Community Development and Higher Education:

A Case Study of the University of the Highlands and Islands of Scotland

November 1998

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Community Development and Higher Education:
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Introduction

The Highlands and Islands of Scotland constitute a remote and peripheral region in a British and European context. Situated in the north-western extremities of the British Isles, the region has for several centuries struggled against the vagaries of its isolation – geographic, economic and social – and paid a high price in terms of economic decline and depopulation. The Highlands and Islands of Scotland comprise nearly twenty percent of the land mass of Britain, yet the region has less than one percent of the UK population (less than ½ million inhabitants) and, as such, it is one of the least densely populated areas of Europe. The geography of the region creates other features which exacerbate its isolation and remoteness – most of its inhabitants live in small towns and villages, widely dispersed over the area with, for example, 93 inhabited islands. Distances are large and communications poor and travel is expensive and difficult.

Traditionally the region has lacked the 'critical mass' to support indigenous services and facilities and emigration and the resulting population decline has been a prevailing feature of the region's demise for over a century as its traditional industries of farming and fishing faced strong competition elsewhere. Up until recently, many of the young, especially the brightest, have had to seek education and careers outside the region. Once departed, they seldom returned. This was particularly true of those seeking higher education opportunities – all of the twenty two universities and institutions of higher education in Scotland lie in, or close to, its densely populated 'golden triangle' formed by the cities of Aberdeen, Glasgow and Edinburgh.

Aware of this deprivation, the citizens of the Highlands and Islands had long sought to persuade the government to create a university in (and for) the region, not least given its potential significance for economic and social development. These campaigns had, until recently, been unsuccessful as the relatively small communities of the region failed to compete with the claims of more populous centres elsewhere in Scotland. This situation was to change in the 1990s as a result of the growing self-confidence of the region fuelled by economic regeneration, developments in higher education (particularly in increased levels of participation and lifelong learning) and, critically, the revolution in information and communication technology (ICT).

A New Vision

Historically the campaign to create a new university had centred upon the creation of a major new campus-based institution in the town of Inverness (the 'capital' of the Highlands). However, although this would have been in itself a positive development, such an institution would not have met adequately the needs of the more remote communities, particularly in respect of lifelong learning and programmes of continuing professional education and training. The potential of ICT enabled a new vision, a very different kind of university – one based on a multi-campus federal partnership built on collegiate principles and committed to mass higher education and lifelong learning. The new concept for the University of the Highlands and Islands (UHI) builds upon a partnership of thirteen existing college and research institutions covering a land area which extends over 600 kilometres from its most northern to its most southern campuses and some 300 kilometres from east to west. These institutions vary considerably in scale and in the nature of their chosen educational missions but they share one common feature – an intimate relationship with the communities within which they are located. Working within the integrated UHI framework, each partner institution can benefit from the synergy of the federation whilst ensuring that it retains its role as a focus for local and community needs.

The Role of ICT

> ***Aim 9****: to establish an Information and Communication Technology (ICT) infrastructure and to lead developments in student-centred learning, learning and assessment approaches underpinned by ICT systems*

The key factor in the realisation of UHI's distinctive approach to the creation of a new university is the widespread utilisation of new information and communication technologies and the opportunities they provide for educational innovation. ICT developments are fundamental in overcoming the barriers of distance and time. A broad-based wide-area network (WAN) and associated local area networks (LAN) have, in effect, brought the entire region on-line to the world's data bases as well as linking the partner institutions and community centres within a region-wide educational network.

People of all ages rapidly learn to use ICT systems without the need to become computer experts. The technology becomes easier, cheaper and more user-friendly each month. The value of this technological transformation is as much in its cultural implications as in its adoption as another means of communication by fax, e-mail and video conference. No country and no region will succeed unless it makes this transformation. When it does, education can be a major beneficiary.

The main axiom of the new university is that it is now feasible to reconstruct the basic features of university higher education to the great benefit of the region which need no longer feel isolated and left behind. Given that the best of education could be brought to any locality there was less need for young people to migrate to the big cities and more reason for other individuals, businesses and companies, to seek to settle or resettle in the Highlands and Islands.

And why should they do that? The answer is simple. In the last half of the 20th century, the big cities and towns of the United Kingdom have become less easy to

live in. Plagued by congestion, overcrowded housing, crime, long travel-to-work distances, air pollution and other health hazards, many people see greater satisfaction and advantage in living in less crowded, more gentle surroundings conducive to a higher quality of life. Already, the population decline in the Highlands and Islands has been reversed. Its capital, Inverness, is now the fastest growing town in Europe.

This restoration of confidence and the ability to take advantage of the new technologies is the key to the regeneration of regions either remote and under populated or impoverished for other reasons. Education is not just a necessary precursor to economic development. It is an industry in its own right, the fastest growing of all the service industries throughout the world.

Furthermore the education and especially the training of individuals is the key to inward investment in agriculture, fishing, animal husbandry, tourism and other industries characteristic of rural regions. Because most of those engaged in these industries are firmly anchored to their localities it is essential that the education and training should, as far as possible, come to them rather than the other way round which has been the conventional response of existing educational institutions to the educational needs of rural communities. Educational opportunities become available on a centrifugal rather than centripetal basis. The 'Tyranny of Space' which has historically bedevilled remote communities is overcome and education can reinforce and strengthen such localities.

Local Learning Networks

> ***Aim 12****: to contribute to community life in each locality by providing access to buildings and facilities and by supporting community based learning throughout the Highlands and Islands*

A corollary of this new kind of telematic university is that it easily sprouts local learning networks so that everyone in a community, from adults to school children, is close to a learning centre. Such Learning Centres are sometimes little more than an office or a room containing one or more computer work stations and under the eye of a friendly tutor and guide. More generally, they take the form of larger significant resource centres often building upon existing community infrastructure (e.g. schools, libraries, health and community centres).

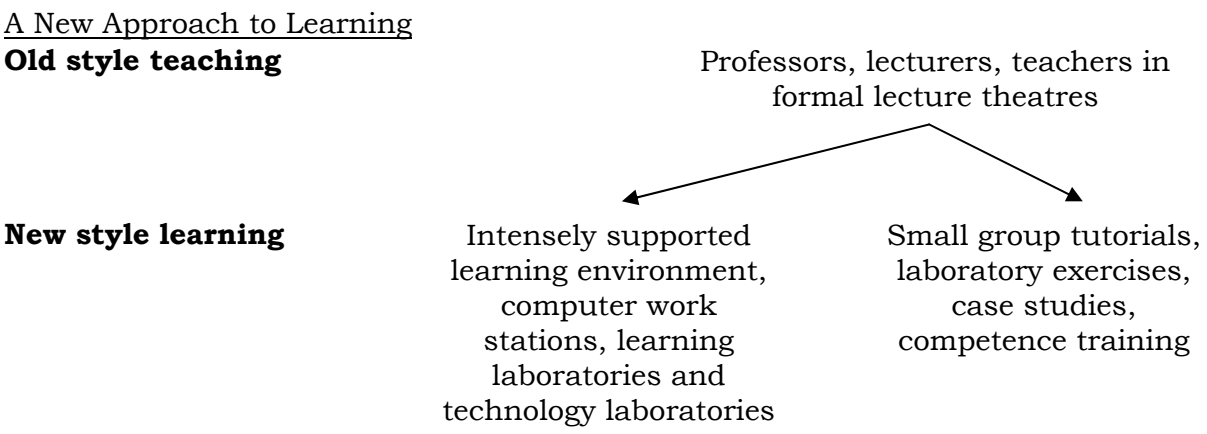
The physical presence of this new kind of university is therefore that of a distributed network of learning centres, all linked together by telephone and telematic technologies, sharing the same learning materials. The main centres of network nodes are the campuses of the UHI partner institutions but local centres soon proliferate giving rise to Community Learning Networks allowing local communities to gain access to educational services provided across a common ICT infrastructure spanning the Highlands and Islands and linked into the Internet. Such developments extend UHI educational services to many small communities outwith normal commuting time from UHI college campuses and also have significant local economic and social benefits.

The philosophy underpinning the UHI Highlands and Islands Educational Network (HIEdNet) is one of empowering and enabling local communities to play a full and active role in all UHI activities, and thus, learning and teaching on a lifelong basis

regardless of physical location. Building on UHI's core network infrastructure, the aim is to provide access to demand-led educational opportunities, owned and managed locally, and developed through local and regional partnerships. The success of such a system is critically dependent on the supporting services of key individuals who can advise, guide, help and explain both the technologies involved and the learning materials available. These key individuals are the new kind of teacher, the enabler, the facilitator, the so-called 'guide by the side' rather than the traditional 'sage on the stage'. This break with the past, a move away from academic staff, once preoccupied with teaching and acting as 'purveyors of knowledge', to professionals working within a new learning paradigm as 'facilitators of learning', has been born out of the ICT revolution but provides a model for all educational institutions.

A New Learning Paradigm

It is argued that for education and for community services in general, the advent of the ICT revolution is not just remarkable for what it can do technically. It is even more profound in its consequences for the transfer of knowledge. It ushers in a new approach to education at all levels. The transfer of knowledge, once the primary purpose and job of the teacher, is now more effectively and more attractively delivered by user-friendly electronic means. In brief, it represents a radical change from old-style teaching, based on memorising facts, to new style teaching based on the application of knowledge.



This is not a good time for teachers and professors. They are themselves often not comfortable with the new technology and the new attitudes. Their own professional methods and lifestyles are threatened by it. Because of this and their authority they are the greatest obstacle to progress. Their retraining is **the** challenge facing higher education – staff development programmes should be at a premium.

The UHI students will become computer literate, business literate and technology literate and will thereby have access to the world's best teaching material and knowledge data bases acquired from, say, the Internet and from educational providers worldwide, supplemented by face-to-face lectures and tutorials from teachers who may be resident, visiting or 'virtual' (in attendance through e-mail or

video-conferencing links). This kind of education requires much less specialist accommodation than is associated with the traditional university, no large libraries and no large laboratories. There will be a need for small seminar and tutorial rooms and resource bases with computing facilities and also social bases for student interaction – students learn much from each other and could, with encouragement, learn more. Such education will not only be the best, it will also be the least expensive. The learning processes underpinning such an approach are set out in the figure below:

The Processes of Learning

computer-based learning in learning resources centres	→	knowledge transfer, case studies and simulations
teacher tutor + student in seminar rooms	→	understanding, comprehension, presentational skills of rhetoric, writing and analysis
student + student in social spaces	→	broader contextual appreciation, social skills and confidence building

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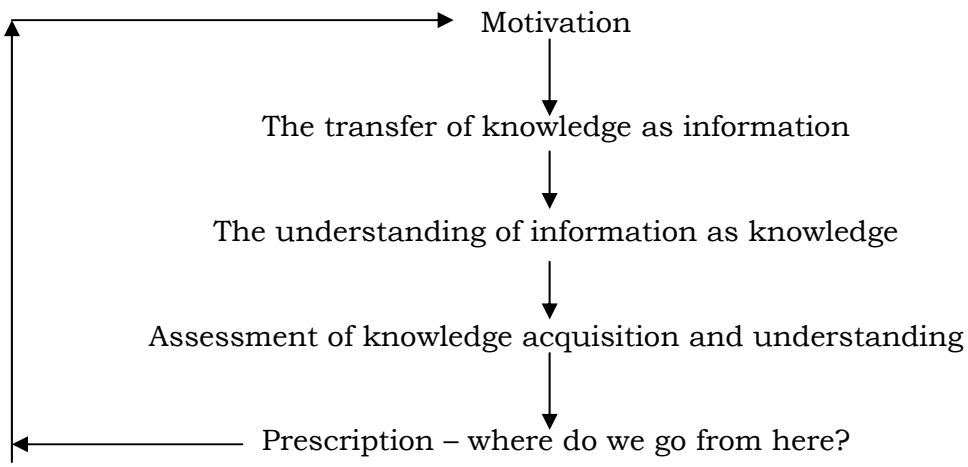
The utilisation of space, of staff time and of student time becomes increasingly more flexible as the students gain confidence in the new procedures. This allows a considerable element of student choice which is motivating. They also allow staff to concentrate their attention on students experiencing difficulty. It is essential that learning problems be recognised early on in the students' career. Left unattended, they greatly reduce motivation and lead to failure.

The assertion being made here is that didactic teaching in the lecture theatre is to be progressively replaced by other forms of learning. This is a challenging statement unwelcome to teachers who see face-to-face teaching as their main job, their raison d'être. Until the last ten years, the challenge to the prevailing wisdom, whilst always latent, was seldom made because there was no alternative. It is being made now because ICT presents many alternatives.

The criticisms of the current lecture theatre procedure are several. It is primarily a passive experience, in which students seldom talk or ask questions. Whilst the charismatic lecturer can inspire and enthuse any body of students to their great benefit, it is evident that even such lectures are inefficient when it comes to transforming knowledge in the form of facts, concepts and theories. This is not an anecdotal statement but one that has been systematically tested.

The figure below delineates the virtuous cycle of learning for all students under all circumstances. Students will experience many such cycles during their study programmes and each step must be completed satisfactorily before proceeding to the next step and to the next cycle.

The Virtuous Cycle of Learning



The role of the teacher in these cycles varies greatly from one step to another. The figure overleaf provides a matrix of the effectiveness of each step as a function of the kind of learning and teaching processes involved. A glance at this matrix confirms what we all know from experience, namely that the live teacher in front of a class is an ineffective vehicle for the transfer of knowledge as information. Within a day or so, much of the factual content of the lecture is forgotten, within a week all of it. The notes that are taken are often of poor quality. For centuries the book remained the only reliable source of this kind of knowledge but now the following diagram shows that, thanks to developments in ICT, there are now many other ways of acquiring it:

The Effectiveness of Different Learning Technologies

	Live teacher	Laboratory exercises	Student/Peer group	Print	Audio	Video	Computer off-line	Conferencing Audio Computer Electronic Whiteboard
Motivation	✔	✘	✔	✔	✔	✔	✔	✘
Transmission	✘	✔	✔	✔	✔	✔	✔	✘
Understanding	✔	✔	✔	✘	✘	✘	✔	✔
Assessment	✔	✔	✔	✔	✘	✘	✔	✘
Prescription	✔	✘	✔	✘	✘	✘	✘	✔

It also demonstrates that the lecture and the lecture theatre, normally seen as the heartland of the academic experience, are no longer so. The experience of many students, often sitting in cramped conditions in a large auditorium, makes little or no contribution to their education and nothing whatever to their intellectual training. Such procedures were the result of applying 'factory' methods to the subtle process of education. Many students fail to adapt to this system. The excuse for it was simply that there was no other way. Now there is.

As we have seen above, that alternative is to open the door to the enthusiasm which all students show (but often not their teachers) towards computer-aided learning. This is a televisual age where students expect to be confronted with high quality images and high quality discourse by people trained in those capacities.

The main pedagogical, organisational and technical changes required for this paradigm shift have been charted by MacFarlane and are illustrated in the following chart:

New Learning Paradigm

Traditional	**Future**	**Remarks**
Passive	Active	Learning will be seen as an active process in which concepts are acquired, incorporated into appropriate schemas, and tested in ac tion
Unidirectional	Interactive	Interactivity offers scope for benefits in clarification, elaboration and consolidation, and is the key to the production of highly supportive learning environments. Benefits in quality and effectiveness can be obtained
Location	Network	Learning will need to be supported on a network basis across space, rather than in only one location
Audience	Person	The possibility of developing learning support systems which tailor their response to an individual's needs and

		performance
Real	Virtual	The use of virtual objects - that is objects whose behaviour is simulated by computer, and which are interactively accessible - offers huge scope for linking theory and experiment in teaching science and technology
Static	Dynamic	Cheap methods of producing, transmitting and storing acceptable quality video and animation will have greatly improved the presentation of a wide range of material
Impassive	Supportive	Well-designed computer-based learning support systems will have been made highly supportive in dealing with a learner's difficulties. This will provide great scope for remedial teaching
Single Medium	Multimedia	The imaginative and skilful use of a wide range of media will provide scope for imaginative teaching e.g. video, animation and audio
Synchronous	Asynchronous	The space and time constraints of traditional presentation methods using lectures and laboratories will have been removed by a shift to self-paced learning using a variety of possible support and delivery mechanisms

Source: A.G.W. MacFarlane, 1997

Serving Community Needs

> ***Aim 7****: to build a curriculum which supports and reflects the economic and cultural priorities of the region and which meets the needs of the individuals and communities served by the network*

UHI has at the core of its mission the objective to "...play a pivotal role in our [the region's] educational, social and cultural development". Indeed, the UHI is already recognised as a major catalyst for economic and social regeneration. This role has already been, in large part, secured by its network approach which builds upon existing community infrastructure to support other education systems throughout the region: schools, libraries, further education and training centres for local industries, craft centres, teleworking and community activities. Although the sizes of the partner institutions varies greatly, the UHI already has a considerable student population totalling over twenty-two thousand, with over 4500 students on higher education courses.

In developing its educational programmes, UHI is working in partnership with business (especially small, medium and micro enterprises) and a major focus is vocational and Continuing Professional Development (CPD) educational schemes tailored to meet the specific training needs of industry. A similar partnership approach is being adopted to meet the training and educational needs of non-governmental and voluntary sector organisations which play a crucial role in supporting the economic, social and cultural fabric of the region.

Such partnerships not only include consultation on specific training programmes but also the involvement of business and voluntary sector bodies in the design of the UHI Curriculum Framework; participation in Course/Scheme Development Teams; utilisation of external professionals as tutors and assessors; and, critically, the widespread utilisation of business and community organisations for placement

and work-based training. Through such partnerships, the community becomes a resource **for** the university, as well as vice versa, in further fulfilment of UHI's Strategic Aim 13.

> ***Aim 13****: to utilise the existing knowledge, skills and cultural achievements of individuals, organisations and communities in the Highlands and Islands to enhance the region's educational, social, cultural and economic life*

Another important component of UHI's Capability-based curriculum is the integration of personal and professional capabilities at all levels of UHI awards which ensures that UHI graduates are equipped to enter the workforce and adapt to changing circumstances throughout their lives. Such skills are as relevant to the re-education or retraining of the adult population as well as to the education and training of school leavers.

The intent has been to build a 'community curriculum' which reflects the particular assets and strengths of the region and the capacities and specialisms of the UHI partners in course provision. The outcome is a curriculum framework (seen below) which is based on seven multi-disciplinary clusters of cognate subjects and disciplines which strongly reflect the distinctive character of the region itself.

UHI Curriculum Framework

Cluster	**Indicative Content**
Art & Design Studies	*including*: graphic design, performing arts, visual arts, music, dance, television
Business & Management Studies	*including*: business administration, public administration, accounting, law, marketing, economics, catering & hospitality management, health administration, tourism, human resources, counselling, office administration
Computing & Information Studies	*including*: software development, operating systems, computer languages, systems development, systems design, information studies, telematics
Construction & Technology Studies	*including*: building, surveying, quantity surveying, architecture, civil, mechanical, electrical & electronic engineering
Cultural & Heritage Studies	*including*: literature, history, sociology, geography, languages, theology, psychology, politics, leisure, social anthropology, area studies and regional studies, community studies, conservation
Health, Education & Care Studies	*including*: health care, complementary medicine, social care and social work, teaching for school and pre-school education, teaching and learning in tertiary education
Science & Environmental Studies	*including*: chemistry, biology, botany, marine science, agriculture, aquaculture, forestry, physics, geology, oceanography, meteorology, catering technology, mathematics, fisheries, food science, horticulture, wildlife management

Similarly the creation of four network-wide 'virtual' Research Schools focussing on applied and developmental research in the areas of Natural System Sciences; Sustainable Rural Development; Language, Culture and Heritage; and Learning Environments and Technology - mirror not only the existing fields of research expertise in the UHI institutions but also the social imperatives formed by a desire to meet the development needs of the region itself, as indicated in UHI Strategic Aim No 10:

***Aim 10**: to expand UHI's research capability and imbue a self-sustaining research culture which will advance knowledge, support student learning and contribute to social and economic development.*

An Accessible Curriculum

Aim 6: to establish a curriculum which offers choice, flexibility, accessibility and equal opportunities

The need to serve the adult community and others in employment requires that UHI displays the utmost flexibility in its arrangements in line with its strategic objectives.

To this end, course provision is offered within a credit-based modular framework. Courses are offered within an integrated qualifications framework with exit awards from Certificate, Diploma to Degree having comparable status. Students have therefore the flexibility of leaving the course with an intermediate award with the right to rejoin later. Students are also able to enter courses at levels appropriate to their prior certificated and/or experiential learning (APL and/or APEL). Course design thereby combines the benefits of modularity for students with the principles of progression and coherence of academic and vocational programmes. Courses can be taken on a full-time or part-time basis and whenever it is convenient to do so – the student takes responsibility for the control and pacing of his/her own learning. This 'Ladder of Attainment' offers maximum flexibility and convenience to the prospective student. Only the levels of attainment and the standards are fixed. Some people will climb the 'ladder' quickly. Others will take a lifetime. Many will mount it more than once.

The assessments and examinations may take many forms and again they are flexibly organised to suit the hours of young undergraduate as well as adult learners. Formal quality control procedures operate throughout the network. These are subject to internal and external validation so that there is no doubt in the minds of other universities and other authorities that the standards and procedures of the new university are as of high quality as those in traditional universities.

Knowledge v Skills

Thus far, UHI has been described as an alternative way of delivering higher education. Instead of being a 'big' cluster of 'big' buildings in a 'big' city it is a distributed network of small (sometimes very small) university colleges the existence of which, as a university per se, is the result of their intense connectivity with each other. As such it is only the university network itself which is 'big' – indeed as large and extensive as the region itself. Even so, in this form it can and does deliver much the same kind of education as is available in traditional universities. It does so by means of a high speed communications network.

One very important differentiating feature of UHI will be the progressively diminishing time spent in passive learning in lectures and the consequent liberation of time for informal gatherings of students and staff where the essential social skills of debating, presenting and defending points of view are stimulated and

encouraged. This is where students learn to 'be' and to gain confidence based on knowledge and experience. UHI therefore sees it to be one of its main educational aims to develop not only the knowledge of the student but also the persona. UHI also differs from the traditional university in another equally important aspect. This relates to the importance it attaches to skills in general.

> ***Aim 8**: to develop innovative approaches to learning and teaching which will enable all students to acquire the personal and professional capabilities needed to empower them as life-long learners and to contribute to the well-being of their communities*

Because the University of the Highlands and Islands sees one of its roles as that of wealth creator, it pays attention to technology, to its acquisition and to the skills that make this possible. The intellectual skills in this category include computation, keyboard skills, marketing, accountancy, econometrics and other such activities. The equivalent practical skills include handicrafts, music, sport and other outdoor activities. They lead to the formation of the complete person with the "know-how . . . to do".

Many of the older universities disdain such skills and concentrate instead on the acquisition of knowledge, the "know-what". This is increasingly regarded as an inadequate basis for the creation of the modern manager and technologist and for life-long learning in general. No country can now afford too many unskilled clever intellectuals any more than they can afford technicians who are not also intelligent. UHI sees little value in maintaining a false dichotomy between academic and vocational skills and capabilities.

Conclusion

The creation of UHI is a visionary (but historically contingent) initiative to address the enhancement of educational opportunities in a way which fosters the economic, social and cultural development of the inhabitants and communities of a remote and peripheral region of Europe. The creation of the new University of the Highlands and Islands of Scotland is both opportune and opportunistic: **opportune** in that it seeks to utilise higher education as a tool for regional and community development in the context of the social and economic transformations of the new millennium; **opportunistic** because it is taking full and timely advantage of the new information and communication technologies that make it possible to create, easily and economically, 'state-of-the-art' learning networks from which students of all ages, from schoolchildren to mature adults, can access knowledge bases essential to their studies on a worldwide basis.

But the UHI is not (or should not be!) unique – the **challenges**, **needs** and **opportunities** which have shaped the intellectual discourse towards the creation of this university in the Highlands and Islands of Scotland are merely the reflection of a global debate. Thus, although they will inevitably take a distinctive local expression, the factors shaping social and economic transformation are worldwide and have profound consequences for both work and learning. Hillman (1996) in a British context has charted these transformations (see table below) but it will be evident few communities in the 'global village' will escape their consequences.

Countries around the world recognise the urgent need for decisive action to transform the capabilities of their workforces and are (or should be!) engaged in radical reform of their education and training systems. Hillman labels this "the learning revolution" whilst Goddard (1997), in the more specific context of exploring the role of universities in regional development, emphasises the need to create "the Learning Region". Whatever the label, the core arguments rest on the critical role of education in sustaining and developing 'human/social capital'. Lundall (1994) has stressed the importance of interactive learning as the basis for innovation and change in modern developed economies. The significance of the UHI model is that educational opportunities are made available locally, in direct response to expressed community need and, in large part, by mobilising the resources (human, physical and intellectual) of the community itself.

The New Millennium – Social and Economic Change

Key Features of Economic and Social Transformation:

- increasingly footloose economic activity
- fierce global competition
- shifts in occupational patterns
- growth in the importance of small and medium-size enterprises (SMEs)
- more flexible labour markets
- fractured career patterns and work/leisure boundaries
- increasing dangers of exclusion for socially and economically disadvantaged groups

"The need for learning becomes particularly acute in times of rapid change and uncertainty"

Source: "University for Industry", Josh Hillman (IPPR), 1996

Such 'community empowerment' is not without its challenges for universities which, historically at least, have not always been at the vanguard of change and have sometimes demonstrated conservative traits! But, as Goddard has observed, "...improved integration of universities with regional development will not be readily achieved by top-down planning mechanisms at either the institutional or regional level but by ensuring the various stakeholders in the regional development process - education and training providers, employers and employer organisations, trade unions, economic development, labour market agencies and individual learners – have an understanding of each other's role and the factors encouraging or inhibiting greater regional engagement."

The liberating power of ICT allows distributive educational networks to be developed in partnership with local community interests but this **technological capacity** must be accompanied by a **cultural transformation** in the universities themselves. UHI is deliberately abandoning many of the expensive and outmoded features of the older traditional universities in the belief that it will not only be more effective and efficient in its delivery of the new learning materials but considerably less expensive in the capital and running costs which now burden the older universities.

Furthermore, the ICT technologies which are driving this transformation are becoming day-by-day ever more ubiquitous and cheaper to acquire.

At the present time, UHI remains a distinctive, if not unique, approach to the international debate around developments in higher education – it certainly represents a radical break from higher education tradition in the UK and elsewhere - but its educational philosophy resonates with progressive educational thinking worldwide. As such, UHI does constitute a prototype university for the 21st century and provides a model for the development of educational opportunities in **all** remote areas – it uses modern technology to overcome the obstacles of distance and time whilst, at the same time, utilising the existing knowledge, skills and cultural achievements of individuals, organisations and communities in its region to ensure the quality, relevance and accessibility of educational opportunities. This approach is open to all with the vision and tenacity to pursue it.

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