

Centre for Excellence

in Teaching and Learning for Employability (e3i)

Report to HEFCE: Interim Evaluation

July 2007

Appendix 7: Approaches to Educational Change in Higher Education Institutions - the Case of the Centre for Excellence in Teaching and Learning in Employability at Sheffield Hallam University, UK; David Laughton, June 2006.

APPROACHES TO EDUCATIONAL CHANGE IN HIGHER EDUCATION INSTITUTIONS - THE CASE OF THE CENTRE FOR EXCELLENCE IN TEACHING AND LEARNING IN EMPLOYABILITY AT SHEFFIELD HALLAM UNIVERSITY UK

INTRODUCTION

In 2005 the Higher Education Funding Council for England announced the successful bids for funding to establish Centres for Excellence in Teaching and Learning in England (CETLs). These centres were awarded £0.5 million for each of the next five years, plus £2.5 million capital spend. The role of the centres, (82 in total), was to undertake innovative educational development work in specific aspects of the HE curriculum within their own institutions, and to disseminate their work across the HE sector. Sheffield Hallam University (SHU) UK was awarded three CETL's, one of these being a joint undertaking with the University of Coventry.

The aim of the E3i CETL is incorporated in the bid title: Enhancing, Embedding and Integrating Employability. The notion of Employability has become a key aspect of the HE agenda, and is a contemporary manifestation of the concern with making the world of education relevant to the world of work by equipping students with the capabilities to allow them to be successful in their chosen future careers. Although Employability is both a complex and contested notion, there is an emerging consensus of the need to reflect this in the HE curriculum, and the ways in which this can be done. At the same time there is a need to devise approaches to stimulating and embedding educational change across institutions, to ensure that the impact of such developments are maximised, and institutional processes are changed so that they are supportive rather than obstructive.

This paper presents and reviews the approach to educational change adopted by the E3i CETL at Sheffield Hallam University. It does so in the context of theoretical and conceptual aspects of change applied to an HE context. It reflects on the evolution of the change model adopted by the CETL in light of feedback from key stakeholders, and reflects upon the progress made so far, and the strengths and weaknesses of the implementation strategy. It concludes by identifying the key lessons learnt in the early stages of the project which have wider implications for implementing and managing change in HE institutions, particularly in aspects which challenge the subject discipline focus of universities.

SETTING THE CONTEXT

There is considerable interest in the notion of employability in contemporary Higher Education Institutions (HEI's). This can be seen as the outcome of a complex historical process of interaction and debate between the state and HEI's on their role and purpose, and a current view that HEI's have much to contribute to the economic development of (particularly advanced) nations through the development of intellectual property and human capital formation. In British Higher Education in the post war period, the vocational curriculum developed, in the main, in the Polytechnic

sector, and was entrenched in a functional divide evidenced by the missions of Polytechnics and Universities. Since the abolition of the binary divide in 1992, when Polytechnics were awarded University status, the boundaries of such a functional divide have become less clear cut, and competition between Universities for funds, status and students, has led to an increasing differentiation within the sector. In addition, there have been calls by government for education (including Universities) to respond more closely to the needs of industry. Prime Minister Callaghan's Ruskin College speech in 1976 was an early statement suggesting the importance of such an alignment of curriculum; subsequent policy statements have become more detailed and sophisticated (see Blunkett 1999, and NAB 1986 for example), with the Dearing Report of 1997, subsequently adopted by the UK government, being particularly significant in the more recent period, particularly in the regulatory dimensions of its recommendations.

Amongst many other things, the Dearing Report, included a clear statement about the need for threshold standards, and allocated this responsibility to a new QANGO associated with HE administration. Recommendation 25 was that the

“early work of the QAAHE was to include the development of benchmark information on standards”.

The Dearing report moved the previously accepted view of quality assurance in HE from fitness for purpose to fitness of purpose, and suggested a new architecture to the quality assurance of UK HE, including, inter alia:

- A new framework for higher education qualifications, incorporating agreed common credit points at the different levels;
- Programme specifications, describing the learning outcomes of each programme of study;
- The development of Progress Files, to enable students to reflect on their academic progress and maintain a record of achievement;
- Statements of threshold standards for awards (Subject Benchmarks);
- A recommendation that a pool of registered External Examiners be created to ensure and assure standards within institutions;
- The development of codes of practice covering aspects of academic provision.

Progress Files and the content of Subject Benchmark statements had particular implications for the notion of employability in higher education.

“Subject benchmark statements provide a means for the academic community to describe the nature and characteristics of programmes in a specific subject. They also represent general expectations about the standards for the award of the qualifications at a given level and articulate the attributes and capabilities that those possessing such qualifications should be able to demonstrate...”

(Preface to ‘Academic Standards – General Business and Management’, QAA 2000)

Subject Benchmark statements in practice included statements of the curriculum relevant to a particular subject area. Many of these statements included reference to the notion of employability. Take, for example, the statement for General Business

and Management courses. The benchmark statement identifies three purposes of general business and management programmes: the study of organizations, their management and business environments; vocational preparation; and “the facilitation of personal development and life-long learning skills”. These skills, which have clear employability dimension, are further defined as follows:

- Cognitive skills: critical thinking, analysis and synthesis
- Effective problem solving and decision making
- Effective communication
- Numeracy and quantitative skills
- Effective use of communication and information technology (CIT)
- Effective self-management
- Learning to learn
- Self awareness, openness and sensitivity to diversity
- Effective team performance
- Interpersonal skills
- Ability to conduct research into business and management issues
- Foreign language capability and cultural understanding (where appropriate)

Other benchmark statements included their own identification of employability aspects. Although many HEI’s had addressed the notion of vocationalism and employability in their missions, this regulatory intervention gave impetus to curriculum review and change, and to educational development work to envision further the concept and understanding of employability in a HE context.

EMPLOYABILITY – WHAT DO WE MEAN? THE SHEFFIELD HALLAM UNIVERSITY APPROACH.

For some, employability means being able to secure employment of choice after graduation. Attention here is focused upon the ability of courses to educate students who are then sought by employers in their graduate intake, and on the first destination statistics of these courses. For others, employability is about student attributes which employers find important, and which support continual personal development and enable graduates to engage in life-long learning and career management, so that they are successful in their chosen careers. Clearly, these perspectives are not exclusive, but they are different, encouraging HEI’s to make a choice of their own working definition of employability. Having reviewed the employability literature, Yorke (2004) suggests that employability be taken as:

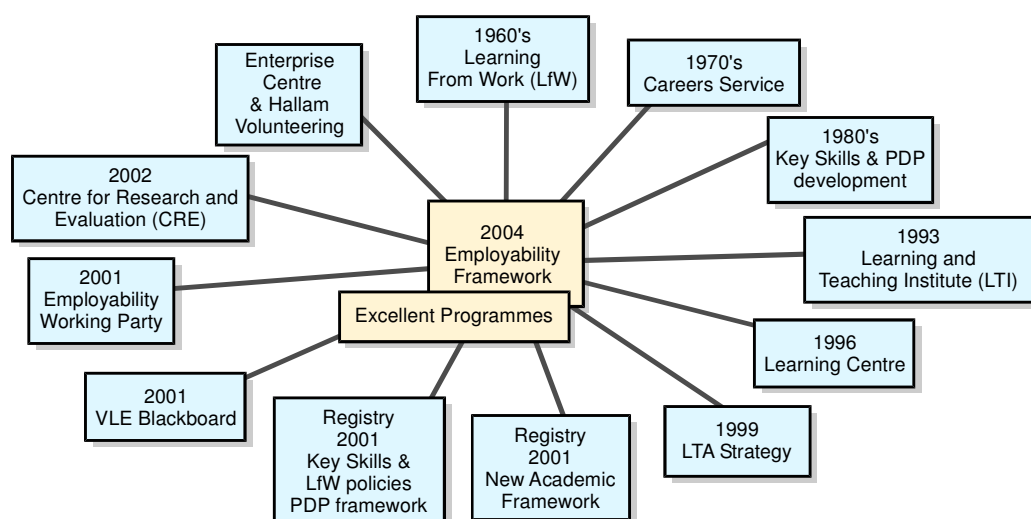
“A set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.”

Yorke, 2004, p7.

An early definition of employability at Sheffield Hallam University was:

*'enabling students to acquire the knowledge, personal and professional skills and encouraging the attitudes that will support their future development and employment'*¹ (Sheffield Hallam, 2002).

It was noted that this statement had been arrived at and indeed was the product of a range of policy and curriculum developments within the University over a number of years:



This was developed further to produce a fully fledged Employability Framework, adopted as a curriculum statement by the university in 2004. The Framework identified a number of features that would be embedded within the SHU curriculum, and these were defined as follows:

Essential Framework features

1. Progressive development of autonomy.
2. Skills development (intellectual; subject; professional; Key Skills).
3. Personal Development Planning (PDP).
4. Inclusion of activities reflecting external environments.
5. Reflection on the use of knowledge and skills between contexts.
6. The development of career management skills.
7. Engagement with learning from work (LfW).

Additional features for appropriate courses

8. Preparation for professions.
9. Engagement with enterprise.

One criticism of such statements is that they operate at the level of rhetoric, and that they are not grounded in pedagogical theory or research. At SHU an eclectic approach to theory and research was adopted to support the development of the framework:

“The Framework is based on the literature on: constructivism (Biggs, 2003); experiential learning (Kolb, 1984); skilled behaviour (Elliot 1991); reflective practice

(Schon, 1987); transfer (Neath, 1998) and ‘situated’ learning (Lave & Wenger, 1991). The critical concepts underpinning employability in HE are: *transformation*, the enhancing and empowering of students through knowledge and attribute acquisition; *transfer* of this to other contexts. Our pedagogy is underpinned by a distillation of theoretical work about transfer (Thorndike, 1906; Pea, 1989; Detterman, 1993) and transformation (Harvey & Knight, 1996; Astin, 1985), mediated by our evaluations and research.”

(CETL Bid document page 6.)

The purpose of establishing a Centre for Excellence in Teaching and Learning in Employability was to enhance, embed and integrate employability within SHU provision. A bolt-on approach to employability within the curriculum (e.g. special “employability” modules) was eschewed in favour of an integrated and embedded one. This was to be achieved by the design of employability learning outcomes within modules, the achievement of which were to be facilitated by appropriate learning and teaching strategies, and indicated in assessment criteria for the demonstration of learning outcomes. In addition, a specific model or process for integrating and embedding employability was not envisaged; rather, a holistic model that was flexible enough to be customised at the disciplinary and departmental level was preferred, and the Centre for Excellence in Employability would have the mission to engage the University in this way:

The CETL offers to HE a holistic approach and models for implementation and transfer, using a flexible methodology grounded in a pedagogy of transformation and transfer:

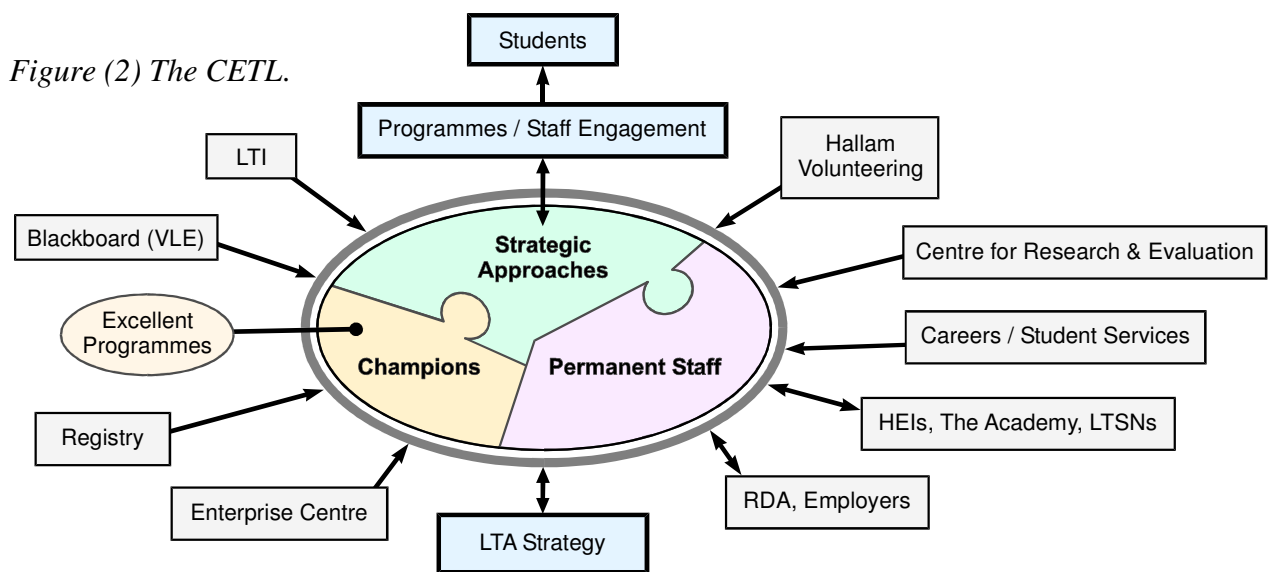
- a conceptualisation and modelling of employability that is holistic, embedded and integrated through complete programmes
- a widening access approach reaching all students through their programmes and their staff
- a model of a University-wide steer clarifying aspects of best practice without prescribing implementation, allowing for the innovation and ownership so important in curriculum change
- a two-pronged change-management model: the use of key University processes to spearhead widespread change; the injection of excitement by supporting innovation in areas of proven excellence and by generating more excellence
- development of the pedagogy of employability through research and evaluation building on nationally- and internationally-renowned practice
- the ability to impact through our capacity to network, collaborate and disseminate.

(CETL bid document page 7.)

In terms of the modus operandi of the Centre, a number of key aspects were outlined. Four programmes, that had been judged as being excellent in terms of integrating and embedding employability features, were identified in the bid document. Representatives from these programmes would be seconded to the CETL in year one as Employability champions. They would work with a number of other representatives from within the University, whose courses had been judged as being

“good” in terms of embedding employability features. The aims were to facilitate a movement from “good” to “excellent” status for these programmes, by enhancing the employability dimensions of their curricula during the year, and to mentor and support the new members of the Centre, to become the next set of employability champions. At the end of year one, the original champions were to move out of the Centre, and have their place and role taken over by the new members, who would repeat this process for a further set of volunteers and courses who wished to work in with the Centre. This roll on – roll off process was designed to introduce new members to the Centre over a five year period, encourage academics who had worked in the Centre to return to the Faculties to use and spread their knowledge, and progressively increase the number of students who were enrolled upon “excellent” courses in terms of their Employability aspects. In addition, Champions would support course validation teams within the University, and encourage employability to be a key concern at the design stage of programmes, with a view to increasing significantly the number of “good” programmes in terms of employability features. Taken over a five year period, the impact upon programmes and students was predicted to be of large scale, and institutional in scope and dimensions.

In terms of change management, the strategy was identified as having both top down facilitation and bottom-up commitment and input, and would utilise the SHU infrastructure to create change within programmes:



(Source: CETL bid document page 16)

The Centre would also be involved in the evaluation of its work using both quantitative and qualitative methodologies, and in the dissemination of its work, both inside SHU and to the wider HE community and stakeholder groups.

AN EVALUATION OF THE CHANGE MODEL PROPOSED

This section draws heavily on an internal report by Abbi Flint, Lecturer in Education, Learning and Teaching Institute, SHU (available from author).

Type of change – multiple metaphors were used in the bid document to indicate the nature of change. The type of change envisaged can be seen as cultural development (improvements within an existing cultural framework) as opposed to transformational (step changes in practice and the cultural framework itself; (Bate 1998). As mentioned previously, four excellent courses were identified in the bid document, and the idea was to use these to leverage change across Faculties, using the roll on – roll off process of Centre membership, in an incremental manner. Change was to be enacted through existing structures, processes and departmental practices.

Communication and dissemination – the Centre had a core team charged with its development and dissemination activities. This was envisaged as fixed and stable, based upon the experts who had contributed to the bid document.

Membership of wider team – this was clearly specified as being for two years. The work of Centre members was outlined in the bid document, but there was no discussion of exit strategy and support for colleagues who would leave the Centre after this period. In addition, new members were nominated by the Heads of Learning, Teaching and Assessment from within the Faculties, limiting the possibilities for some colleagues of participating in the activities of the Centre.

Course planning/validation – the SHU six yearly course planning cycle is perceived as a key opportunity for engaging course teams with the employability agenda. Whilst the logic of this is apparent, the course planning process is problematical from the point of the widest possible engagement of staff and internal politics of Faculties, both of which may act to narrow the possibilities for genuine discussion and deep engagement. In addition, this mechanistic approach to course planning reinforces the notion of developmental as opposed to transformative change.

Rewards – to staff involved in the CETL included honoraria, buy out of time, conference/dissemination support. Members received higher honoraria if they engaged as individuals rather than as teams, which could act as a disincentive to collaborative activity.

The language of change – the metaphor of journey is used in the bid document as a way of describing the nature of change envisaged. Useful as this is in terms of denoting movement and progression, it is also circumscribing in terms of future possibilities, and limiting in terms of pre-specifying the nature of movement from A to B. Other metaphors used include horticultural ones (e.g. organic change), and sporting ones (e.g. club atmosphere), and prestige and pride imagery. Such language proposes a certain status for the CETL and the people who work in it, but there is a danger that this can be perceived as elitist and exclusive.

Physical space – the successful bid was rewarded with both revenue and capital funds. The capital monies were targeted at refurbishing part of the SHU estate and badging this as CETL provision. This provides a physical presence for the CETL within the

university, but could also represent a clique and something which is other to the mainstream of the university and to those colleagues not involved in the CETL.

Outputs – tangible outcomes arising from the work of the CETL in the form of tools, products and processes are identified as key outputs from the CETL. Useful as these may well be, this language is rooted in mechanistic notions of organisations which may not sit well with HEI's, and a deficit model of educational provision, where aspects of provision are deemed in need of fixing.

POST BID IMPLEMENTATION

During the period between the announcement that the bid had been successful, and would be awarded funding, and the time the CETL was to formally start operating (approximately seven months), and early into its actual operation, there were intense discussions within the team about the desirability of the change model proposed, and some of the potential limitations and implications as indicated above. A view emerged for the need to adopt a more organic and inclusive approach to change, one that encouraged transformational change and challenged existing structures and practices, without jettisoning all of the structural mechanisms identified within the bid document. These discussions were informed by debates about the nature of change in HEI's, which has been the subject of significant research and investigation in the recent period. Two sources will be used to introduce relevant issues here.

Commenting upon change in HEI's, Jackson (2005) identifies these as complex adaptive systems; a

“...complex adaptive system consists of a large number of agents, each of which behaves according to its own principles of local interaction. No individual agent (e.g. teacher or administrator), or group of agents (e.g. teaching team of department) determines the patterns of behaviour that the system as a whole displays, or how these patterns evolve, and neither does anything outside of the system.” (Stacey 2000).

(Jackson, 2005, p. 6)

And concludes:

“Those responsible for creating improvement strategies and for supporting improvement have to be aware of, and sympathetic to, the complexity of change and changing. They must be conscious of the way in which social systems like teaching teams and departments self-organise in response to change in ways that are often unpredictable and which might appear illogical to those sitting outside the actual environment in which change is happening. They need to be aware of the inherent paradox and contradictions in the plethora of policies, strategies and support mechanisms that seek improvement and of the nature of learning that emerges through changing. It is necessary for individuals and teams to invent their own wheels in order to understand and take ownership of change to gain improvement. In short, those responsible for promoting and supporting improvement need to be aware that where people work isthe edge of order i.e. somewhere between the world where things make sense from a managerial perspective and the world where anarchy prevails.”

(Jackson, 2005, p.7)

He reports the experience of Change Academy Leaders i.e. individuals working for the HE academy in the UK and leading on change initiatives, in summary fashion below:

Some characteristics of least successful change enterprises experienced by participants – (things which increase negative beliefs about organisational change)	Some characteristics of more successful change enterprises experienced by participants – (things which decrease negative beliefs about organisational change)
External imposition of change Change dictated top down Chaotic Scale of change – too great to manage Speed of change – too fast to absorb No opportunity for veto or negotiation Actions of leaders don't follow their words No staff ownership/inadequate ownership Structural/superficial with no underlying logic or convincing rationale Incompetence No time for embedding before the next lot of change People scared of the change Key people not delivering Change ignored Assumptions not made explicit and tested Poor evaluation No understanding of why Poor leadership No ownership Dithering – poor decision-making Lack of clarity of purpose Muddled goals Reasons for change conflict with personal values	Genuine involvement Sense that change is connected to values and beliefs Good honest communication Sense of ownership Quick wins, makes you feel good Internal general of ideas Positive at the start Good leadership willing to take risks Distributed leadership – many people involved in leading Long term change resulting from distributed leadership Involvement of sceptics in process often the most committed when they are convinced Leaders taking responsibility who are accountable Enjoyment Importance of students Common goals Clear aims and objectives Change reduces rather than increases workload Change brings tangible benefit Shared understanding of reasons for change Shared ambitions and visions Stakeholders involved

(Jackson, 2005, p.6)

Henkel (2000) undertook an extensive study of how academics and academic identities were affected by externally imposed change in the HE sector, and produced a seminal account of these. She studied the impact of the introduction of the research assessment exercise and teaching quality assessment on academic work and academic identities at a number of levels within HEI's. She identified a number of strategies adopted by academics to sustain their identities (constituted by academic values, self-

perceptions, epistemological assumptions and agendas) in the face of such change. Identity was understood from a communitarian perspective, where individuals are seen as both distinctive individuals (within the discipline) and enmeshed within a wider community of significant import (within the university). She found that a consistent and persistent theme in her research was that academic lives, in the context of change, continued to be focused within the discipline, emphasising the social, and intellectual development of the discipline. A notion of academic idealism (e.g. engaging with the discipline as an end in itself) was an important influence on how academics perceived themselves and their work. “Liberal educational ideals still had a significant part in academic discourse,” (p256), and these could be passed on by an engagement with the discipline, which might also prepare students for the labour market. Academic freedom was also a strongly held and clearly discernible value (to research and teach what is felt is important, and to be trusted to organise one’s own professional life).

When the RAE and TQA posed challenges to academic identities, academics responded in a variety of ways:

- Some more powerful individuals ignored change;
- Some individuals resisted change;
- Subversion in various forms;
- Overt compliance with perceived expectations but minimal actual response to change;
- Working harder to accommodate new demands.

Interestingly, “These were strategies in which new policy agendas were incorporated into existing academic agendas, research and teaching,” (p262).

These findings highlight the need for change strategies that are organic, inclusive, communitarian in approach and grounded within the values and disciplines of particular academic communities. Incorporating these ideas and refining the approach envisaged in the bid document was the mission of the first annual operating plan for the CETL.

TOWARDS A NEW OPERATING PLAN

The introduction to the first annual operating plan summarised the revised approach:

“Our philosophy is about engaging with all relevant stakeholders to create a wide ranging and inclusive community of practice around employability activities at SHU, in line with the University’s branding initiative – to create a sector leading focus for employability.

“In the first year of the CETL, we will focus on understanding the employability context; mapping current initiatives and perspectives and raising awareness. The formation of 8 Special Interest Groups will create an inclusive community of practice linking the other SHU CETLs, internal and external stakeholders, and all the other quality enhancement activities at the University to create a multiplier effect to facilitate change and innovation. In the longer term special interest groups will be the

focus for facilitating a series of products and projects to generate a set of tools and resources which can be deployed within faculties, and elsewhere, to bring the employability framework alive.”

(First annual operating plan for the CETL)

The Special Interest Groups were a new idea, and their function was described as follows:

“The Special Interest Groups will provide a focus for joining up the work of the CETLs, the LTI, and others involved in LTA initiatives. They are the culmination of 12 months of discussions around CETLs and other quality enhancement activities and will play a major part in the university successfully gaining the multiplier effect from all these activities and initiatives.

The LTI has experience of network led change initiatives, for example the Ensuring Learner Achievement forum and the Higher Education Research Network, and is fully committed to this practitioner led approach.

The SIGs create an exciting new space to involve even more staff, possibly over 100 in total, in innovative thinking around LTA. They will also act as communication channels into and out of the CETLs, and help in joining up quality enhancement activities where significant change is possible.

The SIGs will challenge thinking across the university, not least in the CETLS and the LTI, in that they will see practitioners working on establishing a shared dialogue and models of change with educational developers and those involved in CETLs. To this end, a new post of SIG Coordinator is being created, based in the LTI but with an institution wide brief.”

(Ibid, page 4.)

Special interest groups were formed in the following areas, and leaders for each of these groups were appointed; the groups were awarded funds to develop activities and membership as they sought fit:

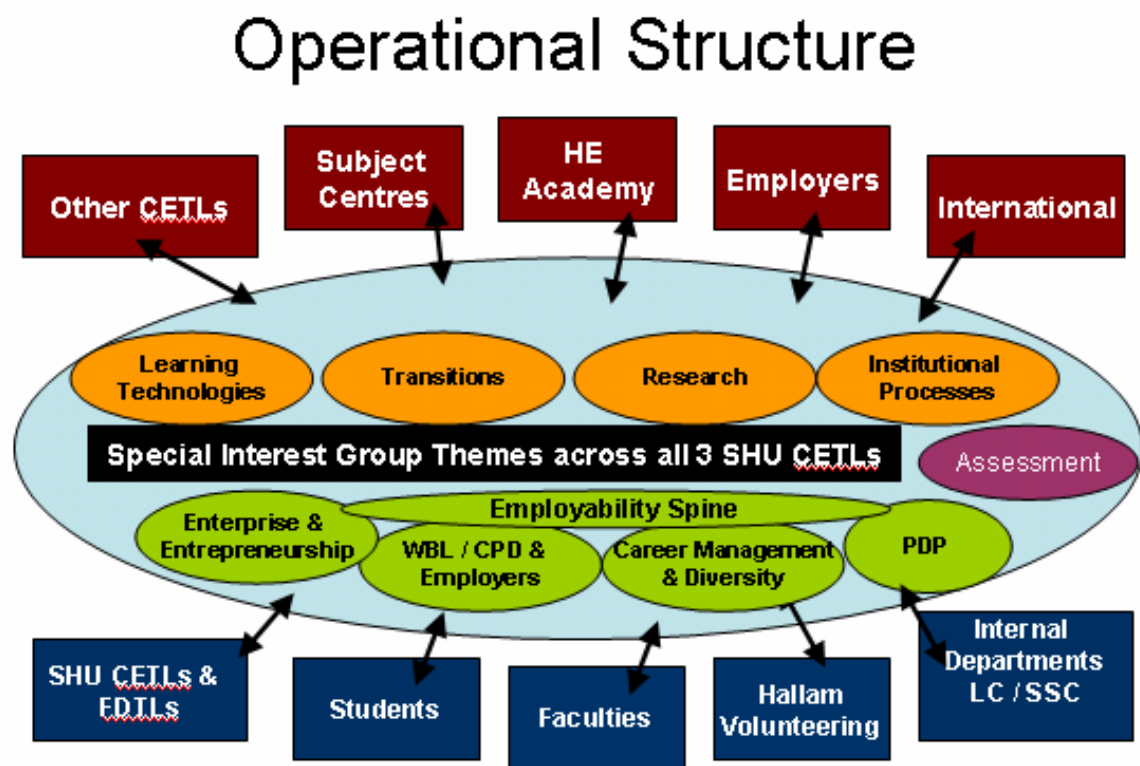
- Learning Technologies
- Transitions
- Scholarship, Research & Evaluation
- Institutional processes
- Career management & Diversity
- Enterprise & Entrepreneurship
- WBL/CPD & Employers
- PDP

Engagement of staff and departments with the work of the CETL was to be achieved in a number of ways:

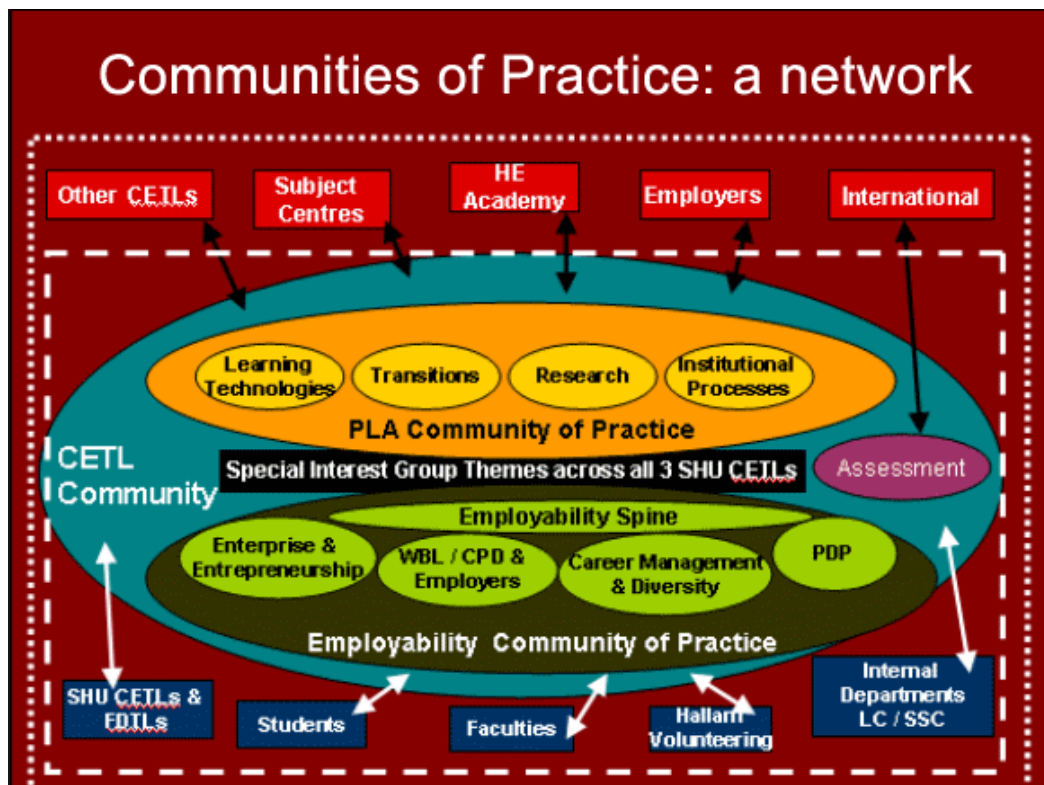
- **Communication and positive engagement** with, for example subject groups, Heads of LTA and LTA co-ordinators, Student Support Services, Hallam Volunteering, Course Leaders, PDP co-ordinators, Quality co-ordinators, etc.
- **Course Planning and Validation** with course and subject teams.
- **Facilitation of projects, creation of tools and production of resources** through the special interest group network.
- **Collapsing of boundaries between CETLs, Faculties, Departments and Teams.**

(First annual operating plan, page 5)

And the operational structure of the CETL was revised.



The CETL was now viewed as developing and operating within a community of practice, which include other Sheffield Hallam CETL's and external agencies, as represented below:



The roll-on roll-off process of CETL membership was also re-examined. It was felt that there was a need for a stable core membership, to build the work of the centre as a centre, but also a need to involve more colleagues in the work undertaken by the centre. In addition, the type of work that the centre was interested in funding was also expanded; previously this had been focused upon revalidation activities; now faculty-based projects which embedded the employability agenda, which had the support of the particular faculty, and which had an explicit and transparent impact on the learning experience of students were also to be funded. Colleagues in the university, from both faculties and central departments, were invited to bid for funds, and become Associates of the centre during 2006-7, and an additional seven colleagues will be supported through funding, mentoring and staff development during next year.

CONCLUDING THOUGHTS

The Centre is now nine months into its life. A consequence of the adoption of the revised change model is the increased variety of work being undertaken and facilitated by the Centre. This presents greater challenges in terms of management, co-ordination, communication and evaluation. The role of the Special Interest Groups is developing, and involving more people (approximately 100 at present) on a cross-faculty basis from within the university. Work has been undertaken with validation teams, but the work of the Centre has also involved different kinds of projects and initiatives, and creative and transformative educational development has been encouraged. Seven new Associates are set to join the Centre next academic year, and they will extend the visibility of the Centre's work within the Faculties, and make a major contribution to Faculty LTA strategies. The revised approach to stimulating change has been welcomed by stakeholders within the university, but it will be

important to demonstrate the tangible benefits and outcomes of this approach in light of the objectives which form the Centre's raison d'etre.

BIBLIOGRAPHY

Academic Standards – General Business and Management', QAA UK, 2000.

Astin N, A.W. (1985) "Achieving Educational Excellence," San Francisco, Jossey-Bass.

Bate, Paul (1994) "Strategies for Cultural Change," Butterworth Heinemann.

Blunkett, D. (1999) "Making Work Part of Study," The Times Higher Education Supplement, 23rd April.

Centre for Excellence in Employability bid document, Sheffield Hallam University.

Centre for Excellence in Employability, First Annual Operating Plan, Sheffield Hallam University.

Detterman , D K and Sternberg, R, J (Eds) (1993) "Transfer on Trial: Intelligence, cognition and instruction." New Jersey, Ablex Publishing Corporation.

Harvey, L. and Knight, P. (1996), "Transforming Higher Education." Buckingham, Open University Press and SRHE.

Henkel, M (2000) "Academic Identities and Policy Change in Higher Education," Jessica King Publishers Ltd.

Jackson, N (2005) "Understanding how we accomplish complex change in higher education institutions," HE Academy UK.

Kolb, D. A. (1984) "Experiential Learning." Englewood Cliffs NJ, Prentice Hall.

Lave, J. Wenger, E. (1991) "Situated Learning: Legitimate Peripheral Participation." Cambridge. Cambridge University Press.

NAB (National Advisory Board for Public Sector Education) (1986) "Transferable Personal Skills in Employment: the contribution of Higher Education," London, NAB.

National Committee of Inquiry into Higher Education, "Higher Education in the Learning Society," (NCIHE 1997).

Neath, M. (1998) "The Development and Transfer of Undergraduate Group Work Skills" (unpublished PhD thesis) Sheffield Hallam University.

Pea, R. (1989) 'Socialising the knowledge transfer problem' in "International Journal of Educational Research." Vol. not known. pp224-50.

Schon, D. A. (1987) "Educating the Reflective Practitioner." San Francisco, Jossey Bass.

Sheffield Hallam University (May 2002) "Employability Working Group: Final Report." Sheffield Hallam University

Stacey, R.D. (2000) "Strategic Management and Organisational Dynamics: the Challenge of Complexity." London: Routledge.

Thorndike, E. L. (1906) "Principles of Teaching." New York, Seile.

Yorke, M. (2004) "Employability in Higher Education: what it is- what it is not," Learning and Teaching Support Network.