the significance which context has acquired within the pedagogy, and in the making and remaking of the

curriculum. The very nature of knowledge is perceived differently. The curriculum, in term of both content and process, reflects this through a move away form propositional knowledge to knowledge as contextualised and contingent, as well as, often, more immediately applicable. (see Usher, 2001)

- The core issues and propositions about learners, learning and teaching have not altered. Many of the same philosophical and psychological positions and disputes are re-visited and re-presented much as they have been over recent decades, with rather little evidence of significant progress in understanding, or shift of value position, in most cases.

- Rather, the societal context in which these questions are now posed has changed. The questions take different specific form and lead to different issues in an operational agenda that addresses how to teach and how to support learning. It seems that the changed environment, cultural and social as much as economic, technological and consequently political, has imposed and posed new requirements and new frameworks for old and familiar questions (see Bagnell, 2001).

- It remains unclear whether 'fundamental' understandings about how people learn and how learning is best supported have changed in any 'absolute' sense; or whether we have become any more adept at making the connection between pedagogic inquiry and 'classroom' practice in ways which generate higher levels of 'output' success.

4.3 How do learning and instructional processes affect learner attainment and pedagogic effectiveness?

- A more pertinent question could be: "How do conceptions of learner attainment affect learning and instructional processes"? As discussed above in Section 3, some writers argue that 'assessment' as a paradigm is not value-free, but borrows heavily from behaviourist learning theory. This effectively reinforces a separation of learning from assessment and neglects the significance of 'process' as opposed to 'outcomes' (see Eccleston, 2001).

- Notions of 'perfomativity' are beginning to dominate pedagogic debates in post-modern western society – particularly in the higher education sector. Searching for significant enhancements in learning outcomes is a highly instrumental enterprise which reflects one aspect of the current policy environment and the nature and role of education. There is a paradox and some tension related to this. One tension is between the social and the highly individualistic consumer ethic identified as the key to post-modernity. Another is between the rediscovery of learning as a social activity of social animals and the rise of self-directed and virtual (web-based) pedagogies. Reflecting on the dominant patrimony of traditional higher education, it is not surprising that 'virtual education' raises anxiety levels along with competence-driven performativity, whereas deep learning

has become popular probably more successfully than any other pedagogic concept and insight (Malcolm and Zukas, 2001).

- There are a host of studies, research reports and evaluations identified by this Review; each claiming that a particular pedagogic model, approach or set of practices is associated with better learning outcomes than the competing model. In general, constructivist approaches ('good' pedagogy) are claimed to promote more effective learning than objectivist approaches ('bad' pedagogy). But there is evidence that in some contexts, didactic, transmissive pedagogy and rote learning is necessary – and can be effective. This suggests we do not know enough about the relationship between pedagogic arrangements and learning outcomes to meaningfully compare competing models.

- Pedagogic effectiveness is highly dependent on context. In 'formal' teaching and learning settings, the instructional process is assigned a greater weight in the 'pedagogic effectiveness' equation, primarily because other factors (for example, learner motivation) are generally less problematic. In informal learning settings, learning and instructional processes can sometimes be almost irrelevant, since learning occurs 'by stealth' (Foley, 1998).

- The measurement of pedagogic effectiveness is itself context-dependent. It can be argued that 'attainment' is a behaviourist concept. In turn, the Review unearthed ample evidence that many of the indicators used to measure pedagogic effectiveness were to a large extent self-serving (they tend to be shaped by the 'grand learning theory' driving the pedagogic approach being measured) (Broadfoot, 1999).

- The measurement of pedagogic effectiveness tends to be limited to the immediate confines of the 'theatre of instruction'. For example, in the case of the 'Electronic Village Halls' referred to in Section 3 above, it was possible to demonstrate 'success' on the basis of measuring the level of keyboard skills acquired by the learners involved. However, on what we would argue is a more pertinent measure of 'effectiveness' – relevance to the learner's 'life chances' – the pedagogic approach used in the case of EVHs could equally be seen as ineffective, since the learners' were unable to apply the skills acquired within the local employment market. Unless pedagogic models and approaches incorporate understandings of the 'life world' outside the learning setting itself, they cannot be entirely effective (Frade, 1995).

4.4 How are learning and teaching arrangements and configurations informed by current understandings of teaching and learning?

- It has not been possible in the course of this Review to uncover with any confidence the research findings the different communities of practitioners use and to what effect. Our review has of necessity relied on the 'mirror' of discourse and inquiry in the research and policy communities, which may be only loosely affiliated with the fields of practice. The neck of the hour-

glass connecting research and theory with practice may be extremely narrow in some areas, with very little trickling through.

- The communities of research and discourse across the sectors of post-secondary education are often quite closed, self-referencing, with poor transfer and transition across boundaries either of research or of knowledge and its application. As one major review of Pedagogy put it: "The researcher's knowledge base is a mile wide and an inch deep. The teacher's knowledge base is an inch wide and a mile deep".[20]

- A key question for TLRP is therefore whether practitioners are asking the right kinds of questions for researchers to address, and whether researchers also are asking the right questions, or hearing those asked by practitioners and tackling those concerns. This should also involve questions like: are the findings of research being well – and useably – presented? Are they translated, or translatable, for application by practitioners to enhance practice and outcomes? What kinds of writing do practitioners actually find useful? How is sense being made of the mass of analytic literature that is available? Or is it simply stored in different places, poorly articulated within the different parts (self-referencing communities of discourse) of the mass while the field of practice remains largely untouched?

- Rather little is known about the processes of knowledge management, production and diffusion and about how to manage knowledge flows from research into practice (as also into the areas of policy-making and funding). Knowledge production is lagging behind the evolving 'new pedagogy'. In some sectors, and education 'areas', there are institutional 'agencies' that exert an integrating and co-ordinating influence (for example BECTA; NIACE and some of the new Research Centres like the 'Wider Benefits of Learning' centre at the Institute of Education). However, there is no real centralising agency for knowledge diffusion and it remains true that little is known about how the diffusion process operates (McInnis, 2001).

- Against this broader background, the Review did throw up a number of examples of innovative teaching and learning arrangements. Across all the sectors studied, common innovative trends that can be identified include:
  - a recent growth in the use of conversational and experiential methods;
  - increased attention to vocational outcomes;
  - an opening up of the curricula space to embrace broader education (as opposed to academic) agendas;
  - more learner-focused approaches; 'transactional' pedagogy (negotiation with learners over what is valid knowledge); and

[20] Quoted in P Mortimore (Ed) 'Understanding Pedagogy and its impact on learning', 1999, Sage, London

- an attempt to bridge learning with the wider 'lifeworld' of the learner often in support of improving learner access.

Many of the innovations in learning arrangements appear to be focused in workplace learning (Eraut, 1998).

4.5 What are the factors that appear to shape pedagogic understandings and assumptions within and across the main sectors identified?

- The key driver in the 'new pedagogy' is recent government policy, within which, learning has been explicitly identified as the main catalyst for economic competitiveness and growth. In various White and Green papers in the UK and at the broader EU scale, increasing globalisation combined with rapid technological change have been explicitly linked to problems associated with 'skills gaps' in the labour force. At the same time, it was increasingly argued that such human capital problems were inextricably linked to the lack of integration between education and work. In both the UK and the EU a number of policy initiatives have been proposed that were intended to promote such integration. These included a higher level of general education; an increasing mix of employment-linked vocational training; the creation of bridging courses and accreditation arrangements between education and training provider systems and the creation of a more open and flexible 'lifelong learning' system (CEDEFOP, 2001).

- This also situates learning within a broader arena, justified by concerns for 'citizenship', social integration and equity. Thus, in the UK, a feature of a range of initiatives outlined in recent Green and White Papers, in the DfEE's Report to Parliament (4202, March 1999) and in various social exclusion strategies is the broadening scope of educational policy. The 'New Start' programme for disaffected youth; education for citizenship; the Adult and Community Learning Fund; and various community regeneration programmes (Neighbourhood Renewal, New Deal for Communities, etc.) now sit alongside initiatives for work-based learning and training, individual learning accounts and the University for Industry.

- This policy environment – one of the key 'distal–proximal interactions' discussed in detail in Section 4.7 below – is one of the major factors shaping i) the current pedagogic discourses across the sectors and ii) the core areas of pedagogic practices carried out by people in 'enabling roles'. The main features of these discourses and practices can be summarised as follows.

- There has been a marked degree of 'mixing' of methods and practices across different settings and sectors. For example, previously 'discipline-specific' instructional methods have migrated across disciplinary boundaries – particularly the infiltration into mainstream teaching of formerly marginalised approaches from adult and community-based education (Kotze and Cooper, 2000).

- The re-configuration of the 'learning setting' in response to these drivers has meant that pedagogic understandings are much more concerned with: the de-centering of knowledge; the valorisation of other forms of knowledge and ways of knowing; supporting the learner as consumer; working with knowledge as 'social', distributed rather than individualised; learning rather than education (Symes and McIntyre, 2000)

- With one or two exceptions (for example, medical training) there is little established 'evidence base culture' in teaching and learning. Furthermore, as discussed above, pedagogic understandings are, firstly, shaped by different – and sometimes conflicting – patrimonies across each sector, but, secondly, there has been a significant – and complex – degree of 'inter-breeding' between the sectors (Hammick, 2000).

- A possible key question for Phase III of TLRP is: "Whose understandings?" The new teaching and learning configurations (like student-centred learning; managed learning environments and so on) engendered by the current policy environment, and the drive towards more 'de-centering' of knowledge and increased 'performativity' imply new roles for both 'teachers' and 'learners'. We do not know enough about the 'goodness of fit' between these prescribed, subscribed and ascribed roles of the 'new pedagogy', and the needs of the different stakeholders involved.

4.6 What is known about what does and does not work in different sectors and contexts?

- Old issues and discourses are constantly reinvented and still remarkably little is known about what really works. This must be repeatedly revisited since the needs and the context of 'the world out there' are changing so intentions, needs, outcome measures are all changing. One key emergent issue that appears quite pivotal in terms of the new proximal forces (knowledge workers and society) and the new discourse is – how do we create/know we have created – independent learners? This represents a research task for the accountability/measuring outcomes in the most central, universally acclaimed, yet elusive areas. It also affronts concerns about control and the place of educational managers and systems. It implies high priority for research on congruence between new intended outcomes and assessment methods. From this we see the heartland for TLRP Phase III as the nature of communication between still too bounded self-referencing communities of discourse, and the ignorance of the research/theory into practice/quality enhancement/outcomes nexus. This is where the key challenges lie and where ESRC needs to put its weight.

- The Review has identified a host of examples of 'good practices'. These practices are either grounded in the day to day minutae of 'chalkface' 'learning delivery' (and hence ungrounded in theory) or, conversely, are tied to a particular 'grand learning theory' and are unsubstantiated in

practice. A key task for TLRP is therefore to conduct systematic reviews and meta-analysis of 'what works' (Miller, 2001).

- Without these systematic reviews, we cannot say anything concrete about 'what works' over and above the relatively banal. A summary of the evidence on 'what works' for each of the sectors addressed in the Review is provided in 'Annex 1: Sectoral Reports' appended to this Report. In summary, the evidence suggests that what works is dependent on factors like:
  - whether the pedagogic approach and learning arrangements adopted are consistent with the socio-cultural context in which learning takes place (Smith, 1995);
  - the motivation of the learners (although motivation, and in particular its relationship to 'learner-empowerment' remains a contested issue in the literature) (McLean, 2001);
  - the competences of 'teachers' and 'mentors' in the new roles required by the 'new pedagogy' (Atkins, 1999);
  - the extent to which the expectations raised by learning can be met outside the immediate learning environment (and particularly in relation to delivering on 'life chances' like job opportunities) (Cullen at al., 2000);
  - the extent to which the teaching and learning process is geared towards the 'pace' of the learner (Biggs, 1999);
  - the extent to which learning arrangements address the particular socio-cultural characteristics and 'life world' of excluded groups (Percy et al., 1995);
  - the goodness of fit between learning arrangements (and learning content) and the purposes of learning (for fun; to enhance self-esteem; to enhance the career) (Field et al., 2000).

4.7 In what ways do 'proximal forces' affect pedagogic approaches and practices?

- This is a key element in the puzzle of understanding 'what is done in the name of pedagogy' and understanding 'what works'. It remains a puzzle for three main reasons. Firstly, the definition and concepts underlying the use of the term 'proximal' in education and training are confused and contested. Secondly, understandings of proximal forces are inextricably linked to particular pedagogic paradigms, and their associated theories of human development. Thirdly, proximal forces themselves appear to be context-dependent, and will vary in relation to particular 'learning scenarios'.
- The terms 'proximal' and 'distal' themselves need to be unpacked. 'Proximal' is used in the education and training literature to denote, inter alia: the categories of knowledge or 'building blocks' of learning; the factors affecting the process of learning and the outcomes of that process.

- To take an obvious example, Vygostky's (1935) model of learning, stripped to its basics, incorporates two zones of development: the Proximal Zone and the Distal Zone. The Proximal Zone encompasses 'present knowledge' (knowledge that the learner has already acquired) together with 'to be learned' knowledge that needs to be learned in the short term. The Distal Zone is a space where the more difficult 'to be learned' knowledge, and that which could be left until a later date to be learned, resides.

- On the one hand, there are obvious gaps in our understanding of this conceptualisation of the 'proximal-distal' relationship. We know very little about i) how these 'zonal parameters' are established across the different education and training sectors ii) how to assess the relative representation of 'present knowledge' vis a vis 'to be acquired knowledge' between the two zones, and across different sectors iii) how to identify subsets of 'to be acquired' knowledge that belong in the 'intermediate' layer between the proximal and distal zones, and those subsets that are best left 'for later' in the Distal Zone. But more importantly, the Vygotskian elaboration of the distal-proximal relationship represents a particular pedagogic frame of reference – in this case a developmental one, where cognitive categories of knowledge themselves represent key 'proximal forces' and in which learning is driven through the evolving interplay between proximal and distal structures. Other frames of reference situate proximal forces as the factors that impinge on the learning setting. What is therefore striking about the treatment of proximal and distal concepts in the pedagogic literature is the electicism of the frames of reference on offer. This in turn is of course linked to the deployment of particular pedagogic paradigms themselves.

- To continue with the Vygotsky example, Vygotsky's definition of the zone of proximal development is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1935, p.86). In the Vygotskian paradigm, proximal forces are essentially 'mediations', typically channelled through a teacher or mentor. This underlines the inextricable linkage between the adoption of a particular developmental paradigm and the identification of particular proximal forces. In other words, if you accept the logic of the Vygotskian theoretical position, then you accept a particular view of 'the mind' and in turn a particular pedagogic perspective (in this case constructivist; culturally determined), and hence your definition of proximal forces will focus heavily on the role and activities of 'mentors' in the learning process.

- To take another example, pedagogic paradigms that are derived from Social Learning Theory (Bandura, 1986) focus on vicarious experiences as the main source learners use to build cognitive models of learning expectations and learning outcomes. According to Social Learning Theory, in order for pedagogic models to affect a learner's 'self-efficacy' positively (i.e. promote behaviour change) the model must be consistent with the

learner's self-perception, and more importantly, the 'role models' learners use as their baseline for 'vicarious experience' must also be consistent with the learner's own self-perception. In this paradigm, the 'learning environment' is divided into proximal and distal structures. These distal structures are primarily determined by demographics (age; gender and do on) whilst the key proximal structures are determined by peer interactions (a friend successfully completing a distance learning course, for example).

- Alternatively, a psychodynamic approach to pedagogy inevitably steers the researcher or policy maker towards the processes and symbols shaping early childhood in the search to discover the proximal forces that affect learning outcomes. For example, the so-called 'object-relations school', perhaps best exemplified by Winnicott's notion of 'transitional objects' argues that the nature of the toys, tools and symbols used in life, from their origin as transitional objects in childhood to their embodiment in shared culture, provide the basis for understanding *all* subsequent teacher-learner encounters (Winnicott, 1971). This perspective is radically different from more traditional approaches that treat distal and proximal as completely separate categories. These traditional approaches typically distinguish between the immediate factors shaping learning outcomes, like the setting in which learning takes place (proximal) and the macro-level socio-historical factors, such as social origins that shape learning styles and learning profiles (distal). Winnicott, however, presents a situation in which what are conventionally understood as distal forces (early developmental experiences) are themselves largely shaped by what are conventionally understood as proximal forces (the transitional objects used in the immediate life world of the child).

- In this sense, it is probably more useful to consider the interface between proximal and distal forces in shaping learning outcomes rather than to distinguish between the two as separate conceptual or categorical frames. A more useful frame of reference might be Polanyi's (1968) notion of a 'heuristic field' or 'field of discovery', where learning is mediated through what Polanyi terms a 'from-to' or 'proximal-distal dimension'. This is similar to Winnicott's idea of a 'potential space' and not that far removed from Vygotsky's evolving 'zone of proximal development'. It is also consistent with current conceptualisations of 'Lifelong Learning. The difference is that these current conceptions are rooted in notions of 'transition pathways' as key bridging points for learning, rather than anchored in the idea that the 'rhythm' of learning is shaped in early childhood, and re-defined by socialisation.

  In the former perspective, learning is viewed as a linear progression, and the proximal forces shaping learning are embedded within a broader socio-historical envelope of distal structures. In the latter perspective, learning is an iterative process, mediated through a dialectical interaction between the distal and the proximal.

- It therefore follows that proximal and distal forces are not fixed, but are themselves variable. Take the variable of gender. Evangelou and Katz

(2001) for example suggest that distal dimensions affecting learning outcomes are associated with societal structures (place of residence, social class, social support networks) and proximal dimensions refer to specific social, physical and symbolic variables that impinge directly on the learner (for example family structure and parenting styles). However, 'a host of mediating factors seem to exert varying degrees of influence…..on achievement' one of which is the complex interplay between gender and distal/proximal structures.

- Moreover, the interplay between proximal and distal forces, and particular configurations of proximal factors that affect learning outcomes, will be significantly shaped by particular 'learning scenarios'. Here, the example that is perhaps most relevant to current pedagogic research is the use of ICTs in education and training. As an illustration, a study involving the use of web-based hypertext instructional material for students in higher education (Jonassen et al, 1997) concluded that the web provides a potentially huge information resource for learning, but that much of this information is of little use unless it is incorporated into a real-world context. This real world context is largely constructed by manipulating the 'proximal forces' that shape the immediate learning setting of the learners: promoting group interaction; case-based instruction using real-life examples; multiple representations of content. Underlying this, however, is the application of a particular pedagogic model – cognitive flexibility theory – that is derived from Cognitive Social Learning and which emphasises (as discussed above) the importance of 'peer interaction' as a key 'proximal factor' in promoting learning attainment (Bandura, 1986).

- So what conclusions can be drawn from this? Firstly, that more theoretical and conceptual work is needed on the proximal-distal relationship in learning. There is a particular confusion in the literature between the diachronic and synchronic dimensions that shape 'proximal' and 'distal' structures. Effort is needed to define more sharply the definitions underpinning notions of proximal and distal forces, and how these definitions relate to particular pedagogic paradigms. In turn, more work needs to be done on identifying those proximal elements that are associated with the adoption of particular pedagogic models in particular learning scenarios (for example the use of a constructivist learning model in a virtual campus).

- Notwithstanding our contention that a key research priority should be this conceptual unpacking of the distal-proximal relationship, we would highlight a number of 'proximal forces' as key areas for further research to evaluate learning 'effectiveness and attainment'.

- A key issue for research around proximal forces is their context-dependency.

- In 'formal' (structured) learning environments, the main 'proximal' determinants of learning attainment are likely to be associated with the organisational and institutional basis of teaching and learning delivery (the

gender mix in the learning setting; the skills and competences of the instructor/mentor; the organisational culture of the institution) (Biggs, 1999).

- Peer interactions – across all sectors of post-compulsory education included in this Review, a consistent theme affecting learning outcomes was the nature of peer interactivity. In the informal learning sphere, for example, non-participation is frequently correlated with peer pressure (pejorative attitudes to learning expressed by key role models and reference groups, for example). Conversely, peer groups can support and reinforce learning (when a 'non-learner' sees a close friend benefiting from the experience), for example (Cullen at al, 2000).
- However, it all depends on what is meant by 'learner attainment'. On the one hand, it is possible to suggest a set of 'instructional design parameters' that are conducive to 'positive learning outcomes' . But if these outcomes are no associated with realistic and achievable means of applying these outcomes in 'real life', then learning becomes counter-productive. An example identified in the Review is 'Electronic Village Halls' – which provided keyboard skills for socially excluded groups, but did not provide the means to apply these skills in the local job market (Frade et al, 2000).

4.8 What appear to be the main gaps and challenges in current knowledge and understandings of effective teaching and learning practice?

- The Review has shown that there are extensive gaps in current knowledge and understandings of effective teaching and learning practices. Across teaching and learning as a whole, the main gaps are associated with:

- The nature and effects of post-modern 'distal-proximal interactions' on pedagogic theory and practice (for example the drive towards the 'de-centering' of knowledge; the focus on assessment and performativity; the demand for 'just-in-time' skills; the re-invention of lifelong learning) (Savin-Baden, 2000)

- The effects of the introduction of Virtual Learning Environments and information and communication technologies (for example whether they are really new forms of learning, or old, re-packaged pedagogies; whether they imply new learning and teaching roles for all stakeholders; how to assess their effectiveness) (Eastman and Zieghan, 1995)

- The nature, and implications of, the re-configuration of the education and training infrastructure in the new post-modern climate (Symes and McIntyre, 2000).

- How the knowledge production process operates, particularly at the interface between 'theory' and 'practice'.

- What works, for whom and under what circumstances.

- How do we know we are properly measuring what works.

- Against these over-arching questions, there are a number of 'gaps and challenges' that have been identified within the context of the particular 'sectoral reviews' of post-compulsory education carried out as part of the overall Review. These are discussed in detail In Section 2 above, and in the 'sector Annexes' appended to this Report. In summary, they highlight the following.

- In the Higher Education sector:

  - Although we know a great deal about teaching, there has been little work on teachers' identities and on how these shape their understandings of pedagogy and their choices of pedagogic activities (Zukas and Malcolm, 2001).

  - There is little systematic work on the institutional learning setting as an active constituent of learning, and not simply a background to learning. As learners bring their new identities and expectations as consumers into the learning setting, for example, what change is there to the social relations within the setting, and how does this affect the 'psychological learning contract' between teacher and student (McLean, 2001).

  - We know little about tensions in the teacher-student relationship around constructivist approaches, notably to do with whose knowledge should be privileged, what the relationship is between universal and local knowledges, and how to reconcile students' preferences for assessment with what teaching staff believe to be professionally appropriate (Boud, 2000).

  - There are gaps in our knowledge about how to manage learning communities that can provide for interaction, integration and a sense of student identity (including course organisation; student choices in a consumerist market) (McInnis, 2001).

  - How to measure the student experience.

- In adult and community learning:

  - How pedagogic practice is influenced and enhanced. A better understanding of these processes would tell us something about how ideas move and influence pedagogy – 'classroom practice' – across sectors, throwing light on dissemination and innovation processes (Sutherland, 2000)

- How different kinds of adults learn different things in different ways with more or less success (Greenwood et al, 2000)

- In workplace learning and continuing professional development:

  - There is a need to carry out research in how economic, technological, organisational, social/societal developments are helping shape the nature of WBL, and the learning experiences for those involved (EC, 1996).

  - There is a need for more empirical research on how to create an environment that is conducive to and supportive of learning in the workplace. More empirical data are necessary in order to validate the assumed relationships between workplace characteristics and the learning potential of jobs (Brown, 1995).

  - There is a need to develop an adequate framework establishing coherence between the different dimensions involved in the design of effective learning in different organisational settings, e.g. the learning setting, learning profiles, learning content, the learning paradigm, the delivery system and support facilities.

  - Research is required into the link of new learning theories and organisational realities, with particular reference to workers' experiences of work-based learning (Engestrom, 1994).

  - Despite the increased recognition of the importance of tacit knowledge, there is a need for more empirical research into how this tacit knowledge can be recognised and capitalised on (Nonaka, 1994).

  - There is a (perceived) lack of relevant learning theory to inform practices in the area of group learning processes. As a result, action research is needed in relation to team learning and learning in teams, with particular reference to the networked organisation (Lave and Wenger, 1991).

  - There is also a need for further research into the interface of individual/group and ICT for learning purposes. To date, there has been little research on how action learning can most effectively be supported and facilitated by ICT. For example, why is it that some learners are more likely to use ICT than others (Ciborra, 1994)?

- In Informal and Lifelong Learning:

  - The effects of peer interactions and ‘role models’ (in some cases they reinforce participation; in others they inhibit it) (Cullen at al, 2000).

  - The relationship between informal learning and social capital, and its implications for instructional design (Field, 2000).

- Innovative ways of facilitating informal learning (adapting informal learning to learner profiles; investigating the effectiveness of learning technologies and supporting skills development in this area; developing pedagogies for supporting self-paced learning; identifying and enhancing the effectiveness of mentoring systems) (Chaiklin and Lave, 1993).

- more research in how to evaluate informal learning and assess its outcomes (especially the 'wider benefits' associated with the social construction of value) (Coffield, 2000)

SECTION 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

On the basis of the results of the Review, we present in this final Section some conclusions and recommendations for future priorities for Phase III of the ESRC Teaching and Learning Programme. These are divided into two elements: firstly, a set of common 'over-arching priorities', and secondly, a set of research priorities associated with the post-compulsory education sectors covered by this Review.

5.2 Over-arching Priorities

- There is a need for analysis of the structural basis of post-compulsory education – what are the sectoral overlaps? What are the inter-relationships between Higher education, Adult learning and lifelong learning? What 'cultural logics' shape understandings of these sectors?

- A key theme for Phase III should be the relationships between 'meta-theories' of psychology, political economy, grand theories of learning ; middle theories of learning and practice, and how these affect outcomes.

- A key conclusion of the Review was that we know very little about 'what works'. Priority should therefore be given to meta analyses and reviews of reviews in order to lay the foundations for an evolving evidence base.

- 'Performativity' and an 'assessment culture' are themselves driving to some extent understandings of pedagogy. This suggest a requirement for research on innovative evaluation methodologies and critical reviews of assessment paradigms. Part of this research effort should focus on 'attainment and context' – the relationship between learning outcomes and the application of these outcomes in 'real life'.

- There is a need for research that at the same time recognises the micro-level contextualised nature of pedagogic practice and the need for more comparative understandings. This directs attention to research that explicitly contributes to developing frameworks, typologies and analytic tools that could allow for comparisons across different pedagogic configurations.

- It has not been possible in the course of this Review to uncover with any confidence what research findings the different communities of practitioners do in fact use and to what effect. Our review has of necessity relied on the 'mirror' of discourse and inquiry in the research and policy communities which may be only loosely affiliated with the fields of practice. Not only that but the communities of research and discourse across the sectors of post-secondary education are often quite closed, self-referencing, with poor transfer and transition across boundaries either of research or of knowledge and its application.

- For these reasons, priority should be given in Phase III of TLRP to understanding the knowledge production and dissemination process. Moreover, the Programme should devote resources to actively supporting more effective knowledge diffusion through 'support measures' that promote the engagement of the different stakeholders involved.

- The utilisation of Virtual Learning Environments and ICTs in teaching and learning is increasingly pervading pedagogic theory and practice. Priority should therefore be given to: understanding and unpacking the pedagogic models underpinning the design of learning VLE's; unpacking the 'grand visions' and 'cultural logics' that shape design; identifying what works in what contexts; developing innovative assessment and evaluation methodologies. In particular, there is a need for research in:

- Digital TV – can it deliver true community-based learning and enhance community capacity building?
- Learner empowerment
- The relationship between community-based learning VLE's and community capacity building and social capital?
- Benchmarking system for VLEs and a common set of evaluation indicators
- Research on organisational resistance and work re-engineering in work-based learning using VLE's.
- What new skills are needed for new teaching and learning roles
- How do SMEs form knowledge networks and how effective are they?

5.3 Research Priorities for Specific Sectors

5.3.1 Higher education

- The effects of new 'proximal forces' (performativity; student-centred teaching) on the learning process and learning arrangements

- The relevance and effectiveness of 'virtual learning environments' (such as the 'virtual campus') on learning needs, and on learning outcomes

- Teacher identities and on how these shape their understandings of pedagogy and their choices of pedagogic activities.

- New forms of 'psychological contract' and 'learning contract' between teachers and students

- The relevance and effectiveness of 'constructivist' pedagogies in higher education, We know little about tensions in the teacher-student relationship around constructivist approaches, with particular reference to the 'goodness of fit' between student/teacher knowledge and learning preferences.

- How to manage learning communities that can provide for interaction, integration and a sense of student identity (including course organisation; student choices in a consumerist market).

- How to measure the student experience.

5.3.2 Adult Learning

- How pedagogic models, approaches and practices in Adult Education institutions are changing in response to the 'post-modern' teaching and learning agenda, particularly with regard to the tensions between the established 'social capital' and 'civic identity' role of community colleges, and current pressures to develop more skills-based and 'just-in-time learning' orientations.

- What has become of andragogy? How has it become re-packaged and re-invented?

- How pedagogic practice is influenced and enhanced.

- How different kinds of adults learn different things in different ways with more or less success

5.3.3 Workplace learning and continuing professional development

- The relevance and comparative effectiveness of the different 'learning theories' used in workplace learning practices

- How organisations make decisions on the appropriate pedagogic models and learning arrangements to use; the goodness of fit between these models and approaches and the needs and practices of workers

- Research into how tacit knowledge can be recognised and capitalised on.

- Action research on team learning and learning in teams, with particular reference to the networked organisation.

- How to record and validate informal professional learning

- The notion of professional learning and the conditions that most effectively foster it.

5.3.4 Informal Learning

- How 'learning by stealth' works, and whether it requires 'pedagogic methodologies'

- Environmental factors affecting participation – particularly the role of 'peer groups' and 'peer interaction' in shaping expectations about learning

- The relationship between informal learning and social capital, and its implications for instructional design.

- Innovative ways of facilitating informal learning (adapting informal learning to learner profiles; investigating the effectiveness of learning technologies and supporting skills development in this area; developing pedagogies for supporting self-paced learning; identifying and enhancing the effectiveness of mentoring systems).

- Innovative methodologies to assess the effectiveness and value of informal learning

ANNEX 1: SECTORAL REPORTS

1. Adult Education

2. Workplace Learning and Continuing Professional Development

3. Higher Education

4. Informal Learning

Adult Education

1. Overview: Pedagogy in a problematic domain

Among the several sectors of post-compulsory education identified by ESRC for this review, the 'sector' called for convenience Adult/Community Education (AE and ACE) is the most problematic. AE occurs within the further and higher education sectors as a now abiding and significant element. Continuing professional development (CPD) and work-based learning (WBL) are sub-sets of ACE. The boundaries are historically fuzzy. The emergence of the lifelong learning paradigm, especially in its nineties rather than its earlier manifestation, has widened the territory and made issues of scope and definition more problematic still. At the same time these characteristics and tendencies define in one way the central questions to be confronted in this review.

A second central difficulty concerns a shift in discourse and intent from education and teaching to learning. Studies of pedagogy in a lifelong learning / learning society context pivot on this question. They are more acute for ACE than for the other sectors addressed in this review.

2. Drivers

ACE reflects some influences (proximal forces) common to all sectors. A period which combined small government, assertive entrepreneurialism and economic rationalism in the Thatcher years was followed by the present Third Way period of vigorous planning and social engineering of the Blair Administration. Each impacted on this 'sector'. It experienced non-benign neglect as an unproductive activity, together with pressure to become more useful by moving to more functional, tangible and economically oriented forms of provision under the Conservatives. Resources for formal adult education were modest. They trended downward, with much of the publicly funded work driven into FE, and into accredited modes as part of the competency and credentialing process affecting FE in particular. The bastions of the 'great tradition' at the heart of adult education, the WEA and university extramural courses, were driven to meet assessable criteria and to deliver outcomes within Conservative policy. The long-term adult residential colleges came under similar pressure and were similarly transformed, while seeking to adhere to their access and equity mission.

On the other hand those areas of adult community education which did not lend themselves to the forces of competency and vocationalisation remain marginal. Community-based work ranged from community development and action which lacked political support (but may now be reviving under the requirements for social inclusion) to adult education and training in targeted area improvement type schemes seen to have a place in the public political spectrum. The long tail of recreational and personal development activity moved to a full-funded regime and/or was reduced in scope and scale.

Meanwhile the informal and incidental areas of adult learning remained problematic within and on the fringe of the ACE 'sector' or community, as well as problematic to government. They are hard to define and support. Yet they remain valued and protected on principle if not in resource terms within the loosely bounded 'sector' approximately represented by NIACE. NIACE evolved out of NIAE and has been remarkably successful in extending its reach and raising its standing with both Conservative and Labour Administrations.

NIACE offers an important study, almost a 'personification' of the way the 'sector' has expanded and reshaped under pressure of external forces, adapting to and even exploiting new drivers while sustaining a sense of purpose and community.

A new feature of the drive to create a knowledge nation or learning society with a knowledge economy as its practical heartland is the wish of the Blair Administrations to understand and take advantage of informal if not incidental learning, and to use its potential to enlist more adults excluded from formal education into the numbers required to reach ambitious participation and qualifications targets. This offers a central opportunity and threat for the 'sector' with its distinct ideals-based 'patrimony' of access, equity, citizenship, and education. In terms of new drivers, the ambition to support, use and coopt informal learning raises the sharpest of questions about destiny and principle. This affords a rich and important site for pedagogic research of interest to ESRC.

3. What do we know about this 'sector'?

There is a powerful patrimony, despite the huge diversity, indeed formlessness, of ACE. When ACE is extended to abut incidental learning as well as encompassing informal and non-formal (adult) education, many propositions dissolve. The ideological lineage for the whole 'sector' is strongly dominated by the liberal tradition of education for purposeful self-development, often therefore for citizenship if not political action. Civic participation represents an abiding strand, now salient, now submerged.

Personal development or self-development is sometimes aligned with this purpose, sometimes largely detached as its own end, so that intellectual and recreational courses are given similar merit as part of the rights and accoutrements of a prosperous and open society, whether subsidised or on a full self-financing or for-profit basis. Part of this strand runs into developmental therapeutic and counselling work, mostly on a peer support basis, part into essentially cultural, intellectual and recreational activity where the social and civic aims are absent or, often, covertly subscribed in an ill-substantiated way.

The amount of 'scientifically known' knowledge in the sector is modest. There is a strong tendency towards ambivalence apropos quantitative research. There are some areas of sustained inquiry and evidence-based practice, mainly to do with participation. There is less of a synthesis or consensus about pedagogy as applied to the different zones of practice, despite a wealth of often small-scale, mainly descriptive or modestly analytical studies and accounts of 'classroom' practice. By virtue of its scattered, piecemeal. grounded and small-scale character, much has a folksy quasi-anecdotal character. The field of ACE is so vast that more comprehensive studies (larger in either breadth, depth or timescale) are daunting, and would be costly. They may be of limited value unless the purpose and potential utility are clearly spelt out.

The diversity of adult learners (as types, individuals, communities, characterised across plural dimensions including age, gender, SES, ethnicity, disability or need, and learning intention) bewilders. It challenges efforts at generalisable study of an empirical and pedagogic nature. We know rather little that has strong scientific validity about the results of different teaching methods for different students groups with different purposes. The terrain is rich in heart-warming examples of triumph over adversity, including paucity of resources, richer in myth than in unassailable evidence.

Some of the key conceptual, theoretical and methodological texts include the following.

Elliot, G. (1998) *Lifelong Learning: The Politics of the New Learning Environment.* London: Jessica Kingsley.

Elliot argues that the teacher's role is to direct the students' attention to how to learn in different contexts. They need to develop relativistic thinking – what he calls 'an awareness that there is a variety of perspectives, a number of ways of seeing, that we inhabit different and multiple worlds.' His own theoretical orientation derives from critical theory and draws on feminist qualitative, action and biographical research and on post-modernism. He suggests we need to jettison market-based consumerist education policies and develop a cross-sector approach to secure locally accountable, democratic education policy 'by developing the capacities of citizens to engage in the remaking of their societies in a postmodern world of difference'.

Preece, J. (1999) *Combating Social Exclusion in University Adult Education.* Aldershot: Ashgate.

Five main issues emerged and these drive the speculations and discussions in the book:

1. The notion of critical analysis in higher education and its relationship to text-based learning and teaching;
2. A perception of the adult learner as a particular kind of person;
3. The vision of widening access as a one-way process of brining people into the fold;
4. The idea of 'appropriate' curriculum content and tutors for higher education, and
5. An assumption that higher education is all-embracing, objective and value-free.

Identification of cultural differences between the university department and the community arise from an exclusiveness over what is defined as legitimate knowledge, and how it is to be taught and learnt overall as the basis of the discipline between educational espousal of overcoming social exclusion and the difficulties of making this work.

Crowther, J., Matin, I., Shaw, M. (eds.) (1999) *Popular Education and Social Movements in Scotland Today.* Leicester: NIACE.

Meaning of popular education as 'an education that is rooted in the interests, aspirations and struggles of ordinary people …giving voice to excluded, exploited and subordinated groups and forging in solidarity with them a common project of inclusive citizenship'.

Popular education is thus best understood as the learning that occurs within a movement in civil society towards social emancipation and inclusivity. Social movements are said to contain four so-called 'curriculum elements': asking questions of what it means to be human; wanting to take a more holistic view of human living and to attribute significance to culture, spirituality and the environment' putting 'being' ahead of 'possessing' and finally, stressing the power of human agency, the power of choice. Popular education is unashamedly utopian and sees its processes as contributing to the journey of hope. '

Leach, L., Neutze, G., and Zepke, N. (2000) 'Learners' perceptions of assessment: Tensions between philosophy and practice' , *Studies in the Education of Adults,* 32(1): 107-119

Describes an undergraduate and Masters' programme for teachers of adults in formal and non-formal settings. The learning culture is informed by three principles of adult learning: self-direction, critical reflection and transformation.

Our position is that learners have the opportunity to make decisions themselves about the degree to which they wish to be self-directed, including renouncing self-direction. The degree of self-direction may vary for an individual from day to day, topic to topic, and learning situation to learning situation.

Critical reflection refers to people developing a critical attitude through a reflective process. This includes asking "'why', 'how' and 'how come' questions about their own learning, subject, assessment, education, lives and society at large. In assessment, critical reflection involves learners in questioning their own work and the work of teachers and experts in the field. We want learners to position themselves in relation to the ideas and practices they encounter.

Transformation is another key construct in adult education literature. It refers to a process by which people deliberately make fundamental changes in the way they perceive themselves and the world.

Bond, M. (2000) 'Understanding the benefits/wages connection: financial literacy for citizenship in a risk society', *Studies in the Education of Adults,* 32(1): 63-77

Government policies to reduce welfare spending and encourage low skilled individuals into low paid work increasingly require them to engage with the complexity of financial decision-making. Adults with limited skills in financial literacy are ill-prepared to exercise such functions of citizenship in a risk society. People need a working knowledge of financial institutions, systems and services, an understanding of the key concepts central to money management, and a range of skills. Is what is needed consumer adult education or radical education for critical financial literacy?

Hughes, C. (2000) 'Resistant adult learners: A contradiction in feminist terms?', *Studies in the Education of Adults,* 32(1): 51-62

Adult (non-compulsory) education is grounded in ideas about self-directedness and autonomy, and an ethic that seeks to respect the learner's freedoms. To view an adult as refusing to learn takes us away from ideas of self-directedness and autonomy. There is less research that focuses on student resistance in adult and community education settings, compared with the field of school education. Concerns that adult educators might have about aspects of resistance are wrapped up inside more positive discourses of participation where the latter is construed as inherently worthwhile. Discourses of participation evoke ideas of choice, freedom and voluntariness. They are premised on ideas of the adult as self-volitional and on the relationship between the educator and learner as egalitarian.

Resistance questions the value of educational systems. It challenges the relevance of the knowledges within educational systems for different groups of people. It problematises the efficacy of pedagogic practices for engendering joy and commitment to learning.

Greenwood, M., Hayes,A., Turner, C. and Vorhaus, J. (2000) *Recognising and Validating Outcomes of Non-Accredited Learning: A Practical Approach.* London; Learning Skills Development Agency.

A study supported by LSDA and NIACE has sought to develop a framework and set of principles for good practice for recognising, validating and assessing adult learning in non-accredited programmes. These are diverse in nature and include the liberal and performing arts, humanities, languages, skills-based programmes of various kinds and those concerned with personal development. A central concern has been to develop a methodology that is appropriate and non-threatening to learners, and at the same time sufficiently rigorous to give credence to the learning outcomes.

What the study has highlighted is the important areas where there are gaps in our knowledge:

- How we measure (as distinct from verify) non-accredited learning
- How we take account of soft outcomes
- How we devise benchmarks to allow for reliable comparisons between providers
- How learners perceive attempts to record and validate what they are doing ie whether learners benefit from the process of recognising and validating their learning.

4. Main factors and issues

ACE has become of more central policy interest as the concept of lifelong learning has been adopted. (There is often still confusion as to the scope of lifelong learning, which is wrongly perceived as excluding compulsory school years, and even equated with ACE.) ACE has overflowed its already wide and meandering causeway and become still harder to comprehend and research, but two main flows can be discerned.

One is into the 'mainstream' of more formal education including all the sectors (established and newer) embraced in this review. In these areas its pedagogic values and assumptions are taking root in new and hybrid forms. Thus ACE has been superficially devastated and dispersed through a period of sometimes hostile neglect (as politically suspect or at least trivial and irrelevant), yet reappeared in its core pedagogic values and assumptions in new as well as its own older venues. Thus university adult/continuing education departments, often marginal and peripheral to core university teaching /learning, have transformed or merged into more core units and functions related to heartland pedagogy. Here some clash with the embedded patrimony of academe.

Those parts of ACE which sit beyond the pale of what is recognisably both taught and learned remain problematic for the ACE community and a challenging research assignment for the ESRC Learning and Teaching Programme. Here *pedagogy itself* is problematic. It reflects a compulsion to draw 'natural' and 'incidental' learning within and among individuals in their 'natural community' settings into the ambit of that which can be identified and ticked off as 'learning' and 'learned' (by the attainment of levels of competence in classified areas). The problem is not principally one of what we know or where our pedagogic evidence falls short, but whether more systematic research attention is likely to be welcome, benign, or fruitful. The subject for inquiry here is the effect on incidental learning of its systematic attention by the 'educative society' as a pedagogic form.

What we do know about the sector, and what constitutes an important set of factors in asking whether there is a significant and fruitful research agenda for ESRC support, is that a number of long-term propositions about how adults learn remain live and strongly owned within and now beyond the ACE community. This migration of influences and ideas is a subject worthy of scrutiny both for its intrinsic interest to social science and for its possible utility for programmes of social and pedagogic amelioration.

Much of the history of ACE has been dominated by certain philosophical frames of reference and forms of discourse, whether or not explicitly acknowledged. It has tended towards the dichotomous, good struggling with less good, partly within the sector and tradition, more often as reinforcement for a set of uniting values in a world seen as shallow, self-seeking or philistine.

Within the 'sector' there is an old and long-standing debate over standards or quality. This tends to anchor in disciplinary authority - teach (and learn) the subject and its discipline rather than teach the student (learn in one's own self-directed way whatever it is that one oneself wants to learn).

There was a related conflict over the value of different discipline fields, less as a hierarchy of pure and applied, or disciplinary versus problem-oriented as in the HE patrimony, than in terms of social value and relevance (politics and economics ahead of fine art, let alone macramé). This connects to a not always openly articulated belief in ACE as a means to civic and political ends – active citizenship – rather than self-fulfilment through the arts.

Most of the debates were aligned however, as if for solidarity: that is to say, the good within the sector set against lower standards and weaker values outside. Thus the liberal or general, intrinsic and therefore non-credit and non-award-bearing, was valued above the vocational, instrumental, and accredited. It is this strand of tradition which was mostly rudely confronted by the instrumentalism of the competency movement and the thrust of a modern pedagogy dedicated to measuring outcomes and judging them against inputs. At a deeply defensive if instinctual level this was seen as an affront to learning for its own sake, possibly a denial of the uniqueness of each adult learner, their different experiences and starting points.

Much ACE work was repackaged into compromised forms of accredited study, while the underlying pedagogic beliefs and behaviours continued almost unaltered. The adaptiveness and survival of 'abiding' values through new times sits on the edge of a pedagogy research agenda.

'Abiding truths' about how adults learn may be presented as an 'eternal triangle' in which discourse changes and some understandings and related practices become more mature and sophisticated, yet the essential positions and propositions change rather little.
It may be characterised as a triangle of purposes related to disciplinary orientations.

Central propositions which still command a following and are now more widely adopted include these:

- Adults bring experience to a course which it is important to recognise, value and engage with. They contribute and add to knowledge by bringing this experience into engagement with 'validated' disciplinary knowledge. The subject and the teacher can both gain.

- The teacher is above all a facilitator and a mentor, as well as a source of information.
- The adult class is a community of learners providing important mutual support. Tapping this energy and creating a learning environment in which students feel confident to speak and learn freely is part of the skill of the adult educator.
- More generally, the context and environment – social, informational and physical – of learning is crucially important.
- It is important to start where people are at and where their interests are, rather than impose an alien framework upon them. At the same time the teacher takes them forward, and does not simply stay where they are. There is an element of negotiation and leadership as well as the essential 'student-centredness'.
- Students vote with their feet. They will stay away if they are not motivated and involved. Participation is essential. Active learning which is seen as 'relevant' is a means to this.

Triangle of ACE orientations

Historically embedded; couched in a Discourse of Philosophy in a new post-modern context Old positions re-presented with new terms, and some refinements of inquiry and insight

quality of private *Zone of Psychology experiential autobiographical*
life e*thnographic feminist therapeutic*

Individual

links via Anthropology?

Zone of Economics **Economic/Vocational** **Civic/Social** *Zone of Sociology*
skills competences links via action learning/applied research
standards credential Politics community-based civic education

wealth of society

quality of public life

5. Gaps and Research Agenda

Given the state of this domain ('sector' is too firm a word) and the contested and value-driven nature of much of the field especially in the traditional heartland of 'adult and community education' as well as in informal shading into incidental learning, is there a valid research agenda which might enhance pedagogic performance? Or is the very term and concept of pedagogy an irrelevance and an affront to these main areas, as distinct from within some of the elements sliced off and separately identified, for example as adult basic literacy and skill formation, vocational education and training, work-based learning, and CPD. Here there are – in the main - more tangible and measurable outcomes set against definable levels and standards? (WBL is an obvious exception in the sense of contestability on a spectrum from skills training to redesigning the workplace as a learning environment.)

There is a pragmatic issue and one of principle about *informal* shading into *incidental* learning. Many ACE professionals operating in or close to these areas find the very notion of pedagogy irrelevant if not offensive. The process of practice-oriented research for enhanced quality of learning (outcomes) such as the ESRC project represents, is fundamentally problematic in that it operates from within a deeply entrenched 'patrimony of education and teaching'. This cannot actually conceive of or value learning as its own process and end outside the education domain. Even key ACE bodies such as NIACE drift into this mode. The danger is of devaluing and further marginalizing socially important learning activities, simply because they cannot thus be comprehended and corralled. The very process of definition as a subject for pedagogical research may be seen as more destructive than is justified by any knowledge and understanding which the research might produce.

On the other hand a more radically participatory attempt at knowledge-making 'bottom-up' in this arena might be of value, so long as it is not defined as pedagogy and framed within the dominant education paradigm and the political imperative sitting behind that.

There is a significant research agenda implied in this note, to do with how pedagogic practice is influenced and enhanced. It requires looking explicitly at the flows of influence from values, ideas and ideals which reside in the ACE tradition, and which have survived the changes especially of the eighties to grow again in different settings, sometimes with new terms and in hybrid forms. A better understanding of these processes would tell us something about how ideas move and influence pedagogy – 'classroom practice' – across sectors, throwing light on dissemination and innovation processes.

It is possible that more familiar evaluative research on the relationship between pedagogic strategies and learning outcomes could increase understanding about how different kinds of adults learn different things in different ways with more or less success. This would have to be approached with an awareness of the need for significant funding, and patience, for modest empirical gain. There may be merit in considering a grounded study of unpublished and grey studies of adult learning strategies and outcomes in different arenas. This might systematise and build on this knowledge, perhaps reactivating and extending some of the more promising.

Such work could assist comprehension of the more formal and bounded ACE sector. There should be significant analogies and lessons for pedagogy in further and higher education. Here the student population is increasingly coming to resemble the ACE student population in its diversity of learning characteristics, styles and abilities, its age and its sheer scale. The term and concept pedagogy is likely to attract critical scrutiny here too, over time.

2. Workplace Learning and Continuing Professional Development

Current conceptual, theoretical and methodological debates

WBL is not a homogeneous concept but encompasses a variety of overlapping and competing paradigms, each based on different theoretical premises and understandings and manifested in different practices[21]. Whilst there is a seemingly wide consensus about the workplace as a key resource for learning, a closer examination of the theories and practices considered part of WBL reveals, diverse conceptions of both learning and the workplace. What unites WBL is its pragmatic or instrumental focus; what it lacks however is a theoretical drive (beyond the many different learning theories on which it draws). In consequence incongruities and contradictions permeate WBL. Social actors use the different terms to make competing claims for the use of public and private resources, across a broad spectrum of development activities.

In very broad terms, we could say that WBL is facing in two directions. One direction is the VET system, where the interest is in the articulation between the world of education and the world of work but primarily conceived within the curriculum-centred, skills-oriented framework of VET. The main thrust of developments within this orientation is the idea that *all learning, no matter how acquired, is worthy of recognition and credit.* The discourse of researchers and practitioners is centred on skills, competencies, learning outcomes, transferable skills. The other direction is the workplace as a learning environment where learning is understood as a process embedded in production and organisational structures. Learning is about participation in communities of practice; becoming engaged in socially organised activities and so about membership and construction of diverse social bonds with other participants. Acquiring competencies and skills is almost secondary with respect to these processes of constructing new social identities and ways of thinking. The discourse of those researchers, theorists and practitioners in this domain is centred on learning processes, organisational capability, core competencies, knowledge creation and social identity. The contrast in these two orientations has been summed up as 'hard' learning which is focused on technical updating, reskilling or multi-skilling on new products and processes or in response to new organisational structures and work processes, and 'softer' learning processes that are disassociated from qualifications and are focused more on collective learning and mutual knowledge construction.[22]

The middle ground in WBL is occupied by those researchers and practitioners who are seeking to establish common ground between the two orientations or to bridge the gap between them. Their main focus is on the kinds of learning strategies and

[21] For example, Evans (2000) distinguishes 4 types of work-based learning: initial work-based learning; work-based degrees and 'foundation' degrees; non-formal work-based learning; and access to non -formal learning opportunities organised through the workplace. Similarly Ebbutt (1996) distinguishes four modes of work-based learning that is formally assessed and accredited, *work-based learning as access or accelerated access*, achieved mainly through the Accreditation of Prior Experiential Learning (APEL); *work-based learning as initial professional preparation,* where full-time students gain access to learning in an industrial, commercial or service workplace as an element of their degree programme; *work-based learning as general preparation for the 'real world',* where a minority, but increasing number, of degree courses incorporate the development of core or transferable skills such as numeracy, communication, and problem-solving to prepare students for the world of work; and *work-based learning as the major constituent of a programme of study*, where students are full-time employees.

[22] Jones, A. and c. Hendry (1994) 'The learning organisation: adult learning and organisational transformation' in *British Journal of Management,* 5, 153-162

practices which lead towards the acquisition of skills and competencies seen as necessary for enterprise competitiveness and the effective functioning of the labour market, rather than in the results or outcomes of the process. These strategies include instruction-led approaches as well as more informal modes of action learning and experiential learning. Most of the conceptualising and theorising around work based learning occupies this middle ground.

The way in which these different clusterings in the field of WBL draw from learning theory is different. Those approaching it from a VET perspective rely primarily on behaviourism and cognitive theories of learning that are highly individualistic and atomistic. The middle cluster, whilst based mainly on the same theories, also draw from functionalist and contextual theories which emphasise situatedness and interaction. The third clustering around the learning organisation is more eclectic still, drawing from functionalist, contextual, socio-historical and anthropological theories. Learning here is seen as collective; it takes place in individuals, but also in social aggregates such as teams, subdivisions of the organisation, the organisation itself, and even the communities within which the organisation interacts. We see renewed interest here in those theories in which the human being is depicted as a truly social being and learning is viewed as a social activity involving both culture and history.[23]

The confusion that exists around work based learning is attributable in large part to the shift in paradigmatic thinking which has not yet been fully grasped. The individualistic orientation is so strongly grounded in the VET system as well as in learning theory and its practical applications that up until very recently there has been little recognition that the re-evaluating of what constitutes enterprise competitiveness, changes in work organisation away from tayloristic models and the reimagining of organisational life beyond corporate boundaries calls for new social models of learning that stress the collective rather than the individual. Where does this leave frameworks of vocational qualifications defined in terms of competencies and skills that are centred on the individual and observable in behaviour (and thereby amenable to assessment and accreditation)? What are the implications for occupational identities structured around skills when the key competencies required by employees are not 'hard' skills but more intangible attributes such as employee loyalty, commitment and positive orientation to continuous improvement?

Continuing Professional Development

The emphasis on lifelong learning and the learning society has generated renewed interest in various forms of ‘continuing’ education, development and training. This can be variously described as continuing vocational education, continuing professional development, or even continuing inter-professional development. A recent symposium organised by the ESRC’s Centre on Skills Knowledge and Organisational Performance (SKOPE) on the topic of Continuing Professional Development [24], provides a useful point of entry into this field. In her introductory section to the report of the symposium, Sheila Galloway describes how CPD variously combines professional regulation, skills updating and building ‘a sense of collective responsibility to society’ (quoted by Galloway from Welsh and Woodward, 1989). It occurs against a backcloth of challenge for many professionals who are increasingly held to account, monitored and questioned by government, ‘clients’ and their peers.

[23]Such theories include Vygotsky's sociohistorical theory, recent developments in activity theory articulated by Lave, Engestrom and Chaiklin, and the reproduction theories of Bernstein and Bourdieu.

[24] Galloway, S. (Ed) Continuing Professional Development: Looking Ahead. A Symposium organised by SKOPE Oxford. May 2000.

In summarising thinking about professional learning, Galloway identifies a number of 'influences'. These include:

- Donald Schon on 'knowing in practice' and the reflective practitioner;
- Stenhouses and Kolb in education, and the extended role of the educator through action research; and,
- Lave and Wenger's concepts of 'situated learning', communities of practice and 'legitimate peripheral participation'.

These influences are seen as being especially well-suited to non-routine and complex settings where professional judgements have to be made. It is worth noting that all of the above conceptual frameworks, given their emphasis on the non-routine, are particularly difficult to reconcile with notions of systematic evidence and generalisable good-practice. This is consistent with Marylyn Hammick's conclusions about the limitations, at least at present, of accumulating systematic evidence based on existing studies in the field of 'inter-professional' education in healthcare[25].

The symposium's framing of CPD seems to coincide with other literatures and approaches, many of which draw on Lave and Wenger's notions of situated learning and communities of practice[26] [27], just as many emphasise learning from experience drawing on various Organisational Development, facilitation and animation approaches to learning[28] [29].

What is driving/shaping practice in WBL?

A number of developments have elevated the importance of WBL, making it central to the discourse of education and training. New social and economic arrangements like the move of industrialised nations towards a more knowledge-intensive economy relying less on manufacture of labour intensive mass products and more on the production of high-quality products and services requiring a knowledge input. There has also been a growing emphasis on the idea that, associated with the rapid pace of change in technology and the growth of an 'information society', the nature of work is changing. The keys skills and competences are no longer the traditional forms of specialised knowledge and skill, but the core skills which enable workers to become multi-skilled, work in teams and acquire new skills, competences and roles as these are required (EC,1996).

In addition, demographic changes are contributing to renewed interest in WBL. Specifically, in many industrialised nations, the inflow of new entrants to the labour market is decreasing and this trend is expected to continue. At both the macro and government policy and the micro/enterprise levels, this means that many future skill requirements will have to be met by training and retraining current employees rather than by recruiting and training young people.

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[25] Hammick,M. (2000) *Interprofessional education:evidence from the past to guide the future*
[26] Lave, J. and Wenger, E. (1991) Situated learning: Legitimate Situated Learning. Cambridge University Press.Wenger, E. (1998) Communities of Practice: Learning, Meaning and Identity. Cambridge University Press
[27] Brown, H. (2001) Reflections on the development of a collaborative learning community for CPD: The creative network. Paper presented at Higher Education Close Up Conference 2, Lancaster University, July 2001
[28] Boud, D. and Miller, N. (Eds) (1996) Working with experience: animating learning. London, Routledge.
[29] Peile, E. (2000) Better learning for better doctors? Towards improved training in General practice. Paper presented to BERA conference September 2000.

As a result, adult education, lifelong learning and work-based learning as an ongoing development of skills have acquired a new significance.

As a result, the enterprise is increasingly seen as a main, or even *the main*, source of learning for a large proportion of the working population. Indeed, as policy makers, reflecting a wider ideological shift towards neoliberalism and postmodernity, have increasingly been relying on the market to address labour market issues (including skill formation), the enterprise has grown in prominence as an arena for learning and training. In addition, for a host of other reasons ranging from the new production and technology configurations to the emergence of work-based learning as a strategic tool, the enterprise itself is increasingly regarding learning and training as a key instrument in its quest for competitive advantage[30]. In general, there is an increasing realisation that the way an organisation learns is a key indicator to the way it innovates and remains profitable. Indeed, contemporary theorisation on organisations (underpinned by human capital theory) holds that knowledge-building is the key source of advantage in this post-industrial era. Within this context, the concepts of work-based learning, organisational learning and the 'learning organisation' have become prominent in recent years, adding further currency to the argument that the survival and competitiveness of organisations are dependent on the competences and commitment of their members and in particular their ability to anticipate change, adapt to new circumstances and come up with new solutions and ideas regarding products and processes.

All of these developments have underpinned a discourse of lifelong learning in which the emphasis is no longer on 'front end' education which prepares people for their life of work, but on providing opportunities for an ongoing process of learning throughout a changing career. Associated with this has been a growing emphasis on competence, and the development of core skills. These have increasingly been presented as key objectives in the development of the system of education and training. Within this context WBL has a potentially important role, insofar as it enables employees to engage in the regular processes of up-dating and continuing professional development which have been increasingly emphasised. However it is also clear that not all employees are equally likely to have access to these learning opportunities with investment in core workers taking precedence over those on the periphery.

What is known about WBL (i.e. What do key studies tell us about learning and knowledge production)?

Within the literature on WBL, we find many different typologies of WBL which are attempts to deal with the limitations of earlier typologies. These are well described by Simons (1995)[31].

The first domain refers to off-the-job training which has been the dominant form of WBL in the past. Whilst there is a growing doubt about the efficiency of this heavy investment in training - hence the interest in a non-training response to achieving

[30] However, one should bear in mind that there is a wide range of alternative competitive strategies, e.g. cost minimisation, growth via take-overs, etc. Significantly, the leading examples of human resource management (and training) are companies producing single or closely related products, rather than conglomerates or holding companies - see Keep, E., (1989), *Corporate Training Strategies*, in: Storey, J., (ed.), *New Perspectives on Human Resource Management*, London: Routledge, pp.120-121.

[31] Simons,P. (1995) 'New roles for HRD officers and mangers in learning organisations'. *Best Practices in Learning Organisations. Measuring the Reality.* ECLO International Conference Proceedings Warwick 1995.

competitiveness-enhancing competence - a main thrust has been the reform of training to link it more closely with the strategic business intent of the organisation and to adopt pedagogic strategies that enhance the prospects for transfer from the training environment to the workplace. This is sometimes expressed as a shift from decontextualised to contextualised training. So, for example, companies are increasingly linking training more explicitly to company goals and introducing pedagogic practices aimed at relating 'learning assignments' to problem-solving, task-centred activities and other targets as specified in the business plans.

The second domain relates to learning in the workplace which is structured, managed and validated by external educational providers in partnership with production professionals (employers/managers/supervisors), learning professionals (teachers/tutors/trainers) and worker-learners. Often described as models of *alternance,* it includes for example various forms of (modern) apprenticeship. A main impetus for this kind of WBL has been the concern to make an explicit link between what students learn in the classroom and what they might be doing when they enter the labour market (the relevance argument) as well as an appreciation that learning and motivation for learning are mediated through activities embedded in a context that makes sense and matters to the learner (the pedagogic effectiveness argument). The domain includes characteristics of on-the-job training and more informal learning processes embedded in work practices, but it is generally structured by an externally driven curriculum and commonly learners do not have the status of employees.

The third domain covers the many forms of intentional, structured and organised learning that have an explicit pedagogic strategy. We use the generic term on-the-job learning (OJL) to refer to all those activities which are aimed at developing the competencies of employees by supporting, structuring and monitoring their learning. These may be ranged along a continuum from those that have minimal educational intervention to those which are subject to employer control in terms of content and intent. The activities can be grouped around three principal forms of OJL, each of which is underpinned by a different constellation of learning theories:

- the structuring of learning opportunities in the workplace
- participative modes of action-reflection
- social learning

The first form of OJL includes a variety of strategies that can be integrated into normal management practices in the allocation of work and the organisation of support for work. They include for example job rotation, sequencing of the learner's activities, increasing the variety and complexity of work tasks engaged in by the learner, creating opportunities for learner awareness of skill and performance.[32] Innovations in this domain include the 'Leittext' method (learning by doing, following a structured process), the tutorat model and other forms of reflective supervisory activities, and personal development plans and skills mapping for shop-floor employees.

The second type of OJL includes participative modes of continuous learning aimed at development and change in the workplace. Action learning involves a group of people working together for a certain period of time, focused on the work-based issues brought by each individual to the group.

[32]These have been elaborated by Margaret Levy in the various publications of the Work Based Learning Project. In particular, *The core skills project and work based learning* (1987) London: FESC/MSC

Typically, the process takes the form of a reflective conversation in which the practitioner, with the support of colleagues, draws on his or her experiences to understand the situation, attempt to frame the problem, suggest action, and then re-interpret the situation in light of the consequences of action. Action learning can however be implemented on a greater scale within the organisation, involving groups sponsored by the organisation with group advisers as well as groups initiated by employees.[33] Quality circles share many characteristics with these kinds of action learning groups, although they are said to have a more limited scope. Other examples of participative methods for continuous learning in the workplace include regular discussion meetings of work groups, research corners and article clubs in which new findings are discussed and analysed, working parties that are set up as a means of pooling ideas and experience, and network conferences and problem groups. At the heart of these models based on action-reflection learning and learning from experience are new ways of thinking about feedback, questioning, talking, reflecting and making sense of experience - for individuals to learn but also for that learning to be shared with others in teams and used to make changes in the organisation.

The third type of OJL is aimed at *social learning* that supports the mutual construction of new knowledge and a critical awareness of worker roles. It entails a process of dialogue, launched by the utilisation of a cognitive or socio-cognitive conflict or some challenging problem, in which people frame and reframe experiences, seek and integrate perspectives, experiment with different ways of doing things - formally or less formally through trial and error, and critique their new understandings. Engestrom (1994), working within an activity-theoretical paradigm, takes such an approach, based on a model which he calls 'investigative learning in work practice'.[34] It includes two ongoing parallel components of learning, the one based on *internalisation* that is characterised by training and socialising novices to become competent members of the activity as it is routinely carried out. The other half, *externalisation* is characterised by the invention of new routines, with critical self-reflection as an important determinant. The learning outcomes of such reflective communication are not restricted to models for solving given problems but also to forging new ways and means of learning together. Thus employees learn not only to focus on a shared task, but also on the rules and division of labour of their own interaction.

The fourth domain of WBL, unlike the other domains, is not structured by some pedagogic intervention but by the cognitive, social and material foundations of the context that informs work practices, routines and behaviours. Zuboff (1988) captures the essence of this kind of informal, pervasive learning when writing about informated design activity: *'the behaviours that define learning and the behaviours that define being productive are one and the same. Learning is not something that requires time out from being engaged in productive activity; learning is the heart of productive activity. To put it simply, learning is the new form of labour.'*[35]

The kind of learning that is privileged here has little to do with individual skills and competencies; rather, it is a profoundly social process, shaped by the stock of background knowledge, cognitive frames and imageries that actors bring and

[33]Two practical books on Action Learning include Weinstein, K. (1995) *Action Learning: A Journey in Discovery and Develoment,* London: Harper Collins; and McGill, I and Beaty, L. (1992) *Action Learning: A Practitioner's Guide.* London: Kogan Page.
[34]Engestrom, Y. (1994) *Training for Change, New Approach to Instruction and Learning in Working Life,* Geneva: ILO.
[35]Zuboff, S. (1988) *In the Age of the Smart Machine.* New York: Basic Books.

routinely enact in a situation of action. This 'formative context' shapes the way people perceive, understand, make sense, perform and get organised in a situation.[36] Learning essentially involves becoming an 'insider' - to acquire that particular community's subjective viewpoint, to learn to speak its language, to behave as community members. Workplace learning then is best understood in terms of the communities being formed or joined and personal identities being changed.[37] A central concept is 'communities of practice' which does not necessarily imply co-presence but does imply participation in an activity system.

Many companies have been eager to embrace WBL, not particularly because of its connections with lifelong learning, but because it is seen as an important component of what Senge (1990) has termed the 'learning organisation'. Eraut *et al* (1998), however, argue that, what they term work*place* learning, is a largely hidden element of lifelong learning and one which has not been accorded the eminence it deserves in policy documents. They argue that *formal* learning in the workplace (the main focus of UK government policy) provides only a small part of what is learned at work. Most learning that arises is not planned and is non-formal, resulting from the challenge of the work itself and from interactions with people in the workplace. Achieving the goals of work requires new learning that is achieved by a combination of thinking, experimentation and dialogue with other people. Sometimes, however, this approach is recognised as inadequate and other opportunities for learning are sought out, which may include self-directed learning or formal learning or training. Even the latter, though, requires supplementation by experience at work and interaction with other people.

This learning from others is sometimes facilitated by organised support such as mentoring, shadowing or coaching. But the most common form of learning from others takes place through forms of collaboration and consultation within working groups. This may include teamwork and observing others performing a task. The research of Eraut *et al* (1998) also found that people learnt through seeking help and advice beyond the immediate work environment from people within their own organisation, from customers and suppliers and from wider professional networks.

Work-based learning, then, operates at both formal and non-formal levels within the workplace, and when non-formal, often relies on networks and interactions with people both within and outside the organisation to facilitate new learning. The learning itself is often goal and work orientated. It is also often problem-centred and involves experimentation and trying things out. It may require both personal reflection on the outcomes and dialogue and feedback from others including colleagues and managers. It may include the taking of formally accredited programmes of study at an institution of higher education, and may use APEL as an accreditation and learning vehicle. Many elements just described have been formalised into what has become known as Action Learning which may be utilised informally amongst interested work groups to facilitate learning and tackle problems, or as part of a formal, learning programme, perhaps delivered and accredited by a university.

[36]The notion of 'formative context' is developed by Ciborra, C. & Lanzara, G. (1994) 'Formative contexts and information technology: understanding the dynamics of innovation in organisations' in *Accounting, Management and Information Technology* 4, 2, 61-86.
[37]Brown, J.S. & Duguid, P. (1991) "Organisational learning and communities of practice: towards a unified view of working, learning and innovation' *Organization Science, 2(1) 40-56.*

Current notions of WBL

The emphasis in current work-based learning is on self-managed learning and in combination with new modes of work organisations, collaborative learning modes become more and more important. Indeed, there is a growing awareness of the importance of the context within which any type of training occurs, of the social and collaborative types of learning, of the existence of a wide range of learning approaches which have to be accommodated and of the need to acknowledge both formal and informal learning. There is also a growing awareness and recognition of the importance of tacit knowledge for effective performance.

There is a distinctive move beyond the traditional role of trainers as purveyors of knowledge and learners as passive receivers. Methods and techniques that draw upon workers' previous experiences, link concepts and practices and encourage reflection and the transfer of knowledge from one situation to another are becoming more and more prominent in this field. This includes action learning, situated learning and incidental learning. Each of these share a number of common attributes. For example, all three engage learners in experiential learning. The gap between the learner and expert disappears as all individuals are considered to be expert in some capacity in the workplace. Moreover, all three ways have a collective dimension.

According to Farrell a defining feature of the 'new work order' is the focus on learning. It is not simply that people must learn in order to do their work; work has always been associated with the preservation and dissemination of established knowledges and the production of new knowledges. What is distinctive about the current emphasis on workplace learning is this centrality and the prominence it affords 'co-operative' learning. Co-operative learning is promoted by many companies trying to set up and maintain global webs of production. This form of learning is explicitly *social* in character. The knowledge it generates does not accrue to a single individual, granting that individual expertise and status, it is 'distributed' amongst people and technologies. For the learning to be useful to the company people must communicate with each other, they must bring their distinctive histories and experiences to the group and be prepared to acknowledge, accept, and even to elicit, the tacit and explicit knowledge of other members of the group in order to solve problems. Co-operative learning is also highly context specific; it is 'situated' in specific, culturally organised settings (Lave 1988, Gee et al 1996). It is attractive to large enterprises because it seems to provide a mechanism by which people at remote sites can use local knowledge to generate solutions to local problems without reference to the centre while simultaneously ensuring that the centre retains control of the core values and goals of the company by unobtrusively controlling the values of the people who work within it. It is not difficult to see why co-operative learning is not always immediately and warmly embraced. It challenges established notions of expertise and with it established working identities and working relationships based on traditional hierarchies of knowledge.

The role of ICT in work-based learning, particularly where there is a focus on action learning, is relatively new. Apart from different learning styles and processes the utilisation of virtual technology for training and work-based learning means that traditional roles are being changed, e.g. professional trainers are changing from the provider of knowledge to facilitators and designers of learning methods.

As workforce development moves closer to the workface, the climate of the workplace becomes more significant for learner support (Stern and Sommerlad, 1999).

New methods of learning carry with them implications for new methods of learner support, including coaching and mentoring (Ashton, 1998; Brown and Keep, 1998; QPID, 2000). This affects not only specialist educators and trainers but also line managers, team leaders and colleagues as organisational structures change and responsibility for workforce development is dispersed. However, not all of those affected are willing or able to assume this role without significant development (for example ECITB, 2000).

Moreover, the 'learning organisation' debate has brought to the fore a number of issues. Contrary to organisational learning which has tended to concentrate on formalised and prescriptive development and training needs, generic sets of competences and the adoption of universalistic assessment, the 'learning organisation' switches attention to the process of learning, the individuality of learning styles and creating the right environment for experiential learning to occur. In addition, the debate has prompted the realisation that learning is also acquired through emotion, attitudes, communication and habit mediated through imitation of role models, the forging of meaningful relationships, experience and memory and developing a sense of self and values.

In short:

- There is a progressive shift from a process that is seen to focus primarily on the individual and his or her personal development as a worker to a more instrumental approach where learning at individual, group and organisational levels is harnessed to the goal of enterprise competitiveness.

- There has been a shift in the idea of learning as the responsibility of trainers and human resource developers, to its incorporation in wider strategies for human resource management and on to a more inclusive view of learning as embedded in all facets of the company's strategy, culture and structures: learning is a process of continuous improvement.

- There is a shift in ideas about what learning is from declarative knowledge (abstract, theorised) to more emphasis on practical knowledge or know-how and to tacit or implicit knowledge that is not knowable in the sense of being communicated to others.

- There is a shift from learning outcomes understood as competencies and skills that are observable and often transferable from one context to another to increasing preoccupation with learning processes whose outcomes are much more intangible and expressed as images, metaphors, conceptual maps, shared understandings or disposition such as commitment and loyalty.

The pedagogic aspects of WBL and CPD

One could think of the pedagogic aspects of WBL in relation to the features of work in terms of its socio-cognitive demands (e.g. task complexity, what specific kinds of knowledge and skills the worker needs to be bale to use in order to perform the work competently) and its socio-interactional requirements (e.g. whether one need to work in and interact with teams) as well as the importance of the job within the organisation (the impact that the specific task has on the larger work process, on the organisation and on the relative prestige or status of the worker). Similarly, the access characteristics of the knowledge can also affect the pedagogical features of the workplace.

According to Perkins these are *'the access characteristics of the system - what knowledge it includes access to, via representations that afford what access to information, by way of what retrieval paths for accessing the information and with what access to further constructions based on that knowledge'*. Pedagogical strategies will vary depending on what kinds of knowledge are available, how they are represented, what it takes to access them and what participants can do with them to formulate further knowledge. Partly this relates to the location of the knowledge: in the mind/head, in documents, in tools, in practices and partly to the person who can gain access to it and what this person must do to achieve that access. These questions are partly technical (what does one have to be able to do, to read, to understand) and partly political (who is allowed access and who is not).

Another way of describing the knowledge features of the workplace is Basil Bernstein's concepts of classification and frame. Both the division of knowledge into categories (classification) and the determination of who controls access to that knowledge (frame) are socially defined and politically enforced. A workplace in which classification is weak (i.e. in which knowledge is lumped into broad, amorphous and permeable types) is a very different learning environment from one in which knowledge is strongly segmented into neatly constructed categories.

Another set of factors shaping the situated pedagogy relates to the features of the work context within which the work is carried out. How knowledge is distributed - how people learn - varies in relation to the social organisation, the workplace culture and the production process. The social organisation refers to the nature and extent of hierarchy and the distribution and use of power within the organisation. Workplace culture refers to the beliefs and practices shared by participants in the organisation around concepts like production, status and learning. For example, an assembly-line process gives an individual far less exposure to production knowledge than does a multi-skilled work team.

Finally, features of the larger environment within which an organisation is situated will also affect the distribution of knowledge-use inside. Here one can include (i) market conditions (e.g. the extent and focus of competition among organisations in the same niche); (ii) regulations (e.g. the imposition of work rules, licensing procedures and other directives on the operation of the organisation by the government, unions, etc.); and (iii) technology (e.g. the pace and nature of change in the technologies used in the organisation in terms of the creation of new computer systems or professional practices and the difficulty of mastering these new tools).

The Table below summarises the above discussion:

Factors shaping pedagogy -WBL

	More learning	Less Learning
Socio-cognitive demands	Trainee's tasks require knowledge and skill	Trainee's tasks are not challenging
Socio-interactional demands	Trainee has heavy contact with others of varying statuses and roles	Trainee has little contact with others
Pragmatics	Trainee's tasks are important to the organisation	Trainee's tasks are peripheral to the organisation
Access characteristics	Access to the knowledge of the workplace is available to trainee	Access to the knowledge of the workplace is unavailable to trainee
Classification	Weak: less division of workplace knowledge	Strong: workplace knowledge is highly segmented
Frame	Weak: access to the knowledge of the workplace is not controlled	Strong: access to the knowledge of the workplace is highly controlled
Social organisation	Workplace roles are not highly segmented or hierarchical	Workplace roles are highly segmented and hierarchical
Workplace culture	Workers believe in collaboration and learning	Workers are status-oriented and competitive and the trainee is given low status
Production process	Less division of labour; work teams are used	High division of labour; Tayloristic

Source: Hughes, K. L., Thornton Moore, D. (1999), *Pedagogical Strategies for Workplace Learning*, IEE Working Paper No. 12

Overview of the main issues/themes/topics/ concerns in WBL

As with other thematic areas work-based learning is not devoid of paradoxes. For example, there seem to be two opposing trends in work-based learning. Specifically, although there is an increasing focus on collaborative work and learning within organisations, at the same time there is no real training in this area, apart from the action learning perspective. Moreover, the existing management information systems and organisational policies are still geared towards the individual rather than the workteam. The same applies to the institutional and regulatory frameworks for learning assessment and certification. These are still supporting individualistic, self-guided learning against work contexts which are increasingly underpinned by co-operative and social modes of learning.

There is also a paradox between the way organisations view themselves and the way they manage work-based learning. Although they are encouraged to cede responsibility for learning to the learners, they continue to control what will be learned. Similarly, although collaborative learning is encouraged, training by CD Rom is increasingly the norm.

What are the acknowledged gaps in our understanding of WBL?

While the literature reviewed above is clear on what the advantages, challenges and bottle necks are in relation to WBL, but the 'how' question is not tackled in a coherent way. Part of this has to do with the fact that most authors approach WBL from within a specific framework, e.g. from an institutional angle, from an organisational angle, from a pedagogical angle, etc. Findings in literature on how to implement WBL in practice are thus fragmented.

WBL is not an isolated area of research or practice, it is embedded in a wider frame of socio-economical, pedagogical, legal and political contextual processes. It is impossible to talk or write about the relationship between learning and work, without considering the current shifts and changes affecting the organisation and distributing of work, the nature of work and the requirements set by 'work'. Starting points in the mainstream literature are assumptions set by dominating cultural values and norms which put organisational effectivity, efficiency, competitivity, etc. in the centre. Looking at work from the perspective of its learning potential is fundamentally different than looking at it simply in terms of competencies needed in order to perform well the job. Work is in the latter reduced to a means-end relationship between worker and competencies; whereby workers are primarily viewed as carriers of competencies or competency deficits. These two streams can also be found in literature (the skills approach on the one hand and work as an important context for learning on the other) and shape the framework for the 'how' question. However, concrete suggestions how to develop the learning dimension in work are based on analysis of existing reality, thus relying on existing notions of work and existing relations between work and learning.

Thus there is a need to carry out research in how economic, technological, organisational, social/societal developments are helping shape the nature of WBL, and the learning experiences for those involved.

The pedagogical aspect of work-based learning has attracted much attention (albeit most of the research has been conceptual rather than empirical) and different models have been proposed which identify workplace and job characteristics that can determine the learning potential of the job (Ostenk, 1995). However, there is a need for more empirical research on how to create an environment that is conducive to and supportive of learning in the workplace. As Brown (1995) points out, more empirical data are necessary in order to validate the assumed relationships between workplace characteristics and the learning potential of jobs.

The current pedagogical models that underpin most research focus on specific elements of a pedagogic framework, e.g. on structuring the workplace as an environment for learning unrelated to different organisational forms. These models are not related to different learning characteristics or the purposes of learning and the particular requirements of the delivery system and support modes. There is a need to develop an adequate framework establishing coherence between the different dimensions involved in the design of effective learning in different organisational settings, e.g. the learning setting, learning profiles, learning content, the learning paradigm, the delivery system and support facilities. For example, Brown (1995) suggests that pedagogical audits based on these elements could provide the basis for linked pilot and action research studies.

There is also a need to research into and establish links between learning theory and practice and to explore the relevance of new learning theories for practice. Research is required into the link of new learning theories and organisational realities.

Despite the increased recognition of the importance of tacit knowledge, there is a need for more empirical research into how this tacit knowledge can be recognised and capitalised on.

Similarly, despite the increased importance of team working in organisations and the considerable theoretical and empirical material on how teams function, there is little known about the learning processes in groups. There is a (perceived) lack of relevant learning theory to inform practices in the area of group learning processes. As a result, action research is needed in relation to team learning and learning in teams in order to answer the following questions: how and when is learning happening in different kinds of teams; what factors inhibit or enhance team success; what organisational characteristics and processes affect the tasks, motivation, successes and failures of teams (in terms of learning); how are teams linked to their organisational context; and how can teams be supported/enabled to deal with complex issues where tasks and problems are not well delineated.

Connected to the above an emerging issue for further research is that of the networked organisation as well as the implications for pedagogy that knowledge management has.

There is also a need for further research into the interface of individual/group and ICT for learning purposes. To date, there has been little research on how action learning can most effectively be supported and facilitated by ICT. For example, why is it that some learners are more likely to use ICT than others?

Another area which requires more research is the way work-based learning features (or not) in the behaviour or the various actors/stakeholders involved in the process. As it is, very little research has been undertaken in which the different and sometimes contrasting views and stakes of the various groups (e.g. employees, employers, professional trainers, consultancies, the state, etc.). In particular there is a lack of research in relation to workers' experiences of work-based learning.

These various research needs in WBL are highlighted by the SKOPE symposium, referred to above, and are highlighted by other sources we have considered. These include:

- How to record and validate informal professional learning
- The notion of professional learning and the conditions that most effectively foster it.

We would also see the need for research that considers how the learning of established, emergent, stable and threatened professional groups, is shaped by competition and accountability demands.

Finally there is likely to be merit in extending the general metaphor of ‘communities of practice’ to empirical studies that compare how continuing professional learning occurs in different communities of practice.

3. HIGHER EDUCATION
Conceptual and methodological debates

The conception of knowledge that has been dominant in academe is knowledge that is abstract, disciplinary based and valued for its own sake. The acknowledgement of other sources of knowledge as worthwhile has seen a recent rise to prominence of experiential learning, evident also in university teaching practice. Abstract, propositional and universal knowledge is thus set alongside localised and particularised knowledge, drawn from a multiplicity of experiences. Constructivism, an expression of the decentering of knowledge, draws on local and particularised knowledge to challenge dominant disciplinary discourses, structures and power relations. Fields of study outside the strongly bounded disciplinary tribes are more likely to adopt such a relativist view it would appear.

Our conception of knowledge in contemporary society is changing in another important respect. Knowledge now serves varied purposes. One clearly discernible tendency is to do with knowledge being valued for what Lyotard (1984) termed its 'performativity'. At the societal level, this is usually taken to mean that the purpose of knowledge is the optimising of efficient performance of the socio-economic system (Usher, 2001). In terms of educational purposes, it represents a shift away from critical enquiry (enlightenment) and personal transformation towards learning experiences where knowledge utilisation is uppermost.

There is evidence in the literature of increasing interest in the student learning experience, and a shift towards more student-centred teaching and learning. This seems to have been driven primarily by quality agendas as well as reflecting a greater responsiveness on the part of institutions to the changing demographic profile of students entering higher education. Many of the publications on this topic have a 'feel good' factor about them or a rhetorical flavour. More interesting are the practitioner reflective research studies dealing with tensions that arise around the negotiated curriculum. What we are beginning to see in the literature is an acknowledgement of the difficult questions around the professional role of the academic in the face of contested knowledge, a stronger voice of students as consumers, and institutional requirements for accountability that may run counter to a student centred approach.

Recognition of the importance of informal learning processes alongside the formal ones is relatively novel in higher education, although there has been a strand of research and practice concerned with the quality of the student learning experience which has come at this obliquely. The notion of 'learning rich settings', more commonly found in discussion of workplace learning, is also beginning to find its way into the HE literature (for example, Knight, 2001). Atkins (1999) questions whether many of the gains in confidence and maturity reported by students as a consequence of being at university might not be more accurately attributed to their lives outside the formal curriculum as to their learning experiences within it.

Constructivism, now widely favoured as an approach to teaching, also raises questions about the worth and validity of different kinds of knowledge and knowing. Some academic teachers taking a more critical, reflective view of their teaching are exploring the limits to constructivist teaching approaches, or the circumstances in which it is an effective approach. However a critical or reflective view on pedagogy in higher education is not widely found in the literature. Pedagogy tends to be presented in technicist terms – as decontextualised ideas and practices - rather than located in a social and philosophical space.

Often, education theorists and theories were cited in the introduction to an article as a way of establishing a pedagogic 'position', but with no subsequent analysis that would suggest deep understanding or a critical perspective.

In a recent article on their ESRC funded project on this topic, Malcolm and Zukas (2001) open up questions about the dominant psychological paradigm in teaching and learning in HE, and the narrow in way in which pedagogy has been conceived. They point to the way in which our understanding of the teaching and learning process has been dominated by the explicitly psychological visions of the learner and teacher. Psychological discourse and frames of knowing have predominated in HE, whilst sociological understandings that bear on educational activity have tended to be a marginal or minority interest. The dominance of the cognitive tradition in the individualistic psychological paradigm may explain the poor showing in HE of social learning models of teaching and learning. Emergent theories in cognition, such as distributed cognition, scarcely rate a mention although in workplace learning and in FE institutional settings, such theories are seen as contributing valued new insights and understandings.

The research and practitioner literature on teaching and learning in higher education is highly individualistic in focus and preoccupied with the learning bit of the self. The model of the learner most strongly represented in the literature is a bundle of behaviours, attitudes and dispositions – often wrapped up in the concept of preferred 'learning style' or 'learner identity'. Failures in learning are readily attributed to deficits in learners, lack of appropriate abilities, skills dispositions of strategies; and occasionally deficits in individual teachers. McInniss (2001) has commented on the deficit model that characterises much of the research and practice in the area of 'student disengagement' and the oft heard lament that 'students aren't what they used to be'. Taking such a deficit view, he suggests, makes it inevitable that our responses to the new situation of student expectation and aspirations will be inadequate. Such a view does not help us to respond to the generation of highly mobile and technologically connected students, with demands and aspirations that many academics perhaps find difficult to accept.

Reviewing the literature, we have been struck by the eclecticism in the utilisation of theory. Practice tends to be hitched to particular concepts and ideas, some with an enduring relevance but others reflecting passing pedagogic fashion. Conscientisation (Freire), scaffolding (Vygotsky), learning styles (Kolb), deep and surface learning, reflexive practice (Schon) have been joined in recent times by the voguish 'communities of practice' (Wenger). Clearly these concepts have value to teaching staff as way so of reflecting on and innovating in their teaching practice. But as a number of our 'key expert interviewees' observed, they are often used as technologies, rather than as heuristic models of practice with a much stronger theoretical and philosophical base. Moreover, the focus on tools for practice means that context, ideology and values need not be discussed. Malcolm and Zukas (2001), borrowing from Enwistle, refer to the 'undemanding craftwork' nature of teaching in higher education, subject to a discourse of procedures rather than explanations.

Policy and other forces affecting practices

Many analytic studies of higher education have observed the interiorisation into institutional values and purposes of external social and cultural forces. It is suggested that instrumentality, usefulness, adaptability and 'fit' for the existing system have become the dominant values in discourse about the aims of higher education (Brockbank and McGill, 1998).

Among some policy analysts and researchers, such responsiveness of the system to the changing society is to be welcome. Educational systems and policies, the argument goes, should make it possible for individuals and organisations to keep pace with cultural change and to advance themselves in the changing cultural context. The Dearing Report is credited with re-orienting the HE system towards the 'adaptive progressive sentiment' of contemporary times (Bagnell, 2001), and many policy initiatives at the HE system level have served to reinforce a post-Dearing agenda (Taylor and Watson, 1998). In the HE journal literature, the tighter coupling of the university with the economic and social system is implicitly accepted by many authors as part of the new reality.

A counter view holds that the university, as a key institution in the society, offers more value to the society if it can stand apart from it in some measure, adhering to cultural traditions of modern enlightenment rather than being captured by the utilitiarian agenda (see for example Barnett's corpus of work). Educators have a professional responsibility to uphold truth and justice as criteria of value in the production and dissemination of knowledge, rather than adopting 'performativity' as the hallmark of the modern university.

A perspective on contemporary currents of thought and culture is offered by writers such as Usher (2001) and Bagnell (2001) in their analysis of lifelong learning as an arena of policy and practice. These authors highlight the ways in which current educational theory, philosophy and practice is adjusting to the modern cultural context, although with a characteristic time lag. What is being generated in this contemporary cultural context is a new educational discourse, laying the ground for an emergent, new learning paradigm or patrimony.

Usher and Bagnell, along with others such as Gibbon *et al* (1994), point to the lessening of the power of academics to define what constitutes worthwhile knowledge and serious learning. A feature of contemporary society is the *decentering of knowledge* (what Usher describes as the disappearance of fixed references and traditional anchorage points). This is manifest in the legitimating of new sites and sources of knowledge creation and diffusion, and the devaluing of specialist, discplinary based knowledge. Gibbon *et al* (1994) talk about mode 1 and mode 2 research.

Other social and cultural currents in contemporary society include the shift towards participation in consumer markets as an important aspect of social identity and citizenship. A cultural context in which social agendas are defined by the interests of individual through their choices as consumers and producers, results in the dominance of economic considerations in the cultural realm. The pressure for ever greater efficiency and productivity demands of individuals that they be constantly engaged in the learning of new work skills, new communicative capabilities, new ways to acquire wealth, new ways of seeing and presenting themselves (new identities) and new pleasures and experiences (Bagnell, 2001).

Consumer culture is marked by individuation and it is that which also characterises contemporary trends in learning. . As individuals and groups have become freed from the hold of traditional contexts of activity, a plurality of lifestyle choices exists. Giddens has pursued these ideas in his discussion of 'life politics', marked by an increasing degree of individual choice and decisions over identity, as mediated through lifestyle. The domain of learning Giddens uses to illustrate his thesis is the phenomenal growth of informal learning, much of which has been commodified and is commercially based, in the areas of self-improvement, personal well-being and self-actualisation.

But the consumerist culture, and the commodification of knowledge, is also shaping institutional and adult learning behaviour in the formal education system. Contemporary educational discourse reflects this changing cultural context: educational activities have become consumer goods; there is a switch of emphasis from provision to learning opportunities; and students are positioned as learners and as consumers of learning opportunities. The relationship between teacher and learner is reconstituted as a market relationship between producer and consumer. Educational institutions thereby become part of the market, in the business of seeing knowledge as a commodity and reconstructing themselves as enterprises dedicated to marketing this commodity and to competing in the knowledge business.

A great deal of the commentary on broad social and cultural trends in society, and its implications for higher education, is pitched at an analytic level. Only occasionally does it connect up with a discussion of pedagogic issues, and even less often is it anchored in empirical research. Where connections are made, this happens when the policy commentator or analyst makes the links,, or when other researchers and practitioners seek to bridge the divide between the two different kinds of literatures. Ron Barnett's exposition of criticality has successfully built a bridge to pedagogy, and has been found useful by researchers taking a more grounded empirical approach to innovative pedagogies (Savin Baden's work on problem based learning, for example).

Those responsible for the management of higher education have been more exposed to external environmental forces than academic staff at the front line of teaching and learning. The proximal forces having greatest impact on universities are mediated through political/ministerial channels – White Papers, policy directives, accountability requirements and mechanisms. Such instruments convey the values of the new or emergent learning patrimony, fuelled by economic and managerialist concerns that have their roots in broad processes of globalisation and related socio-cultural shifts in contemporary society. Successive waves of policy initiatives – entrepreneurialism; strategies to increase participation, progression and retention; knowledge management and utilisation; are expressions of the government's performativity agenda and its growing demand for greater accountability from the education system. As Atkins (1999) notes, there has been a steady stream of reports and papers urging the higher education sector to take key, core, transferable and employability skills into the heart of students' learning experience.

McInnis (2001) brings together an analysis of societal changes with empirical research into changing patterns of student engagement and goes on to draw out the pedagogic implications at institutional level. He cites empirical research findings from Australia and elsewhere on the changing outlooks and priorities of young people, offering some insightful observations on changing levels of student identity and student engagement with the university experience. What these studies indicate, he suggests, is a fundamental shift in the ways that many young people now see their futures and the place of the university experience in the scheme of things. Notions of certainty of career paths are less relevant to an increasing number of students, and major life decision are (now) delayed and jumbled into entirely different patterns. He cites work by Austin and colleagues (1998) who recently observed, from 30 years of surveying first year students in the United States, of a notable shift in student values. 'Developing a meaningful philosophy of life' and 'being well-off financially' have reversed places since the late 60's, with 'being very well off financially' now the top value of 74% of students.

Part of the problem of responding to these changes, McInnis suggests, is the deeply embedded notion of the 'ideal undergraduate' student and a somewhat romantic notion of the student experience that simply ignores the new realities of student choices, flexible delivery, the pressure to respond to student markets in the face of the decline in government policy, and the emergence of competition from diverse, well resourced and highly creative alternative providers.

Pedagogic practices

A number of trends are evident in teaching and learning concepts and practices, reflecting the emergence of a new learning patrimony in higher education (as in some other sectors of education.) These broadly align with socio-cultural trends noted above.

The established learning patrimony, although under challenge, has an enduring, stable character about it. It is embedded in institutional arrangements, norms, traditions and behaviours and thus has a 'taken for granted' character about it that is not readily amenable to change. There are also strong defenders of the dominant learning patrimony, among education theorists and philosophers, but also among the disciplinary 'tribes and territories' whose own canons of knowledge are at prospective threat from the decentering of knowledge and emergent new sites of legitimate knowledge creation.

The changed values and ideals which these represent are progressively internalised and incorporated into the 'formative context' (Ciborra, 1994) of the institution and over time they shape the emergence of a new learning patrimony. Reviewing the HE literature – published books and journal articles, as well as the grey literature of commissioned studies, conference papers etc. – we begin to see how far the emergent learning patrimony is a focus of research interest and the extent to which it is permeating teaching and learning practice. From looking at what issues are being debated, we can find the points of contention between the established and emergent learning patrimonies.

One trend evident in the literature is the preoccupation in very recent years with assessment and learning outcomes, and a marked decline in interest in the substantive content area of curriculum and its organisation. This is consistent with the dominant accountability agenda, but it also signifies a shift away from mastering knowledge towards the management of knowledge. Students are expected to acquire the capabilities and competences for managing knowledge as part of a lifelong learning or 'learning to learn' agenda, rather than being expected to assimilate knowledge. There is a shift to operational criteria – what students are able to do, and their ability to apply knowledge. 'Employability' – a set of generic skills considered useful in employment contexts, is embodied in course documentation, module descriptors, and built into records of achievement or transcripts. The employability agenda is reflected in a host of schemes and projects aimed at creating working relationships between higher education institutions and employers. Atkins (1999) examines the current preoccupation with employability, suggesting the possibilities for flexible accommodation between those who regard the employability agenda as a betrayal of the traditional higher education purpose to train the mind, and those who see employment preparation for the real world as a proper concern of universities in their role of fostering a lifelong learning agenda. Among the issues to be addressed through research is where the best return on any new investment in employment preparation is likely to be obtained.

Atkins speculates that incorporating generic process skills alongside advanced knowledge and specialist skills in postgraduate and post-experience courses in a joint approach with key stakeholders might be more effective than introducing bolt-on skill modules in the undergraduate programme or embedding key skills in modules of disciplinary knowledge. Perhaps more important, in the context of this study, is the doubts she raises about the appropriateness of a common, core set of employability skills. The signs are that the graduate labour market is becoming increasingly differentiated, and the requirements of a knowledge economy may accelerate this process.

Curriculum planning has largely gone down the outcomes led path, within a rational planning model . The ingredients of such a model include a tight coupling between goals and objectives, curriculum and choice of instruction methods, and assessment of learning and evaluation – consistent with the view of the universe as determinate and linear. . As Knight (2001) observes, rational curriculum planning has a commonsense quality about it that fits well with the managerialism of the public sector. Such a model, he suggests, is ill-suited to the complex learning with which higher education institutions are concerned. Complex learning is indeterminate and non-linear. It calls for attention to the quality of the learning environment and learning communities. Curriculum planning needs to be concerned with the spaces, interactions, experiences, opportunities and settings in which formal learning takes place. In such a process model, curriculum planning becomes mainly a matter of orchestrating good learning processes with each other, the content (the topics that subject/area experts identify as worth studying), the available learning time and other resources.

A second trend reflected in the literature is the recognition and validation of other kinds of knowledge besides disciplinary based knowledge. Recognition that a multiplicity of activities in many different contexts involve learning, and hence may be deemed educational, is evident in the incorporation of workplace learning into academic programmes and the emphasis on situational learning ie authentic learning that takes place in the lifeworld of everyday contests. In many of these new approaches to work based learning, what is significant is that the role of work is not a discrete element of study, or the issues arising from problems encountered in work merely as subjects of assignments, but rather work is the curriculum which shapes the entire programme of study. Many issues arise at the juncture of academic knowledge and other kinds of working knowledge. Can practical wisdom be granted the status of formal knowledge? Can such forms of knowing, including tacit knowledge, be assessed? What weight should they be accorded in the framing of a curriculum? Usher and Solomon (1999) identify key tensions that arise in the contest between the contemplative, abstract learning associated with the disciplinary knowledge of universities and the more holistic and relevant knowing that has come to be associated with the concrete, know-how of experience based learning. Within this contested terrain, universities, hitherto 'accountable' to no-one but themselves now find the tenets of their knowledge based subject to scrutiny and critique of organisational partners. Hayward and Sundnes (2000) pose a set of unresolved pedagogical and research questions about how to make sense of learning within the work-related curriculum – issues made more difficult, they suggest, by the lack of clarity about the nature of learning itself. Some years back now, Brennan and Little (1996) took a comprehensive look at the area of work based learning and its relationship with higher education in their report of similar name. Symes and McIntyre (2000) revisit many of the same issues in their book on *Working Knowledge. The New Vocationalism and Higher Education.*

The concept of 'managed learning environments' (MLE) is creeping into the discourse of the HE teaching and learning literature. In the dominant learning patrimony which has hitherto characterised higher education, the 'managed learning environment' (though not called such) related to teaching and learning processes in the lecture room, seminar or tutorial and the laboratory. It was time and space bound, with an established pattern of social relations between teacher and student(s). The learner was assumed to be engaged in deliberate learning demanding cognitive energy and concentration, as well as dispositions and motivations to exert effort, to persist, to seek out.

The managed learning environment in contemporary university settings is far less bounded, with separation of time and space. Increasingly, it includes combinations of real time learning and virtual learning; and formal learning in an institutional setting alongside other modes of learning in workplace, community or simulated settings. Such fluidity in what constitutes a learning environment, even where it is defined by institutional parameters, carries different implications for student learner identities and for social relations between teacher and learners. It is has implications for the level of engagement of learners with learning. Where learning is situated in many different contexts, and not just a context that is dedicated to learning, there will be other competing activities. These are likely to include working, family commitments, leisure time pursuits. In some learning environments, it may be easy to make the transition from one to the other; in others, these other activities can only be undertaken by switching off the learning activity (something that will impede learning if it happens very often for learning requires some continuity). McInnis (2001) has observed the increasing tendency for students to expect the university to fit in with their lives rather than vice versa.

Good practice

- We might say that pedagogy is uncontested. If so, this would suggest that pedagogy is being conceived in relatively narrow, technicist terms. The debates and issues where there is any 'heat' tend to be focused at a higher level on goals, purposes and values of higher education, although these are translated into pedagogic choices (eg. teaching methods or approaches that foster critical enquiry, or the adoption of operational curricula).

- One of the reasons pedagogy is uncontested, if seen mainly in narrow technicist terms, is that there has been a maturing in thinking about the choice of instructional strategies and methods. Rather than 'good' (small group teaching, constructivist approaches) and 'bad' (lectures, transmissive approaches), the current understanding of good practice is 'constructive alignment' (Biggs, 1999) or what the Tavistock (1996) has elaborated in its configurational approach. What is important for quality student learning is achieving a balanced system in which the components of student factors, teaching context, learning process and product or outcomes support one another. Biggs perceives administrative or institutional requirements as potential barriers to constructive alignment, whilst the Tavistock model is a more dynamic one that takes account of the trade-offs that need to be made between pedagogic effectiveness and efficiency goals. This shift away from an absolutist position on instructional methods is akin to the more balanced stance now being taken in the debate about quantitative and qualitative methodologies in evaluation practice. Appropriateness is the key principle.

- Despite the voluminous literature on teaching and learning across the different sectors and domains, there is a marked tendency to simplify learning rather than deal with its complexity. Richard Pring (2000) has commented on the tendency in educational research to ignore the complexity of learning. Future educational research, he asserts, must attend to what it *means* to learn and that requires a careful analysis of many different sorts of learning.

  Teaching and learning are frequently used co-jointly, to cover all possibilities, with little recognition of the distinctiveness of each. We might say there has been a 'failure of theory' to inform our understanding of learning. The grand learning theories– behaviourism, cognitivism, constructivism, gestalt, humanistic, activity and social reproduction – are used more as points of orientation or legitimating narratives. Researchers and practitioners appear more comfortable with 'middle level theories', although there is little consensus on how these line up with the grand theories or what their derivative roots are. 'Theories' such as Mezirow's 'perspective transformation, Kolb's action learning theory, situated learning theory (Scribener), experiential learning theory (Boud), constructivism (Dewey), legitimate peripheral participation (Lave and Wenger) and other lesser known theories or theoretical perspectives are most commonly cited. But as one of our key expert interviewees commented, in her experience it is rare for research practitioners to have more than a shallow acquaintance with their preferred theory and few people would ever trace back the roots.

- There are many examples of innovative pedagogic practices reported in the literature. These tend to be situated within the dominant or traditional paradigm and so can be incorporated into existing practice without requiring significant change in institutional arrangements or established processes. Miller (2001) suggests that most new teaching practices tend to originate from a concern with teaching more efficiently, or meeting the demands of the QA agenda. They are not pedagogically driven. Atkins (1999) suggests that the employability agenda, for example, is likely to be accommodated through incremental adaptation of the curriculum rather than any significant shift in what is taught and learned. There are other examples as well where what started out as 'radical' or innovative pedagogies have been absorbed or domesticated into the dominant paradigm. An interesting example is given of 'project based learning' (Kotze and Cooper, 2000), introduced by the authors into their teaching as a transformative pedagogy. They observed how it could just as easily be used to support the ideology of a new vocationalism as it could to support a more radical education agenda. Savin-Baden (2001) has also commented on conservative strategies for problem based learning in which it is used as an instructional tool rather than a broad pedagogic approach with far-reaching implications for academic teaching identities, the construction of knowledge and organisational practices and behaviours.

  Another area of innovative practice has been the introduction of autobiographical methods aimed at understanding the learner. This approach has a strong following among adult educators and others working with access and mature age students, where 'learning history and identity' is an important key to developing their latent potential. Again, it has been noted (Miller, 2001) that such methods can be used in a decontextualised way, or alternatively as part of an educational process within a different teaching and learning paradigm that challenges the traditional power relationship between teacher and student.

- The language of objectives, outcomes, competences suggests a knowable and determinate universe, where it is possible to make predictions and establish generaltisations. As Malcolm and Zukas (2001) observe, such a discourse sets comfortably with psychology's scientific paradigm. The concepts and technicist practices can be readily coralled to help build a 'technology of behaviour', enabling behaviour to be understood, categorised and predicated, and for practice to be improved.

  There are areas of practice in higher education which lend themselves more readily to the desire to create a sounder research base which can explain and justify practice in the field. A preoccupation of government with evidence based outcomes has made headway in health and social policy, and to some extent also in school based education. Inter-professional education (IPE) in the health services area is one area where a concerted attempt has been made to evaluate the strength of evidence of IPE outcomes and explore the relationships between outcomes and curriculum design. It is instructive therefore to look at what the experience has been in establishing a knowledge base, and what research findings have emerged.

  In a paper reviewing the efforts of a group of educationists involved in inter-professional education in health and social care education to establish the evidence base for the benefits of this new pedagogy, Hammick (2000) elaborates on the context and the challenge of meta-analysis in this field. What might initially look like the most benign and supportive of contexts for reviewing IPE against sound and practical outcomes, nonetheless raised complex methodological and conceptual difficulties. Very few of the several thousand articles in UK and US databases on IPE fulfilled the criteria set up by Cochrane Collaboration for what is acceptable evidence of effectiveness. The research team developed a parallel review which widened the criteria to allow a wider range of research methodologies, and extended the range of potential outcomes to include the impact of the education on the learners, professional practice, health and social care organisations and service users. A conclusion was that creating a sufficiently strong evidence base from evaluations of IPE requires cooperation across academic disciplines, research paradigms and between service, education and research . All those involved need to be ready to suspend judgements and understand multiple perspectives.

Gaps in state of the art knowledge

Our analysis of the main bodies of research and practice that coalesce around the different frameworks we identified has also allowed us to identify what might be some of the gaps in our knowledge and understanding. This is a broad-brush approach to identifying what might be included in the next phase of the ESRC Teaching and Learning Programme agenda, which would be supplemented by the more grounded assessment of what we know about what works, and where we need more research to make linkages between intentions, practices and outcomes.

1. There are well theorised studies now of learners and learners identities, and of what experiences they bring to the teaching and learning space. Although we know a great deal about teaching, there has been little work on teachers' identities and on how these shape their understandings of pedagogy and their choices of pedagogic activities. The importance of this work for enhancing learning effectiveness is related to the centrality of 'communities of practice' for knowledge creation and diffusion, and the way learning identities feature in this.

A good start has been made on this topic by Zukas and Malcolm in a research study funded by the ESRC.

2. There is little systematic work on the institutional learning setting as an active constituent of learning, and not simply a background to learning. Whilst different strands of research have attended to particular features of the learning setting and there is a body of reflexive writing in adult education especially which has problematised setting, what is lacking for the institutional setting is the kind of theorised studies which are found in the workplace learning and adult/community/informal literatures. The power of discourse is a recurring theme in the analytic literature on HE and FE, and we need a better understanding of the way in which new discourses are giving new meaning to old and established routines and practices. As learners bring their new identities and expectations as consumers into the learning setting, for example, what change is there to the social relations within the setting, and how does this affect the 'psychological learning contract' between teacher and student? Research in higher education might usefully learn from studies in the workplace which have looked at the changing psychological learning contract in the context of employability agendas and of knowledge management practices.

3. The decentring of knowledge in contemporary society has eroded the authority of established bodies of disciplinary knowledge, giving new legitimacy to local and specific knowledge. A common view is that constructivist approaches, so widely favoured in higher education pedagogic circles, can handle such different knowledges. We found in the literature a few recent studies of a critically reflective kind which have identified key tensions in the teacher-student relationship around constructivist approaches, notably to do with whose knowledge should be privileged, what the relationship is between universal and local knowledges, and how to reconcile students' preferences for assessment with what teaching staff believe to be professionally appropriate. These studies look at the hard questions that surround the comforting words of 'negotiating curriculum content' and raise important issues about what it means to be a professional teacher. We see value in further studies that build upwards from practice, and encouragement for more reflexive practice and sharing of practice in this important domain.

4. There is a large body of research relating to the quality and intensity of student engagement with the institutional experience, and its contribution to student outcomes. Meta analysis has shown that the amount of effort students put into their academic studies, and their involvement in the life of the university, was the key to positive student outcomes. The 'instituitonal experience' of many students in the contemporary world is very different from the one that existed when much of this research was undertaken. Many of the signs today point to widespread student disengagement for a multitude of social, cultural and economic reasons. An increasing number of students are spending less time on campus and more time working in paid employment. Large numbers are able to access learning resources and materials from web-based MLEs, obviating the need to be on campus or in communal settings. They either seek, or have in their lives, an increasing number of activities and priorities that compete with the demands of university. Research also suggests that students have quite different perspectives on their futures and the place of the university in the scheme of things. Notions of certainty of career paths are less relevant than for earlier generations of students, and many prefer to postpone commitment, keep their options open, or just hang loose.

This new institutional environment will be a very different one, providing a very different student learning experience. Student-student and staff-student interactions will change, and increasingly students will move between virtual and real learning environments as part of their educational experience. What was previously taken for granted as part of the institutional 'formative context' will increasingly need to be managed. McInnis (2001) suggests the new pedagogic challenges include:

- How to manage learning communities that can provide for interaction, integration and a sense of student identity?
- How to organise curriculum and course organisation in ways that increase the amount of time students can interact with their peers and with academics?
- How to manage and guide students' choices in a consumerist market where many options are available, and how to ensure the coherence of the undergraduate curriculum in the face of such pressures?
- The development of new measures of the student experience that capture the total student experience including: the quality of student support available to students' the learning resources appropriate to their needs; and a series of items related to student perceptions of the social experience of learning at university that indicate their sense of belonging to a community.

Such an agenda focuses attention on the need to take a dynamic view of institutional settings, and for research that can inform what kinds of pedagogic arrangements and activities can best foster a quality learning experience in evolving institutional forms.

4. INFORMAL LEARNING

Defining Informal Learning

Informal learning is difficult to define. There is no clear consensus as to its scope and meaning although various writers have tried at different times to establish its boundaries. See for example the early categorisation of formal, non-formal and informal learning by Coombs and Ahmed 1973 ; the distinctions between informal and incidental learning by Marsick and Watkins 1990; and recent operational definitions adopted by McGivney 1999 in her work on pathways from informal to formal learning, and by Livingstone (1998) in the Canadian national survey of informal learning. Because the term has been used largely as a residual category – that is to say, informal learning embraces everything that is not formal education – it generally lacks coherence and has the character of a 'messy' concept.

Common elements in thinking and writing about informal learning include:

- a concern with ideas and processes which pay particular attention to, and make use of, the fabric of daily life;
- an appreciation of and engagement with the variety of naturalistic physical and social settings in which people operate (i.e; those that are non-educational)
- the worth placed on learner as person, and the control which learners have over their learning
- the importance of critical reflection or critical thinking, as a prelude to individual change, perspective transformation or collective action
- a concern on the part of informal educators to involve themselves as participants in the action, without becoming an overwhelming point of reference
- a recognition that there are marked pitfalls to thinking of informal and formal education and learning as mutually exclusive.

It is perhaps not surprising that informal learning should be so elusive since the broader term 'learning' similarly defies easy definition, despite its commonplace usage. Learning is seen by some as a process, and by others as an outcome. It may serve instrumental, or developmental or emancipatory purposes. For some, learning is primarily an individual mental or cognitive activity, whilst others see learning as a social activity that resides in the interactions between people. Yet others approach learning as a fundamental property of living organisms and of human-ness – we all engage in ongoing learning and adaptation as central to our existence. Informal learning, in the broadest sense of learning that occurs outside the boundaries of schooling, is thus a part of the human condition and a feature of everyday life.

Such has been the power of the social institution we call 'education' that what is widely perceived as *worthwhile* learning has to a very considerable extent become synonymous with what occurs in schools (and the education system more generally). Schools are the most developed settings that society has hitherto devised for learning.. What we call 'formal learning' is a set of learning activities that are framed by, and take their meaning from, the social context in which they occur. This social context includes the regulatory system as well as the particular organisational relationships and expectations. We know a great deal about these formally structured and institutionally sponsored learning settings and the kinds of learning processes they give rise to.

In particular, we know a great deal about behaviourist models of learning associated with instructional pedagogies which have been developed and refined within such formal, bounded learning settings.

Some of the shortcomings and limitations of educational institutions as settings for learning have however become increasingly apparent. As socio-cultural sites of practice, they have served some sectors of the population better than others. Their embededness in society's social arrangements becomes dysfunctional at times of major social upheaval. Contemporary interest in informal learning may be seen as an attempt to reclaim and legitimate the learning that occurs in other kinds of settings, in part to compensate for these inadequacies. We know very much less however about what other settings in contemporary society represent alternative sites for significant learning and where there might be scope for some kind of policy intervention to enhance their learning potential.

It thus begs the question simply to define informal learning as the multifarious kinds of learning activities that occur outside formalised educational settings. What is needed is to extend our understanding of how learning is contextually situated and is fundamentally influenced by culture, context and activity. This suggests that the way forward to defining just what is informal learning lies through grounded studies of diverse kinds of settings which are sites of significant social interaction, learning and development. We need also to understand how these more localised settings are themselves embedded in and constrained by a broader set of sociocultural practices and arrangements. Locating our review of informal learning in emergent practices and arrangements of contemporary post-modern society provides an anchor point for exploring the relevance and value of new kinds of learning configurations that combine formal and informal activities in novel ways.

There is no well defined field of informal learning, hence the very patchy literature on this topic. Recent grounded studies, undertaken in diverse contexts or settings, have however made a significant start on the task of conceptualising and theorising informal learning. Notable among these are:

- A detailed empirical study of learning, citizenship and change in a cross-section of local voluntary organisations by Elsdon, Reynolds and Stewart (1995);
- A grounded, learner-centred study of learning in a range of workplace settings by Eraut, Alderton, Cole and Senker (1998);
- A grounded analysis of local education as practised by community workers using informal learning methods (Smith, 1995; Jeffs and Smith, 1990).
- A set of diverse case study examples of radical adult education practice in community organisations and social movements, informed by analysis and theorising of popular education as a model of informal learning (Foley, 1999).
- A series of review undertaken by Coffield (2000), which concludes that overall the domain of IFL is a "submerged and neglected" field.

What makes these studies distinctive is their interest in the inter-dependencies between features of the context or setting, the organisational characteristics, the kinds of learning processes entailed, and the role of the facilitator in managing the external conditions that facilitate learning. Some studies, furthermore, look beyond what is learned at an individual level to the wider impacts at an organisational and community level. In various sections of this literature review, we draw on the conceptual frameworks and empirical findings from these different studies as illustrative material.

Whilst informal learning is attracting renewed attention in policy circles, it is by no means a new term or novel concept. It has appeared in many different guises over the decades, having much in common with such fields of theory and practice as community development, community education, social action, self-directed learning, experiential learning and non-formal education. Many of these have also figured centrally in policy initiatives, in earlier as well as more recent times. Significantly, these are all part of the territory of adult education and thus the general understanding of informal learning has been strongly coloured by the perspectives, preoccupations and competing ideologies of the adult education community.

Possibly the most well developed of these is the area of self-directed or independent learning which is widely seen by its (mainly North American) adherents as synonymous with informal learning. It embraces all those kinds of learning which adults undertake for themselves, either on their own or in the community, away from the influence of adult education professionals. Originating in Canada with the work of Alan Tough in the 1960s and 1970s, the domain of 'self-directed learning' continues to generate an international body of empirical research studies. Some of the later American work has adopted theoretical positions which allow for the possibility that adult self-directed learning is not necessarily rational, intentional or planned but may be incidental and even unconscious. Recent studies include one undertaken among adults in the UK by Percy, Burton and Withnall (1995), and a large scale survey of informal learning in household, community work and general settings, based on self-directed learning ideas, sponsored by the Canadian Social Sciences Research Council (Livingstone, 1998). The nation-wide UK survey of adult learning (Sargant *et al*, 1997) adopted a definition of informal learning that was also strongly influenced by self-directed learning ideas.

Whilst the adult education literature is the most often cited in any discussion of informal learning, there is another strand of research which uses the tools of anthropology and sociology. Informed by situational theories of learning, many different studies have explored the way in which a range of life and basic skills and competences are acquired in naturalistic settings. Researchers have studied the computational skills of children who sell things in the street markets of Brazil (Carraher *et* al, 1985), acquired both through watching other workers and through their own invention. Another spate of studies has examined the acquisition of expertise in a range of work-related tasks in different occupational areas. Workers built expertise through becoming familiar with the work setting and actively using its specific social, symbolic, technical and material resources to complete tasks with greater and greater success (Scribner, 1984; Orr, 1987). Closer to home, Eraut *et al* (1998) have similarly explored the way in which workers in different UK organisational settings have used the many different resources to hand as part of continuous learning work.

Ethnographic studies of settings such as housing estates, prisons, kids on the street and other marginalised groups have also addressed the kinds of informal learning processes that permeate social interactions and foster the development of coping strategies and other life skills. The latter draw mainly on social theories of learning such as modelling and reference groups.

The multi-faceted and elusive character of informal learning which makes it a difficult topic for academic study at the same time renders it attractive to policy makers. Its very malleability allows the constellation of ideas about informal learning to be shaped to suit different policy agendas. Informal learning, we might say, is a concept waiting to be re-discovered and reinterpreted, its nature and form emerging from the attempts to apply and understand it in 'new contexts of use'.

Lifelong learning and the learning society provide the broad policy frameworks for informal learning, drawing it into the ambit of education and social policy and giving it a new legitimacy. Although the earlier literature on informal learning, however sparse, contributes to our understanding of the term, it is the emergent understandings which are arguably more important and relevant.

Our approach to the literature review has been to identify some of the main fields which we consider have something to say about informal learning, or which offer some new perspective. In a sense, our approach has been to problematise informal learning. In the long run, this would seem to be more helpful to those charged with developing policy in this area rather than glossing over the inconsistencies, contested understandings and unknowns about just what exactly informal learning is.

The four starting areas of literature are:

- Learning theories and concepts
- Contexts and settings
- Participation, transitions, pathways
- Civil society

Learning Theories and Concepts

There is little consensus on how many learning theories there are or how they should be grouped for discussion. Different categorisations have been put forward, although most writers acknowledge that these represent broad orientations only and no theory fits unambiguously into any of the categories. Merriam and Caffarella (1991) distinguish four main orientations: behaviourist, cognitivist, humanist and social learning. Each of these encompasses a number of individual theories. A different categorisation is proposed by Frade (1995) who makes a basic distinction between individualistic approaches and social approaches. Most theories are grounded in western epistemology, taking the individual learner, the notion of human agency and the idea of learning as something that goes on inside the head of the learner, as the core. Social theories of learning start from the position that our thinking processes are deeply rooted in cultural activity and that meaning and purpose are socially constructed by those participating within the social framework, including both past and present members.

Within the individualistic approach, Frade locates three main orientations, each associated with a number of learning theories: (1) atomistic and empiricist (behaviourism, cognitivism) (2) holistic and functionalist (constructivism, analytical theory, functionalism), and (3) contextual and interaction theories (humanism, motivation theories, situational-cognitive theories). Atomistic theories are almost exclusively focused on isolated units, such as skills. The holistic-functionalistic theories consider the human being as a whole. In the same way, contextual theories add the context. Within the social approach, Frade locates the socio-historical and anthropological theories (such as activity, participation and reproduction theories). The distinguishing feature of these theories is that they consider the whole human context ie society, culture and history. (Not to be confused with social learning theory as propounded by Bandura and others, which has its grounding in behaviourism).

Just about all these orientations and theories can be found in the literature on informal learning. Those which appear to have particular relevance are constructivist/humanist and situational theories.

Our understanding of informal learning is also illuminated by the ideas of social theorists such as Lave and Wenger. Their concept of 'legitimate peripheral participation' provides a valued perspective on learning processes in local voluntary organisations.

Behaviourist Orientation

Behaviourist models do not feature prominently in accounts of informal learning although there are circumstances in which instructional methods may be seen as entirely appropriate to the task at hand. Behaviourism is generally seen as limited in being able to foster the reflective capabilities needed to assist people to learn through their social interactions, although such training might successfully develop specific skills. Fluidity in being able to move between the formal and informal in any programme of informal work is seen as important by Smith (1995), and Eraut *et al* (1998) have similarly commented on the interface between skills and competences acquired through formal training and the opportunities for informal practice of these same skills.

More commonly in the literature on informal learning we find examples of instructional models which depart from this purely behaviourist paradigm. Two examples are andragogy and experiential learning. Both Knowles (1984) and Kolb (1984), the respective adherents of these two approaches, have substituted a degree of learner-centredness for the expert control of behaviourism.

Constructivist and Interpretive Orientation

Learning theories, located in the interpretative paradigm derived from humanism and phenomenology, are well represented in informal learning practices. There is a strong element here of self-reflective learning, directed at discovery and new understanding that 'allows for the chance of becoming something more' (Merriam and Heuer (1996); Mezirow (1991).

Jeffs and Smith (1990), in their work on youth in community settings, locate informal learning within this orientation. Informal learning, they suggest, 'is an invitation to critical thinking: to identify and challenge assumptions and explore and imagine alternatives'

Much of the research and practice on adult informal learning that draws on the interpretive paradigm is concerned with individual change and development. The emphasis is on critical reflection about oneself as a member of larger social units in order to ask fundamental questions about one's identity and the need for self-change.

However, social and collective forms of empowerment are not completely neglected. Mezirow (1996) comments that the social context is of great importance in determining whether transformative learning will result in collective social action. This is much more likely to occur, he believes, when such learning occurs within the context of a social movement that involves serving a larger cause; when many role models, group support and opportunities for collaborative discourse are available; and where there is encouragement for active participation in social action.

There is as well a more radical strand of theorising, influenced by the critical social science of Habermas (1988) and the pedagogic work of the Brazilian Paolo Freire (1970) whose ideas have been influential in adult and community education circles. The key to learning, these writers hold, lies in people understanding the way in which social, cultural, historic and economic forces shape meaning and, through this understanding, becoming empowered to act on these forces.

Allman (1994, 1997) examines Freire's pedagogic approach and the importance he attaches to dialogue, and the contribution of these ideas to radical adult education practice in the UK. Foley (1998) has made use of critical theory in seeking to understand the dynamics of informal learning processes whereby people in different sites develop critical consciousness, i.e. an understanding of themselves as social actors in struggles for autonomy and liberation. To *critically* reflect, he suggests, requires the special powers of theory. Theory does not follow the contours of immediate experience but sets a distance which enables people 'to fathom aspects of the world hidden from the eyes of its own authors and actors' and to make transparent the relations that obtain among isolated and fragmented incidents of personal experience. Personal experience is thus the necessary point of departure, but for critical consciousness to emerge people must gain theoretical distance from their subjective experience.

But what are the learning processes which allows this to happen? Most writers and practitioners concerned with fostering among learners a journey of change and development talk about the importance of *dialogue, discussion and conversation.* These are of course more than methods or learning processes in any narrow sense – they convey a rich, contextual mode of active engagement with people's concerns and interests. Such discourse can be created around spontaneous encounters and exchanges by engaged actors, can be consciously designed as part of an educational process, or can be mediated or facilitated by people whose role is to foster critical thinking and social enquiry. Settings range from the naturalistic, through collaborative learning as part of a civil society agenda ('communicative discourse') to more formal classroom situations.

Conversation, dialogue and discussion are discursive activities aimed at:

- Exposing people to different frames of reference, allowing them to open up to a range of different possibilities;
- linking subjective experience with the experiences of others, providing a basis for deprivatisation of apparently idiosyncratic experience;
- making articulate the links between the local and particular with broad social economic and cultural forces, so broadening understanding and awareness as a basis for collective action.

Illustrative examples

- Smith (1995) attends in some detail to how community workers go about cultivating conversation, as part of an ongoing process aimed at enabling people to share in a common life and take their place in, and change, the world they inhabit. He prefers to talk about conversation rather than dialogue since it better describes the more spontaneous exchanges that take place in the everyday settings of locality based work and is closer to how community workers describe and understand their own practice.

- Jackson (1995) explores the nature and importance of dialogue in popular education, drawing on his extensive experience of community adult education in the decades since the 1960s. He describes a community action project built around a structured dialogue in which working-class adults drew on their own experience but were also part of a wider intellectual debate. People learned to read and write through exploring their own lives and experiences, and what they wanted from life - in prose, poetry and song. Some of these groups cam together in a national organisation to produce the impressive newspaper, *Write First Time*, which was a stimulus for significant developments in literacy teaching. Foley (1998) provides an account of informal learning processes in neighbourhood

centres where dialogue was a natural part of women's learning through conflict and struggle.

- Schemel (1996) looks back at the work of the Inquiry, an adult education movement at a time of rapid social change in the early part of the century whose members worked with literally scores of conferences and discussion groups during each year of its existence, promoting its version of collaborative learning and 'communicative discourse' in group discussion on topics of social importance. Informed by the writings and pedagogy of Dewey (1910), the Inquiry aimed to involve practitioners and learners themselves in the production of knowledge refined by questioning and refection, and put to practical use. The questions were used to help adults examine the social forces that influence their frames-of-mind and to move people to appropriate action.

What is the role of the facilitators working in informal settings? For Mezirow, Brookfield (1983) and others who are looking to effect transformative developmental change, the task is clear:

The particular function of the facilitator is to challenge learners with alternative ways of interpreting their experience and to present to them ideas and behaviours that cause them to examine critically their values, ways of acting, and the assumptions by which they live.

A crucial component of the learning/developmental process or 'journey' is the mentor or guide, adviser, coach who assists the learner along the way. Mentors both support and challenge. In supporting the learner, the mentor affirms the validity of the student's present experience and provides a safe environment where trust can be developed Support is most easily effected by working with and from the learner's experience base. Of the challenge function of mentors, Daloz (1986) writes:

> While the function of support is to bring boundaries together, *challenge* peels them apart. The mentor might assign mysterious tasks, introduce contradictory ideas, question tacit assumptions, or even risk damage to the relationship by refusing to answer questions. The function of challenge is to open a gap between student and environment, a gap that creates tension in the student, calling out for closure.

A further function of mentors is one of providing vision. The vision can be in the form of modeling some aspect of what the learner wants to become, of offering the 'map' of the new territory, or suggesting new language, new metaphors, new frames of reference for thinking about the world, and so on.

Social learning theories (individual focus)

Social learning theories posit quite simply that people learn from observing other people in one's immediate environment. By definition, such observations take place in a social setting, hence the label 'social' learning. Social learning theories highlight the importance of social context and explicate the processes of modeling and mentoring.

In breaking away from a purely behaviourist orientation, Bandura (1986), whose work has been influential among social learning theorists, proposed a continuous, reciprocal, dynamic interactive model which accounts for both the learner and the environment in which he or she operates.

Its three elements are: the attributes, values and attitudes of individuals; their behaviour; and environmental or situational factors. The first element includes what Bandura (1982) calls self-efficacy which relates to an ability to execute a task or successfully perform a role. Bandura believes that self-efficacy, which is akin to the more familiar concept of self-confidence, is a major determinant of the goals an individual will set and their motivation to achieve those goals. Bandura's work on observational earning and modeling provides insights into social role acquisition and the nature of mentoring.

Eraut and his colleagues (1998) made use of Bandura's social learning theory in developing their framework for learning at work. The emphasis they accord personal characteristics of the learner, notably confidence and motivation - akin to Bandura's self-efficacy - and to the different kinds of environmental factors, are a reflection of Bandura's interactive model. In their study, confidence was frequently cited by respondents as both the major outcome of a significant learning experience and a critical determinant of good performance at work. Confidence encouraged more ambitious goal-setting and more risk-taking, both leading to further learning.

Situated learning theories

Most of our thinking about education (and learning) stems from an implicit assumption that skill and knowledge exist independently of the contexts in which they are acquired. Social scientists today question this assumption. Situated learning theories are based upon the notion that the context in which learning takes place is an integral part of what is learned. Situations may be said to co-produce knowledge through activity (Brown, Collins and Duguid, 1989). Moreover, a situational learning perspective holds that most thinking and learning is a communal or collaborative activity. The process of knowledge and skill acquisition therefore is not one whereby individuals make their knowledge their own independently of other contextual influences, but one in which they can make it their own in a community of others who recognise and share a sense of belonging and knowing within a context (Bruner 1986).

Rather than a kind of learning, situated learning is a way of understanding learning, a way more encompassing than conventional notions of 'learning in situ' or 'learning by doing'. There are two main strands of thinking about situated learning, the one emphasising learning that is dependent on the social setting in which it takes place, and the other focusing more on the relational aspect.

Cognitivist orientation

This first conception is the most frequently used and developed within the literature on situated learning and has a strong cognitivist bent. It is closely linked to problem solving, with its interest in the way in which learners make effective use of the resources in their environment not only to solve problems but also to pose problems. Informal learning, from this perspective, is a contextually embedded process in which people learn skills in the context of their application to realistic problems. Such skilled activity includes heuristics like those observed by Scribner (1984) among a number of occupational groups including bartenders, photocopy repairers and process operators, and by Carrerah *et al* (1985) among street kids. Although situated learning in this conception is concerned with knowledge, skills and understanding as some kind of cognitive learning outcomes, these are not necessarily located in the heads of individuals. Mental activity is performed in the context of some shared task that allows mental work to be distributed over several individuals.

Moreover, practical problem solving or skilled practical thinking is an open system that includes components lying outside the formal problem – objects and information in the environment and goals and interests of the problem solver.

Socio-historical orientation
In the second conception, the acquisition of skills and competences is only a secondary aspect of learning. Instead, the principal focus is on participation, and the process of becoming engaged in socially situated activities, and so about membership and the construction of social identities. Learning is thus an ongoing activity that arises out of people's participation in communities of practice and involvement in practical action in the culturally designed settings of everyday life. Analogously, learning 'cannot be pinned down to the head of the individual or to assigned tasks or to external tools or the environment but lies instead in the relations among them' (Lave, 1988).

The reconceptualisation of learning as 'participation in ongoing activity' has been explored in recent writing on the practice of learning in diverse contexts (Chaiklin and Lave, 1993). Researchers have drawn on examples of traditional craftwork and apprenticeship in developing their ideas about the complex interrelationships between context, meaning, people and activities. Lave and Wenger (191) transfer the notions of 'learning by doing' and apprenticeship into a general theoretical perspective or what they all a new 'analytical viewpoint on learning' which they term *legitimate peripheral participation*. This generative social practice is the process by which a beginner, novice or 'newcomer' becomes an expert or 'old-timer'. This process is most noted by the newcomer's movement from the periphery of a sociocutural 'community of practice' to its centre, becoming progressively more engaged and more active within that sociocutural practice (Hay, 1996). 'Legitimate' means 'legitimate ways of belonging', first as an apprentice, later as a master. So learning involves *trajectories of participation* – which in social terms means that the learner develops over time an *identity* or way of belonging. In this way learning involves much more than knowledge and skills; it includes sets of relations which tend to reproduce themselves. Thus *what* one learns and *how* it is learned can by no means be separated out from the groups one belongs to, which, by being located in a given position in the social structure, determine one's access to and participation in, the material and cultural resources of the society (Bourdieu, 1977, Bernstein, 1990).

Brown *et al* (1989) have taken up the ideas of situated social learning and traditional apprenticeship learning and explored the learning processes that seem to be involved here and how these might be transferred to other social settings and contexts. Although mainly interested in the school as a setting, their strategies are readily transposed into other social contexts in which learning takes place. These researchers introduced the term 'cognitive apprenticeship' to emphasise the focus of the learning-through-guided experience and a related concern with cognitive and metacognitive skills and processes. Whereas traditional apprenticeship emphasises teaching skills in the context of their use, cognitive apprenticeship extends situated learning to diverse settings so that learners learn how to apply their skills in varied contexts.

Modelling, coaching and scaffolding are the core strategies of a cognitive apprenticeship, designed to help students acquire an integrated set of cognitive kills through processes of observation and or guided and supported practice.

Modeling involves an expert carrying out a task so that learners can observe and build a conceptual model of the processes that are required to accomplish the task.
Coaching consists of observing learners while they carry out a task and offering hints, scaffolding, feedback, modeling, reminders and new tasks aimed at bringing their performance closer to expert performance.

Scaffolding refers to the supports the teacher provides to help the learners carry out a task. It may for instance require a teacher to carry out parts of the overall task that the learner cannot yet manage. It involves a kind of cooperative problem-solving effort by teacher and learner in which the express intention is for the learner to assume as much of the task on his or her own, as soon as possible. *Fading* consists of the gradual removal of support until learners are on their own.

As well, teachers and others responsible for guiding learners in moving towards greater expertise need to sequence and structure materials and activities that are appropriate to the different stages of skill acquisition.

Increasing complexity refers to the construction of a sequence of tasks and task environments which help learners to manage increasing complexity. For example, in the tailoring apprenticeship described by Lave and Wenger (1991), apprentices progress over a series of ordered steps from practising very rudimentary skills to actually putting together a garment which requires the integration of sewing skill with a conceptual understanding of the structure of the garment.
Increasing diversity refers to the construction of a sequence of tasks in which a wider and wider variety of strategies or skills are required. As learners learn to apply skills to more diverse problems and problem situations, their strategies become freed from contextual bindings (or more accurately acquire a richer net of associations) and thus are more readily available for use with unfamiliar or novel problems.
Global before local skills is a sequencing principle which allows learners to build a conceptual map, so to speak, before attending to details of the task. Even when the learner is able to carry out only a portion of the task, having a clear conceptual model of the overall activity helps him/her to make sense of the individual task activities.

A learning environment in which experts simply solve problems and carry out tasks, and learners simply watch, is inadequate to provide effective models for learning, especially in domains where many of the relevant processes and inferences are tacit and hidden. Thus if expert modelling is to be effective, experts must be able to identify and represent to learners the cognitive processes they engage in as they solve problems. Drawing students into a 'culture of expert practice' involves teaching them how to 'think like experts'.

Illustration

- Studies of volunteer learning highlight the importance of situated learning, and the informal use of 'cognitive apprenticeship' models. Darvill *et al* (1989) report that most volunteers said they learned by doing. This was, however, supplemented heavily for some by more structured and supported methods of learning, and the variation seemed to depend a lot on the organisation. Several volunteers also said that they learned by watching other people perform tasks and then assessing what they saw. Powers of observation could be sharpened by appropriate training.

- The study by Percy *et al* (1989) of local voluntary organisations provides examples of apprenticeship learning which come close to the Lave and Wenger (1991) model of peripheral participation.

A distinctive feature of voluntary organisations is that they rarely require that people should possess specific prior qualifications in order to become volunteers. An unskilled person with little work experience may, for example, work alongside a well-qualified professionals who chooses to make a spare-time voluntary commitment. In the Percy study, some members, recognised as experienced and expert, inducted the more junior and less experienced members into the learning situation. Less experienced members were observed to watch, imitate, ask questions, practice on their own, have things explained to them and receive comments on their own performance.

Key Themes and Issues

In the brief outline of learning theories we have touched directly or indirectly on a number of issues which have important bearing on informal learning. These are:

- different kinds of knowledge, including tacit knowledge
- intentional and incidental learning
- the role of reflection

We briefly address each of these in turn.

Kinds of knowledge

The nature of knowledge and the different kinds of knowledge has long been a field of interest to philosophers as well as more recently to sociologists, anthropologists and learning theorists. The third of this group has tended to build its conception of knowledge into its basic theoretical assumptions and so understandings of knowledge, skills and understanding have hitherto been treated as unproblematic.

Eraut *et al* (1998), in setting the theoretical background to their study of learning in the workplace, have sketched the main conceptualisations of knowledge and its evolving meanings that stem from different epistemological traditions and positions. One main distinction is between those who emphasise knowledge in propositional form (knowing what) and those who are more interested in practical knowledge (knowing how). This simple dichotomy, deriving from the seminal writing of Gilbert Ryle on the nature of knowledge, however conceals more fundamental differences in understanding about the relationships between knowledge, skills and understanding and the extent to which knowledge can be abstracted from the context and process of its application.

Of particular interest to this study of informal learning is the notion of *tacit* or *implicit* learning. Introduced by Polanyi (1967) who contrasted it with explicit knowledge, tacit knowledge has a personal quality which makes it hard to formalise and communicate. Like practical knowledge, it is deeply rooted in action, commitment and involvement in a specific context. Tacit knowledge covers know-how, craft and skills that are part of a continuous process of knowing. Certain kinds of tacit knowledge can be codified although it is necessarily highly context dependent. Tacit knowledge has the character of a deep kind of knowing that comes through hands-on experience. People make use of this knowledge without being able to describe it. Polanyi's belief that knowledge use is a largely tacit process is reinforced by empirical research findings (Eraut *et al*, 1995).

Nonaka (1994) erodes the sharp distinction between tacit and explicit knowledge, looking at the possibilities for conversion processes between them. Sharing knowledge and understanding through dialogue and other modes of communication can play an important part in the conversion process whereby tacit knowledge is brought into consciousness and made explicit, creating relevant knowledge and

generating new understandings. Various strategies for facilitating this process have been explored in different work settings (Patriotta and Sommerlad, 1995).

Intentional learning and incidental learning

The notions of intentional and incidental learning permeate the adult education literature and figure prominently in discussions about informal learning. They touch on some of the deepest concerns in the educational enterprise. Despite this centrality, the concepts are employed somewhat loosely and simplistically.

Much of the discussion on intentionality in learning is located within a cognitivist orientation. Intentional learning refers to the cognitive processes that have learning as a goal rather than an incidental outcome. Bereiter and Scardmalia (1989) take this a step further in claiming that intentional learning involves the pursuit of cognitive goals over and beyond the requirements of the task. Whether intentional learning occurs is likely to depend both on situational factors – what opportunities exist for learning and meeting learning goals - and also on intrinsic factors. The latter include the learner's mental resources and attitudinal dispositions as well as his or her conception or theories of learning and knowledge. To the extent that learners take an active role in learning, their own theories of what knowledge consists of and how it is acquired can be expected to matter.

Incidental learning is consistent with progressive educational thought descending from John Dewey (1910) who was explicitly opposed to intentional learning, holding that all learning should be an incidental consequence of action directed towards other ends. Marsick and Watkins (1990) explore some of the differences between incidental, intentional and informal learning, although refraining from making judgements about absolute worth. For these authors incidental learning is a by-product of some other activity. 'As such it is never planned or intentional, and seldom explicit. It is serendipitous or coincidental with some other activity, and largely buried in the context of other tasks.' Attention is needed for people to learn both informally and incidentally, but a different kind of attention is needed in the latter. People must shift their attention to these byproduct messages and see them clearly before they can learn. Reflection plays an important role here.

Intentionality is often taking as a defining criterion of informal learning that is seen as significant or which counts in any attempt to measure the extent of informal learning. Livingstone, the director of a major national survey of informal learning in Canada (1998), stresses two key characteristics of informal learning. The first is intentionality on the part of the learner to accomplish some new knowledge, understanding or skill and to apply it in some way. Intentionality requires that the individual makes some deliberate and sustained effort to gain a new form of understanding, knowledge or skill and that this effort takes a recognisable amount of time. The second is the importance of reflection in the important task of retrospectively identifying what counts as significant informal learning. The UK-wide survey of adult learning, undertaken by NIACE in 1996 (Sargant *et al*, 1997), similarly focuses on intentional learning, while leaving open to wide interpretation just what kinds of formal and informal learning activities might be involved here.

Ultimately, Livingstone suggests, it does not really matter from the point of view of outcomes whether learning is intentional and incidental. Many of the self-directed learning projects he is interested in will not have begun deliberately but take on a deliberate character over time or in retrospect.

The role of reflection

Reflection occupies a key position in much of the writing on informal learning. It has been especially valorised as the means of turning experience into learning (Michelson, 1996). Reflection is seen as critical to the way in which individuals or groups acquire, interpret reorganise change or assimilate a related cluster of information, skills and feelings. It is also primary to the way in which people construct meaning in their personal and shared organisational lives. Reflection itself takes various forms: adaptive, interpretative, critical, rational, affective, aesthetic (Edwards, 1998). Self-reflection, frequently prompted by unsuccessful behaviour, is often linked to changes in instrumental action.

Scholars concerned with learning that emphasises reflectivity and critical reflectivity draw extensively on a number of influential models of action learning that have come out of earlier writings by such seminal thinkers as Lewin, Piaget and Jung and radical educators like Freire and Illich. Kolb's (1984) experiential learning cycle which underscores the importance of some kind of dialectical interaction between action and reflection has been widely used in studies of informal learning. A more refined version, dealing with some of the more simplistic elements of Kolb's model, is found in the work of Boud, Cohen and Walker (1993) whose interest similarly is in experience as the foundation of, and the stimulus for, learning. In an earlier paper, Boud and colleagues (1985) comment that 'experience receives validation, meaning and emancipatory capability only when acted upon by reflection - not idle meanderings or day dreaming but purposeful activity directed towards a goal'.

Schon's (1983) analysis of 'reflection-in-action' model pays more attention to problem setting and problem solving. Schon has worked with Argyris (1978) to develop the notion of single and double loop learning to explain what happens when people fail to produce desired results. In single loop learning, reflection takes place on the surface level of means and ends. Double loop learning, on the other hand, is characterised by critical reflectivity which involves digging below the surface for the unstated values, assumptions, judgements and attributions that govern one's action and create the learning block.

Reflectivity and critical reflectivity in much of the adult education literature imply a role for the educator. There is a sense that people lack the skills, opportunity or motivation for turning experience into learning via reflection, and that they need to be supported in this task. To an extent then, the valorising of reflection is a manifestation of the professionalisation of formal and informal learning.

This widely shared view that learning only occurs when the experience is attended to and engaged in some way has been disputed by scholars coming from different epistemological positions. Michelson (1996) observes that the discourse of adult learning is trapped within Enlightenment dualisms – between 'direct understanding' or apprehended knowledge which is simply there immediate, disorderly and unstructured; and 'indirect mediated understanding' or comprehension, through which we introduce order into what would otherwise be a seamless unpredictable flow. In Smith's view (1995) the focus on 'deliberate' learning does tend to act against an appreciation of reflection as a way of life. He is supported by Cinnamond and Zimpher (1990) who comment that proponents of reflection 'constrain reflection by turning it into a mental activity that excludes both the behavioural element and dialogue with others involved in the situation'.

What are the main issues/themes/topics/concerns shaping pedagogic approaches?

Coffield (2000) argues that:

(i) The significance of informal learning calls for a larger vision of the learning society than the current official model. He argues that reassessing the role of informal learning will encourage us to question some of the central assumptions underlying the official model of progress.
(ii) Attempts to create a culture of lifelong learning have so rarely been enriched by an historical or comparative understanding that the notion that a more effective learning society existed in the recent past than at present is not even entertained.
(iii) The justification for creating a Learning Age in the UK needs to move beyond repeated calls for further investment in human capital to a consideration of other forms of capital such as cultural capital and, especially, social capital.
(iv) If informal learning were to be seriously addressed there would be a number of implications for policy, including :-

- There is a recognition that IFL is not an inferior form of learning, nor should it's main purpose be to act as a precursor to formal learning;

- There is a government emphasis on qualifications and preferential funding for these over IFL programmes creates a real danger – Forcing/encouraging IFL programmes to become accredited may alienate the learner. According to Pat Davies the credit-based system can be successful, when assessment is not forced on the learner, but undertaken voluntarily. NIACE (1999) "Giving priority to courses leading to nationally recognised qualifications may result in a rush to accredit learning which should not be accredited and general adult education being treated as second class, to be paid for only after the 'important' vocational courses" (pg. 8).

- It is necessary to move beyond beating the drum of human capital with reference to creating a learning society, encompass IFL;

- Robust indicators of IFL need to be developed, including criteria for funding;

- The large role played by tacit knowledge in all aspects of our lives needs to be understood;

- Given the range depth and quality of IFL that exists, the term 'non-learner' to describe non-participants in formal education should be dropped for psychological reasons (Eraut, 1999).

- Peter Alheit (1999): problem of IFL is not its discovery or acceptance, the political core of the debate over the Learning Society, is the Evaluation of IFL. "…the newly discovered forms of learning in modern society can unfold its quality only if the intermediary locations for learning (companies, organisations and educational institutions) change in parallel, if genuinely new learning organisations and new learning publics come into being. A generally accepted informalisation of learning cannot be achieved without democratisation" (p.g. 78)

An important issue is the link between informal learning and social capital. (Field & Spence (2000); Field (2000). Both social capital and informal learning involve a risk – as societies move to embrace the idea and practice of continuous lifelong learning, a reliance on informal learning will not simply generate and perpetuate inequality; it may legitimate those inequalities that arise from an unequal access to recognised knowledge. That is the drive towards Lifelong learning (fuelled by belief in the need to become a human capital society) has paradoxically substantially increased overall participation in 'recognised' education and training, but has also helped increase tendencies towards greater inequality, because the general idea and practice of lifelong learning / learning society, does not value informal learning and social capital elements.

Proximal forces

Coffield (2000) focuses on what is **not** driving the domain:- Government: "The two most relevant government reports – *The learning Age* (DfEE, 1997) and *Learning to Succeed* (DfEE, 1999) – both ignore informal learning and continue their heavy emphasis on formal provision, qualifications and accountability. The nation's progress towards creating a learning society is therein measured by National Targets ….". The government has set national learning targets on the assumption that higher levels of education and training will serve to close the large productivity gap with the USA, Germany & France i.e. we will become a high skill economy. However a review of research (Brown & Keep, forthcoming) that examined the relationship between higher investment in human capital and economic performance, concludes that this is not the case – a much wider set of factors are involved. Coffield (2000) similarly argues that the language of employers reflects their focus on core and transferable skills and a coherent qualifications framework – exclusive attention is paid to the provision of formal education and training, rather than informal learning.

What is known about what works?

The relationship between social capital; Informal learning & lifelong learning – evidence suggests that strong social capital is associated with (i) high achievement in initial schooling (ii) low participation in formal adult learning; and (iii) a culture of informal learning (Field & Spence, 2000).

According to Field (2000) community based and informal learning can both stem from and help to create the kind of social capital that is needed to enable the most excluded groups and communities to break through the profound external obstacles and internal constraints that are inhibiting regeneration and renewal. Keep (2000) supports this position and both argue that an extensive body of knowledge about "what works" in engaging new learners that face social & economic barriers, already exists e.g. McGivney's (1981) guidance on best practice with disadvantaged adults.

Informal learning through social networks involving high trust relationships is potentially a highly effective means of spreading new knowledge and skills. The significance of such social capital for the Nordic economies has been demonstrated by the Danish scholar Peter Maskell and others from the so called Alborg group of economists (Maskell, 2000).

Supporting studies do exist, regarding the effective nature of community based learning in widening participation: example – Evaluation of 15 detailed case studies of projects supported under ACLF (Adult & Community Learning Fund) by Field, Spencer, Blaxter, Tight, Byrd & Merrill (2001). Main messages of Field et al's evaluation:-

- The importance of direct person-to-person recruitment, drawing on existing networks and contacts.
- The role of inspiration and example in encouraging diffident or uncertain adult learners to continue.
- Building a curriculum on the basis of identified needs.
- Flexible and adaptive teaching approaches, which can combine serious learning with fun.
- Accreditation & assessment for those who wish formal recognition of their learning.
- Learning by stealth, so that learning is a natural extension of other activities such as a hobby or voluntary commitment.
- Building group cohesion and mutual peer group support as a way of shoring up fragile learning identities and maximising retention.

The sustainability and transferability of informal learning is dependent on the following factors:

- It must meet a continuing need
- To be sustainable, the learning must be incorporated into institutional practices and agencies
- There must be funding available to enable the initiative to continue, or to be replicated elsewhere.

It should be remembered, however, that some initiatives have a natural 'shelf-life'; not all aspects of informal learning are, or should be, transferable, and, to be transplanted successfully elsewhere, informal learning needs to be relevant, appropriate and flexible for different learners in different environments.

What are the acknowledged gaps and challenges?

A series of review undertaken by Coffield (2000), concludes that overall the domain of IFL is a "submerged and neglected" field.

Coffield (2000): 'It seems that the significance of informal learning is recognised, then promptly forgotten and then rediscovered some years later. There is a strong tendency form policy makers, researchers and practitioners to admit readily the importance of informal learning and then to proceed to develop policy, theory and practice without further reference to it. We must move beyond this periodic genuflection in the direction of informal learning and incorporate it into plans for a learning society".

The Review highlights the need for more research, principally in innovative ways of facilitating informal learning, This should focus on: adapting informal learning to learner profiles; investigating the effectiveness of learning technologies and supporting skills development in this area; developing pedagogies for supporting self-paced learning; identifying and enhancing the effectiveness of mentoring systems. This recommendation will particularly benefit practitioners – those who develop and manage learning opportunities. The Review also highlights a need at all levels – in terms of national policy; at the local level, and for practitioners on the ground - for more research in how to evaluate informal learning and assess its outcomes.

Because of the complexity and diversity of informal learning, evaluation should be shaped by the following guiding principles: multi-dimensionality; contextualisation; the adoption of a 'criteria-based' approach; the use of normative assessment measures, and the inclusion of process and developmental evaluation.

The evidence available about good practice and what works

The Review has identified a wide range of good practices and examples of what works. They key variable for 'success' is that the learning suits the needs, expectations and 'life world' of those participating. Although, en masse, participants in informal learning constitute a relatively heterogeneous population, the evidence also suggests that different types of informal learning will attract particular groups of people with a common need, a similar set of values, and shared expectations. Sometimes this common identity is self-selecting, some times it is strategically targeted as part of a policy initiative. A number of examples investigated by the study, involve this type of 'targeted' learner. These include Brookie Basics (basic literacy skills for adults); Heart n' Soul (the learning disabled); Back to Work (people living with HIV/AIDS); DJ Masterclass and Downham Youth (disaffected young people); Northern Animateur and Peabody Trust (residents on housing estates with high unemployment rates). These different types of people get involved in informal learning essentially because it creates an 'opportunity space' around some unmet need (for example improving conditions on the estate; getting a better job; realising environmental improvements).

Against this background, informal learning works when it successfully conquers the barriers and resistance to continuing participation. These include:

- Negative previous experiences of education and training. Particularly for adults who have left school early, without qualifications, returning to learning is fraught with problems like fear of not being able achieve something, or being perceived to be stupid

- Financial constraints. For many people, particularly the long term unemployed or lone parents, informal learning may incur real costs – for example course fees; learning materials; travel – and opportunity costs - for example spending time learning when you could be earning money.

- Access problems. People can be either geographically isolated from learning resources and opportunities (like in rural areas) or socially isolated (for example in poor inner urban areas).

- Inertia. On the individual level, resistance to starting something new is often a key barrier to getting involved. At the institutional level, bureaucracies are sometimes slow to respond to emergent learning opportunities, particularly with regard to funding. In other instances, informal learning – particularly when it takes the form of perhaps a radical social movement – can generate hostility by institutional agencies who feel threatened by it.

Essentially, the examples of good practice underline the importance of: flexibility in the funding, management and evaluation of informal learning. Informal learning encompasses a diversity of arrangements, actors and practices. It reflects subscribed, emergent and highly contextualised needs, rather than the 'operational' needs of formal education and training policy and practice.

As a result, in the context of national policy-making, investment decisions and programme initiatives should allow scope for flexibility, and not privilege initiatives that aim to support transitions between informal learning and formal learning or as pathways to employment. Equally, it should be recognised that 'having fun' is a key motivating factor driving participation in informal learning. The very fact that learning is sometimes a 'hidden' agenda subsumed within another activity – like going to a beach party held by 'Surfers Against Sewage' – can often be a key factor in overcoming the resistance to learning of people who are otherwise hostile to, afraid of or sceptical about learning. Policies aimed at encouraging wider participation at the national level should therefore be flexible enough to support initiatives that may reflect radical alternatives to 'mainstream' education and training.

ANNEX II: Sources Used in the Review

1. Bibliography

- Higher Education
- Work-Based Learning
- Informal Learning
- Other

2. Journals Scanned

3. Experts Contributing to the Review

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2. Journals Scanned

LIST OF JOURNALS (1999-2001)

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A. ERIC
B. BEI

Journals scanned in detail

Contemporary Educational Psychology, Academic Press IDEAL

Journal of Vocational Behaviour, Academic Press IDEAL

Learning & Motivation, Academic Press IDEAL

Journal of Computer Assisted Learning, Blackwell Science

British Journal of Educational Studies, Blackwell Publishers

British Journal of Educational Technology, Blackwell Publishers

Higher Education Quarterly, Blackwell Publishers

International Journal of Training & Development, Blackwell Publishers

British Journal of Education and Work

Higher Education, Kluwer Academic Publisher

International Journal for Educational and Vocational Guidance, Kluwer Academic Publishers

Learning Environments Research, Kluwer Academic Publishers

Innovative Higher Education, Kluwer Academic-Plenum-Human Science Press

Research in Higher Education, Kluwer Academic-Plenum-Human Science Press

Educational Research & Evaluation, Swets & Zeitlinger Publishers

Interactive Learning Environments, Swets & Zeitlinger Publishers

International Journal of Lifelong Learning, Taylor & Francis

Journal of Education Policy, Taylor & Francis

Active Learning in Higher Education, Sage

Adult Education Quarterly, Sage

Education & Urban Society, Sage

Educational & Psychological Measurement, Sage

Educational Policy, Sage

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