The Wicked Challenge of Changing a University

A Tale of Bottom-up Innovation Supporting Strategic Change

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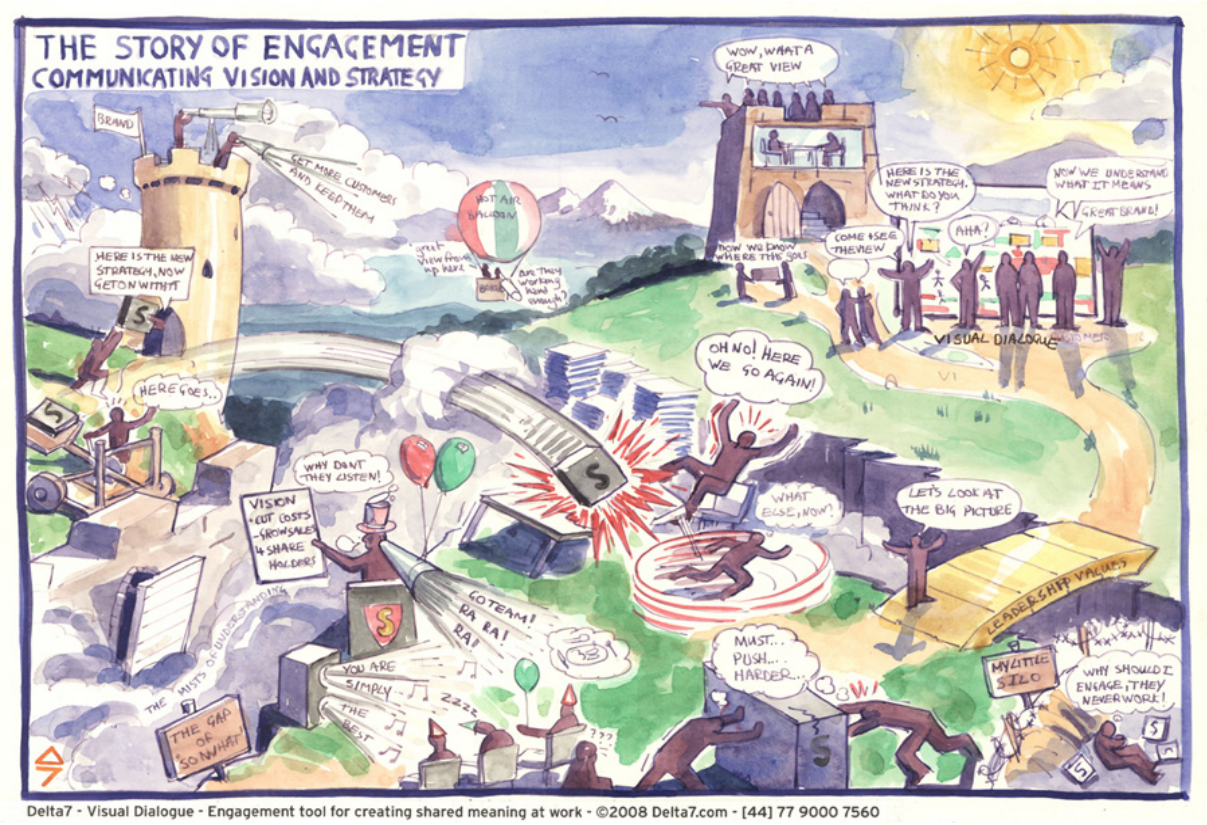

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Norman Jackson
illustrated by Andres Ayerbe

This essay was prepared as a background paper for a keynote presentation at the International Forum of Innovators in University Teaching. It draws on a study of how one British university has accomplished educational change through a programme of strategic change which stimulated bottom-up innovation. The aim of the essay is to highlight the factors that encourage and support people who are trying to accomplish significant change and which enable bottom-up innovations to be sustained. Universities are inherently conservative and risk averse when it comes to changing what they do, 'yet to play its indispensible function in the new competitive environment, the typical university must change more quickly and more fundamentally than it has been doing' (Christensen and Eyring 2011: xxiii). Because of their particular organisational characteristics universities are difficult places to change. Bringing about fundamental change can be likened to a 'wicked problem' (Horst and Rittel 1978).

The essay begins by outlining the wicked nature of the challenge of accomplishing significant change and bottom-up innovation in a university before offering a range of perspectives and tools to help visualise the nature of innovation in complex adaptive university social systems.

The case study considers how one British university encouraged bottom-up innovation as one strategy within a comprehensive strategic change programme. It reveals how a combination of vision, determined leadership, facilitative management and additional resources enabled a range of innovations to be created, implemented and sustained. From the innovators' perspective 22 factors were considered to be important in bringing about change but experiences sometimes fell short of what they had hoped for in the way of support, recognition and empathy. From the organisational/cultural perspective, twelve factors are identified that were important to encouraging and sustaining bottom-up innovation in the context of a university involved in strategic change. The author is interested in finding out to what extent these factors and conditions are universal. All comments and opinions welcome.

The research on which the book is based will be published in a book 'The Wicked Challenge of Strategic Change' to be published by Authorhouse in April 2013.

BIOGRAPHY

Norman Jackson is Professor Emeritus at the University of Surrey, Founder of the Lifewide Education Community and a Fellow of the Royal Society of Arts. Between 2006-11 he was Professor of Higher Education and Director of the Surrey Centre for Excellence in Professional Training and Education (SCEPTrE) at the University of Surrey where he developed and applied the idea of lifewide learning and education in a university environment. During a long career in higher education he has been a teacher, course tutor, researcher, inspector, consultant, policy developer, educational/curriculum developer and manager. He has also held senior positions with several UK national bodies including - Her Majesty's Inspectorate, Higher Education Quality Council, Quality Assurance Agency, Learning and Teaching and Support Network and Higher Education Academy. His own innovations in educational practice have focused on students' and teachers' creative development through enquiry-rich and design thinking pedagogies, and experiential/immersive learning. His quest for a higher education curriculum that would be more supportive of students' creative development was driven by concerns that universities should be doing more to enable students to develop themselves for the complexities and challenges of their life. This journey led him to develop and apply the ideas of *lifewide learning* and *education.* Change through enhancement and innovation have been a recurrent theme in his work and his latest book (to be published in April 2013) examines how bottom-up innovation in one university was accomplished within the context of vision-driven strategic change.

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They always say time changes things, but you actually have to change them yourself *Andy Warhol*

1. THE WICKED CHALLENGE OF CHANGING A UNIVERSITY

Accomplishing significant self-determined change through bottom-up innovation in a university is a 'wicked problem' (Rittel and Webber 1973). By that I mean accomplishing significant change is an ill-defined, ambiguous, socially grounded and often contested problem associated with strong moral, political and professional issues and values (Richie 2011). Camillus (2008) recognised the formulation and implementation of organisation strategy as a wicked problem: changing is the last thing that most people in an organisation want to do and moving from the known, the tried and tested ways of doing things into unknown and unproven territory is a risk that creates a big problem for most people. In other words the act of trying to engage a university in significant change creates a new wicked problem.

The term 'wicked' in the context being used here, is not about being evil, rather it describes an issue that is hard to understand and define, and highly resistant to resolution. People working and studying in higher education are confronted every day by essentially the same wicked challenge (Jackson 2011). For teachers it is associated with a question like ' how do we prepare people for an ever more complex world?'… I don't just mean preparing students for their first job when they leave university I mean how do we prepare them so that they can face and adapt to the many challenges they will encounter over a lifetime of working, learning and living. From the students' perspective the same challenge is expressed in the question ' How do I prepare myself for the rest of my life?'… what sorts of things do I need to learn, what sorts of skills, qualities, dispositions and values do I need to develop, and what sorts of experiences do I need to have.. Personal and professional development needs to be so much more than simply studying and learning an academic curriculum.

The second challenge facing people who work in higher education, particularly the leaders of higher education institutions, can be described by the question, ' How do we change our university so that it is better able to meet the challenge of preparing learners for a very complex, uncertain and ever changing world?'. How do we move from what is still a predominantly industrial provider-designed and directed model of higher education to a more ecological learner-designed and managed model of learning which is more appropriate for a modern world. Many faculty would say that there is no problem.. and therein lies the

problem….the challenge is to persuade people who believe that there is no need to change t change something that has worked perfectly well for them in the past.

An important aspect of this wicked challenge is the way in which the world of which universities are a part is also changing and universities have to adapt and change to respond to these external forces which threaten their position. The risk of not changing outweighs the risk of changing but there is often not a clear sense of how or what to change. In the last few years universities in the UK have had to cope with the economic recession and the shift from a mainly publicly funded to a mainly privately funded higher education system. This change is bringing new entrants (competition) into the higher education market who are offering a very different but cheaper and more attenuated higher education experience to that offered by universities. The conditions are ripe for 'disruptive innovations' (Christensen and Eyring 2011) that will disturb the long established order - so watch this space!

We might define two very different scenarios in which universities engage in significant change. The first case is where a decision is made by a university to engage in self-determined change. The second is where circumstances force or encourage change to happen - such as the situation described above. The boundary between these scenarios is often blurred and the reality is that both scenarios will be apparent in any sustained programme of strategic change. This essay focuses on the first of these scenarios examining a case study of strategic change within British university in an attempt to draw out some important lessons about the relationship between innovation and strategic change.

At the outset it has to be recognised that the characteristics of universities as organisational environments for change contribute to the wickedness of the challenge. In the words of one retiring university leader:

> Universities are pluralistic institutions with multiple, ambiguous and conflicting goals. They are professional institutions that are primarily run by the profession (i.e. the academics) often in its own interests rather than those of the clients and they are collegial institutions in which the Vice-Chancellor is less a CEO who can manage by diktat and decree and more a managing partner in a professional firm who has to manage by negotiation and persuasion. Change is extremely difficult to bring about in an institution with these characteristics. So, a prerequisite for change is some pressure – often a threat from outside the institution – which convinces its members that change is necessary (Bain 2007:13).

Universities are large organisations, employing a multi-skilled workforce providing a complex range of services that extend well beyond their core missions of education, research and scholarship. Universities, at least in the UK, act as open systems connected to the external environment and wider world.

There are a number of features about universities that make them distinctive sites for change and those responsible for bringing about organisational change must orchestrate change by working both with the grain of their constituent academic cultures and across their cultural grains! One significant characteristic for an organisation the size and complexity of a university, is the nature of the fundamental transaction which takes place involving students and their teachers. While students in England now pay significant amounts of money for their higher education (ie they are consumers), the transaction which takes place is not like

purchasing a product or service, because it involves the learner (customer) in a deep and effortful relationship with her subject, her peers, her teachers and their mediating artefacts, and her university. From their perspective they behave more like a 'partner' than a customer in so far as they help create the product (their own learning and development) with the help of teachers and others who support their learning. This relational side of the business of education lies at the heart of the motives that drive university teachers and support staff in their quest for improvement. Put another way, the motivation to improve performance for much of the workforce in higher education, is to improve students' experiences and make a positive difference to their lives. This means that from the perspective of a higher education teacher the motivation for improvement is not primarily to reduce costs and increase profits but to engage with and satisfy the deep moral purpose of education (Fullan 1993:18). If the people who work in a university believe that they are making a more significant difference to students' lives by changing what they do, they are more likely to involve themselves in change.

Another significant difference to most other organisations is that universities are organised into disciplinary tribes and territories (Becher 1989). The cultural and intellectual dynamics of disciplines (Becher 1989 and 1994) provide an important context for the way academics and their communities view what they do (teaching, administration, research, scholarship) and respond to change. Becher's assertion (1994:153) 'that the cultural aspects of disciplines and their cognitive aspects are inseparably intertwined', is born out not just in behaviours relating to research, but in different pedagogic beliefs and practices (Braxton 1995; Hativa and Marincovich1995; Smelby 1996; Hativa 1997; Gibbs 2000; Neumann 2001). But the studies of Trowler (1998) and Knight and Trowler (2000) also show how important organizational contexts are in shaping thinking and behaviours. Trowler (1998) challenged some of the assertions made about disciplinary cultures being the key determinant in the way academics view a whole range of issues claiming that attitudes and values among academic staff were much more diverse and unpredictable than had hitherto been portrayed.

People don't resist change.
They resist being changed! *Peter Senge*

In addition to tribal complexity there is also the matter of professional autonomy in a university. Another distinctive feature of universities is that they permit and encourage significant levels of personal autonomy of large numbers of individuals who can therefore respond to change in ways that are consistent with their own beliefs, interests and prejudices.

Institutions of higher education are characterized by extremely decentralized structures of authority, remarkably dispersed incentive systems, and relatively few restrictions on the way people choose to use their time. These prominent organizational features that render colleges and universities distinctive among social institutions certainly help the academy protect its freedom from unwanted political and external influences. But they simultaneously act to subvert change of *any* kind (Ewell 2004:2).

It is this organisational respect for autonomy in the academy, combined with the ability of the academy to subvert change, that are the source of much of the 'wickedness' in the challenge of accomplishing change in universities.

Drawing on the insights gained through studies of change in university departments, Trowler et al (2003) provide a practical guide for people involved in facilitating change. They suggest (ibid: 13) that change strategies might focus either on big problems and the development of solutions that are tried, evaluated and revised or on changing beliefs by setting out the case for a particular course of action or why a particular innovation is preferred to existing practices.

> there is a need for change agents to explain clearly repeatedly and in many ways why the change is beneficial. In that sense they need to focus on beliefs. Two significant limits to this focus are that we may need to affect networks of beliefs, going right back to root beliefs about learning, teaching and education; and changing beliefs is not sufficient to change practice because people need tools to support them in the practical business of change (Trowler et al 2003: 13-14)

Why Change Fails or Succeeds in the Academy

In his reflective account of the lessons learned from educational reform in higher education Peter Ewell (2004) identifies a number of reasons for why changing practices in higher education is difficult - noting that 'grant-makers are happy if only a third of the projects they fund are successful' (ibid:p2). Reasons for failure (ibid p2-6) include:

- *The double edged sword of distinctiveness* - proclaiming what is wrong with current ways of doing things can provide a powerful rhetorical launch pad for a new change initiative and this often entails developing a new and distinctive language. However, efforts to promote conceptual and linguistic distinctiveness can prevent the integration of innovative practices into the mainstream. The exception to this condition is when the compelling story for change and the rhetoric of distinctiveness resulting from change become institutionalised.
- *The problem of extending experiments* - change efforts generally begin small as experiments. New ideas are turned into educational prototypes particularly if they are innovative and piloted before being fully implemented. But what is beneficial to getting innovative change underway can be difficult to replicate and extend when individuals resist adoption of someone else's ideas rather than their own.
- *Special Funding* - change initiatives are almost always funded on a project basis using dedicated funds. These funds are often provided externally and are time limited. The transition from special funding to core funding (as the following case studies indicate) is one of the most difficult organisational manoeuvres a university can make.

Ewell (2004: 6-8) identified a number of basic characteristics that engender collective and collaborative commitment to change initiatives in universities and colleges, and enable institutions 'to work *across the grain* of established academic cultures':

- *Creating permanent structures* [or enterprises] *for collaboration* for example by attempting to foster generic skills and capabilities that are common to all disciplines across the curriculum.
- *Co-creating substantive and meaningful products - 'the effective*ness of collaboration in undergraduate [change] initiatives depends equally on the extent to which effort is directed toward cr*eating a tangible collective product'*
- *Tangible benefits* - effective collaboration results in individual benefits for those who participate. Often the benefits derive from new productive relationships developed through working co*o*peratively with someone else on something that is meaningful and valued by all the participants.
- *Information as a lever for change* - effective collaboration depends on clear lines of communication and requires collaborators to have access to credible information about conditions and performance.

These ways of thinking about how change can successfully be accomplished across the cultural grain of departments are consistent with and complemented by the approaches recommended by Trowler et al (2003:17-18) for working within the cultural grain of academic departments. They argue that common sense, technical-rationale approaches to planning, communicating and implementing top down change, are appealing and necessary, but they need to be combined with approaches that are grounded in social practice theory suggesting that (ibid 18):

1 Any innovation will be received, understood and consequently implemented differently in different contexts (this is concerned with innovations and change that is imposed).
2 In HE the important contextual differences that affect the reception of and implementation of [educational] innovation relate to a) discipline and b) department
3 The history of particular departments, the identities of those within them and the way they work together are very important in understanding how innovations are put into practice
4 Successful change, like successful learning, is a constructive process - the change is integrated into the heads and hearts of those involved... the change is uniquely shaped during this process - acquiring ownership of change, the feeling that innovation is ours.
5 If there is congruence between an innovation and the context of its introduction at a particular time, then dissemination will be successful even if some pre-requisites are not in place. However, both the context and the innovation will be re-shaped in the process.

Changing Organisational Culture

The fundamental reason why changing a university is a wicked problem is that by engaging in change we are affecting culture. Trowler and Knight (2001) view the culture of universities as ‘protean and dynamic, not singular and static'. In their view every university possesses a unique and dynamic multi-cultural configuration which renders depiction difficult and simple depictions wildly erroneous. So values, attitudes, assumptions and taken for granted recurrent practices may be as different from department to department or building to building in one university as they are between one university and the next. They preferred to visualise academic organizations as networks of networks (Blackler et al 2000) or constellations of communities of practice (Wenger 2000) and argue that these fundamental social structures have to be recognised in bringing about organisational change. Because of these sorts of challenges there are no standard recipes for bringing about change in a university. Instead,

the leaders of each institution, with their unique contextual understandings, must sense the pathway they need to encourage the people in their organisation to take, and act in ways that are more likely to take people in this direction.
Seel (2000, 2004) offers another view of organisational culture that is consistent with Trowler and Knight (2001). In his view -

> organisational culture is the emergent result of the continuing negotiations about values, meanings and proprieties between the members of the organisation and its external environment. In other words, culture is the *result* of all the daily conversations and negotiations between members of an organisation. They are continually agreeing (sometimes explicitly, usually tacitly) about the 'proper' way to do things and how to make meanings about the events of the world around them. If you want to change a culture you have to change the conversations - or at least a majority of them. And changing conversations is not the focus of most change programmes, which tend to concentrate on organisational structures or reward systems or other large scale interventions. (Seel 2004)

Seel[i] also offers insights into the way strategy and culture are related. In his view a change in strategy is effectively a change in the 'governing story' which an organisation tells about itself. If the strategy is to be effective, everyone in the organisation needs to be interpreting and re-telling that story, adapting it to their own circumstances. Since culture is the emergent result of all the conversations and stories which take place in an organisation, culture will inevitably change if new stories and conversations take place. In Seel's view, to bring about lasting cultural change, an organisation has to change the paradigm with which the organisation sees itself, 'unless the paradigm at the heart of the culture is changed there will be no lasting change' (Seel 2000).

> A paradigm is a constellation of concepts, values, perceptions and practices shared by a community, which form a particular vision of reality that is the basis of the way a community organises itself. (Capra 1997:6).

If Seel's reasoning reveals why accomplishing significant change from the bottom of a university is a wicked challenge.

The Complexity Challenge

Change, particularly large scale, transformational organisational change, can be a messy business (Jackson 2003). Context, scale, social interactions, culture, identity and tradition or historicity all influence the level of complexity and potential for messiness in any change situation. Open-ended poorly defined problems like strategic change require the vast majority of the people in the organisation to own the problem and be the agents of the solution (Heifetz and Linsky 2002). For system leaders and organisers this means creating the conditions and processes that will enhance the likelihood that people engage with strategic change and bring about change that is consistent with what is desired. Ultimately, the process is about stimulating the imaginations and inventiveness of people. Because of the multitude of factors involved, and because fundamentally changing organisations is about changing people, the study of organisations in the last decade has drawn heavily on complexity theory (Stacey et al 2000). Where large scale organisational change is concerned it is not possible to reach new horizons without grasping the essence of complexity theory.

The trick is to learn to become a tad more comfortable with the awful mystery of complex systems, to do fewer things to aggravate what is already a centrifugal problem, resist controlling the uncontrollable, and to learn to use key complexity concepts to design and guide more powerful learning systems (Fullan 2003a:21)

There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of thing.
Niccolo Machiavelli The Prince (1532)

The Challenge of Leading & Managing Organisational Change

It is precisely because bringing about significant change in an organisation is difficult and complex, that good leadership and managerial skill is required in order to accomplish it. This is particularly true of the university environment with all of its cultural complexity. Universities are full of change and continually adapting to the multiplicity of forces for change. Effecting particular types of change on top of all the other changes that are happening with potential for conflict and interference, is all part of the wicked problem. George Bain, on the eve of his retirement as a Vice-Chancellor, made these observations about the role of a university leader in leading and managing change.

> Management is the ability to cope with complexity, to devise structures and systems that produce order and harmony. Leadership is the ability to cope with change, to establish a new direction, and to get institutions and individuals to move in that direction. A Vice-Chancellor's job involves both management and leadership, but the latter is more important than the former. The key function of a Vice-Chancellor is to lead the university: to harness the social forces within it, to shape and guide its values, to build a management team, and to inspire it and others working in the university to take initiatives around a shared vision and a strategy to implement it. In short, a Vice-Chancellor should be an enabler rather than a controller. The job is 'to set the target that beckons' – a stretch target that drives the organisation forward by forcing innovation through deliberately creating a misfit between its ambitions and its current resources – and, having set it, to motivate people to hit it (Bain 2007:13)

But organisational change is not led only by a Vice Chancellor. It can and should be led by people at all levels each making a contribution that is woven together by the leaders, managers and facilitators of change processes. We have to acknowledge that Universities, with their hierarchical structures, strong procedural cultures and internal tensions relating to multiple goals are ideal organisational environments for wicked problems and they are also difficult environments for working with such problems.

> A traditional bureaucracy, divided into vertical silos, in which most of the authority for resolving problems rests at the top of the organisation, is not well-adapted to support the kinds of process necessary for addressing the complexity and ambiguity of wicked problems. Bureaucracies tend to be risk averse, and are intolerant of messy processes. They excel at managing issues with clear boundaries rather than ambiguous, complex issues that may require experimental and innovative approaches. (Australian Public Service Commission (2007:13).

2. VISUALISING INNOVATION IN UNIVERSITIES & COLLEGES

In their study of educational innovation in five UK universities, Hannan and Silver (2000) noted that systematised innovation – the purposeful and organized search for change to gain competitive advantage or deal with a problem was not as well developed in universities as it was in other sorts of organisations. They (ibid) noted that traditionally, in HE environments, innovation was undertaken by individual enthusiasts and consequently it was subject to the difficulties identified by Ewell (2004). Their study revealed the complex interplay between individuals who were trying to be innovative, their institutional environment and the wider communities to which individual teachers are connected.

They concluded that innovation relating to teaching and learning in universities is not normally conceived by the people involved, as being original ground breaking change. Rather it is viewed as 'what people do that is new in their circumstances'.

> An innovation in one situation may be something already established elsewhere, but .... initiative takers and participants see it as innovation in their circumstances.. Such changes may be new to a person, course, department, institution or higher education as a whole. (Hannan and Silver, 2000:10).

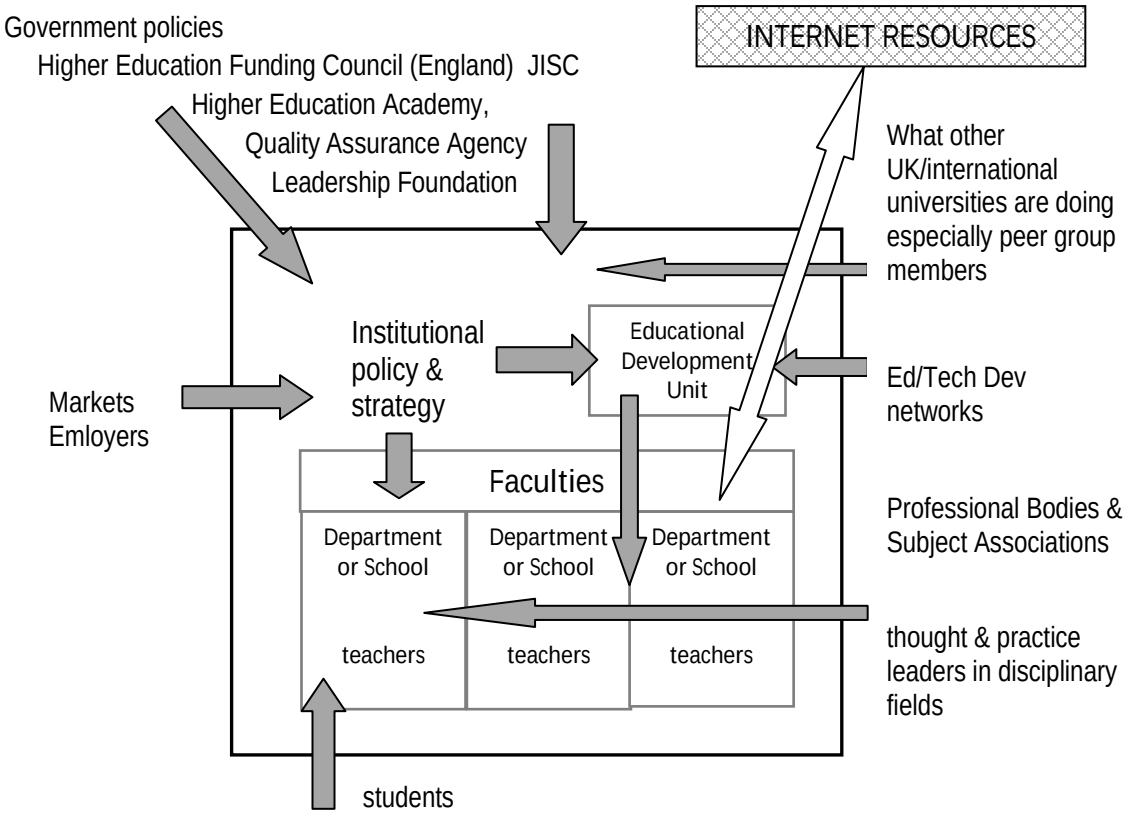
According to these authors innovation [in teaching and learning] depends on a configuration of vital elements: how an institution's culture is interpreted by a range of constituents; the degree of conflict and consensus within it; the pattern of attitudes within which initiatives are received; the nature of and reasons for change and the ways in which it is managed; relationships between the centre and the periphery; and views of what needs to be sustained, adapted or abandoned in the historical moulding of an institution and its substructures. (Hannan and Silver, 2000:95).

In England during the last 15 years, universities have been encouraged to change and innovate their teaching and learning practices through a range of Government funded initiatives promoted through the Higher Education Funding Council (England). These initiatives aimed to: 1) professionalise higher education teaching through formal training and membership of a professional body 2) reward excellent teachers and teaching and learning practices through formal systems of recognition and reward 3) encourage universities to create their own infrastructures or centres of expertise to support the development of teachers and teaching innovation 4) encourage the sharing and codifying of 'good' practice and promoting scholarship of teaching and learning 5) creating new infrastructures at the system level (Higher Education Academy and Joint Information Systems Committee) to encourage, facilitate and support educational innovation 6) through funded initiatives directly encouraging the development of teaching and innovation in universities especially in the application of new technologies.

Figure 1 provides a simplified but typical structure of an English University showing the main forces and connectivities that shape, drive, inform and facilitate educational change and innovation From a systemic perspective, the most important change in the last decade has

been the way in which the internet provides easy access to ideas, scholarship, research and people that can facilitate the transfer of ideas and adoption and adaptation of innovations grown eslewhere.

Figure 1 Simplified but typical structure of an English University and the forces and connectivities that shape, drive, inform and facilitate educational change and innovation



Definitions

The word innovation is derived from Latin *innovat* - 'renewed or altered' verb: *novare* = make knew[ii] . So innovation is fundamentally about change and changing but in the last couple of decades economic and business uses of the term have come to dominate everyday thinking.

> The process by which an idea or invention is translated into a good or service for which people will pay, or something that results from this process[iii].

From a business perspective, innovation is the development of new customer value (meeting needs in new ways) rather than explicitly developing new things (Sawhney et al 2006). It is accomplished through new or better products, processes, services, technologies or ideas. Innovation is all about the application and better use of an idea and it may or may not include the invention of the idea as sometimes ideas have been around for a long time before a use is recognised or a market is created.

Anthropological views of innovation offer two views. The first considers humans to be pragmatists with innovations a function of their rational objectives and characterized by the materials at hand, the second considers humans as meaning- and symbol-making beings with innovations a function of their subjectively defined beliefs. From the latter perspective,

innovation is culturally defined and stimulated, and thus innovation is essentially an act of cultural creation. Anthropology informs us that regardless of material or belief systems, each and every culture is necessarily and fundamentally different: an innovation which can be considered meaningful in one socio-cultural environment would not necessarily be considered meaningful in another.

The concept of social innovation is also relevant as education is a societal benefit. Phills et al (2008:1) conclude that social innovation is the best construct for understanding—and producing—lasting social change which they defined as 'A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals.'

This definition could be adapted in a meaningful and useful way to the educational context ie educational innovation is 'a novel solution to an educational problem, opportunity or challenge, that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues to both the individual learner and society as a whole.'

Innovation can relate to the products and services of an organisation but they can also relate to its processes and procedures. Rogers (1995) defined innovation in terms of how it is perceived by individuals or workgroups in an organisation ie the organisational users of innovation rather than the market which uses its products or services.

> An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption…. If the idea seems new to the individual, it is an innovation (Rogers 1995:11).

Interestingly, this *organisational user* view of innovation is entirely consistent with research into innovation in UK higher education, conducted by Hannan and Silver (2000), who concluded that innovation was conceptualised as being something that is new to particular circumstances.

> An innovation in one situation may be something already established elsewhere, but .... initiative takers and participants see it as innovation in their circumstances.. Such changes may be new to a person, course, department, institution or higher education as a whole (Hannan and Silver, 2000:10).

Rogers described the process of adopting an innovation as one of 'social construction' grounding the process in sociocultural practice theory.

> When a new idea is first implemented in an organisation, it has little meaning to the organisation's members…Through a process of the people in an organisation talking about the innovation they gradually gain a common understanding of it. Thus the meaning of the innovation is constructed over time through a social process of human interaction (Rogers, 1995:399).

Innovation in social contexts, like higher education, may be driven by profit motives (by developing this new programme we can attract these new learners and gain more fee income) but it is also likely to be driven by professional values - a desire to improve students' learning experiences or social justice - increasing opportunities for people who do not normally participate in higher education.

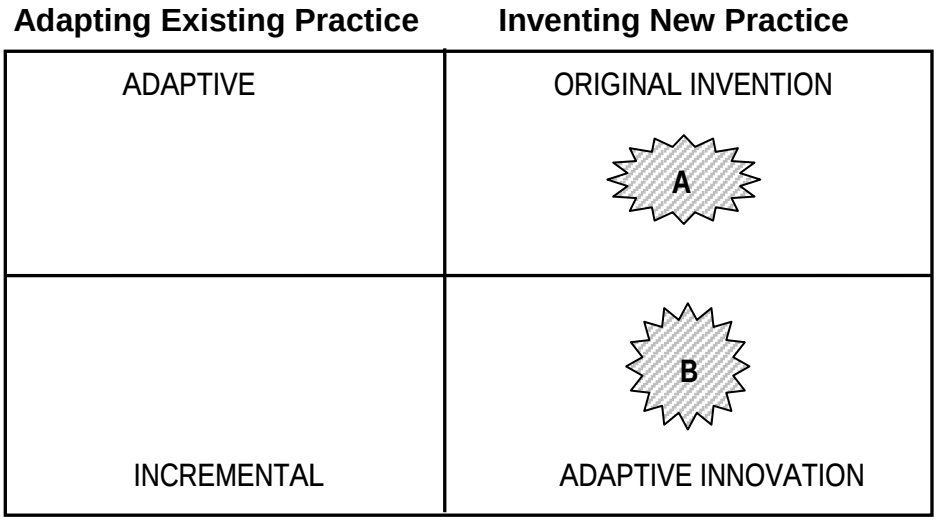
Table 1 Types of change and increasing levels of difficulty in changing. Adapted from School for Innovators.[iv]

1	Doing the right things
2	Doing things right
3	Doing things better
4	Stopping doing things
DOING NEW & BETTER THINGS	
5	Doing new things that other people are already doing
6	Incorporating what someone else is doing into your own system
7	Doing things no one else is doing
8	Trying to do things that can't be done

Tools for Visualising Innovation

Innovation is part of the spectrum of change we are continuously involved in. If we imagine a hierarchy of levels of change such as is depicted in Table 1 we would not associate innovation with the first three levels of change. Rather it would be found in the types of change associated with levels 5-8 and it may also involve stopping doing something.

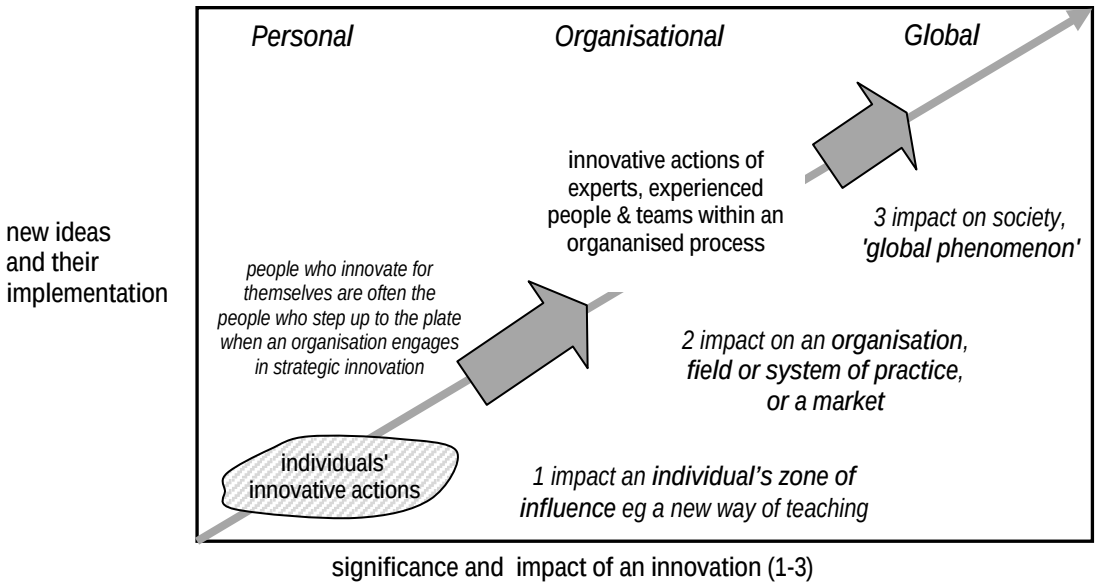
Figure 2 Simple tool to help people think about innovation in their own practices



Innovation involves creating something new or different so we might characterise an innovation in terms of whether it is entirely original (Figure 2 area A) or whether it is combining and integrating things which already exist in novel ways and perhaps adding new features (Figure 2 area B). This contrasts with change that is essentially incrementally different or adaptations of practices, services or products that already exist (Figure 2).

Innovation is accomplished by people who may be working alone or in collaboration with others. Innovation is related to creativity in that it is an act of creation that is applied to practice, products or services. Like the concept of creativity, innovation can be visualised in terms of its scope, significance and influence (Figure 3) mirroring the 4-C model of creativity proposed by Kaufman and Beghetto (2009).

Figure 3 Innovation can be appreciated in terms of its scope, significance and level of influence.



At the global level there are innovations - like the world wide web - which have the potential to affect everyone on the planet. Individual organisations may develop a set of products and applications (like Apple for example) that are also global in their reach and effects. More often companies create and apply ideas that affect a specific market - for example a university developing its platform to serve new sorts of students. The platform is not new to the world because all universities will have a platform for supporting delivery, but the way it has been developed to meet particular needs is new to the organisation and to the learners it affects. Such innovations are normally created by teams of people working collaboratively with a shared vision of the product or service they are trying to create, but the groups themselves are open to ideas and influences from outside the organisation (as was the case in the example cited above). In these situations, home grown innovations selectively incorporate ideas and practices from other organisations. At the organisational level the definition of innovation developed by West and Farr (1990:9), which captures four important characteristics of innovation: a) intentionality b) newness (c) application (d) intended benefit, is appropriate.

> the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organisation or wider society

At the individual level the nature of the educational process in universities, where those teaching have control over what they teach and how they teach it, means that teachers are continually inventing and re-inventing the curriculum, learning resources, teaching and learning strategies and assessment practices. Changing in a deliberate and incremental way, is a way of life for the conscientious higher education teacher. But, the norming process in the professional environment means that most teachers tend to adopt similar practices to their peers so even though there is lots of invention it tends to follow the patterns of behaviour already established in the local cultural setting - the department or school.

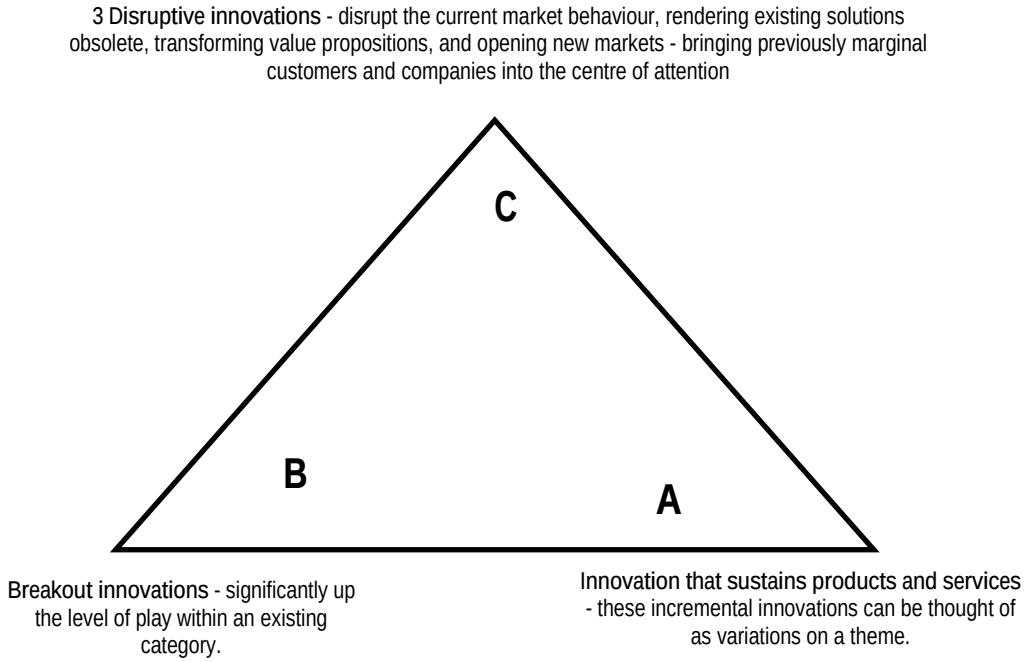
Established practices like acceptable forms of assessment, rigid timetable structures and the rooms in which classes take place can all constrain innovation. But it is not uncommon for teachers to engage in more radical change or innovation for example when a new module or programme is being created, or an entirely new pedagogy (like problem based learning) or technology is being introduced for the first time. Some teachers create practices that are very different to local norms and these practitioners are perceived locally as the innovators or early adopters of new ideas or technology. Here we might adapt West and Farr's (ibid) definition to embrace this fundamental building block for organisational innovation.

> *personal innovation* - the intentional introduction and application by an individual of ideas, and practices that are new to the individual, which are intended to benefit the individual, and others, in the situations they inhabit

Without this personal level of activity in an organisation, through which individuals learn to innovate, to experiment and turn their ideas into new practices, it is unlikely that innovation in a strategic organisational sense, will flourish.

A useful tool for categorising innovations is provided by Wai (2011 and Figure 4) which defines three categories of innovation - sustaining, breakout and disruptive.

Figure 4 Summary of types of innovation (Wai 2011)



In the sustaining existing products and services category (A) are innovations that add more value to what currently exists.

> Sustaining products and services (A in Figure 4) are the kinds of innovations companies often need to develop just to stay in the game. These incremental innovations can be thought of as variations on a theme. For example, in the category of household cleansers, a sustaining innovation might involve making the cleaning agent 10% stronger or pairing it with a new scent (Wai 2011).

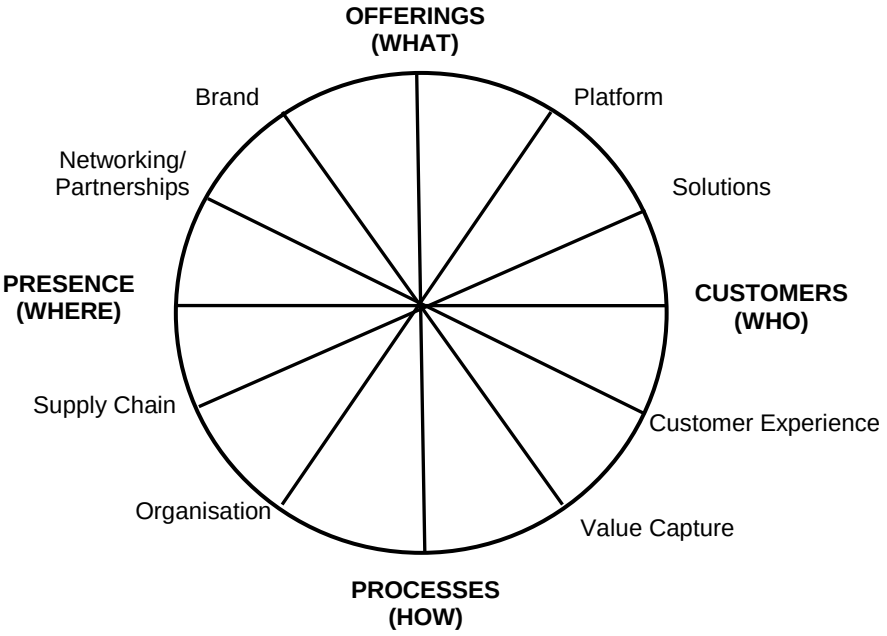
> *sustaining innovation* makes something bigger or better. Examples of sustaining innovation include airplanes that fly further, computers that process faster...and universities with more college majors and better activity centres....A *disruptive innovation,* by contrast, disrupts the bigger and better cycle, by bringing to market a product or service that that is not as good as the best traditional offerings but is more affordable and easier to use. Online learning is an example (Christensen and Eyring 2011 p).

Breakout innovations (B) offer significant improvements of existing products, services or processes, such that the results of innovation establish new standards or benchmarks.

> Breakout offerings are those that significantly up the level of play within an existing category. The sleek Motorola Razr, with its boundary-pushing design, was a runaway success for Motorola. Seeing it, customers couldn't help but want it--over time making it the best-selling line of clamshell phones ever. That said, it was still a clamshell phone, sold and used in much the same way as previous cell phones (Wai 2011).

Disruptive innovations (C) are often brought to market by newcomers, while established providers tend to focus on innovations that sustain their well established enterprises. The later often ignore disruptive innovation assuming that their current customers won't be interested. But as disruptive innovations get better through their own sustaining innovations they become a threat to the traditional products of services.

Figure 5 Innovation Radar - 12 dimensions of business innovation (Sawhney et al 2011: 30). The areas that SDP focused on are also shown.



Organisational Innovation

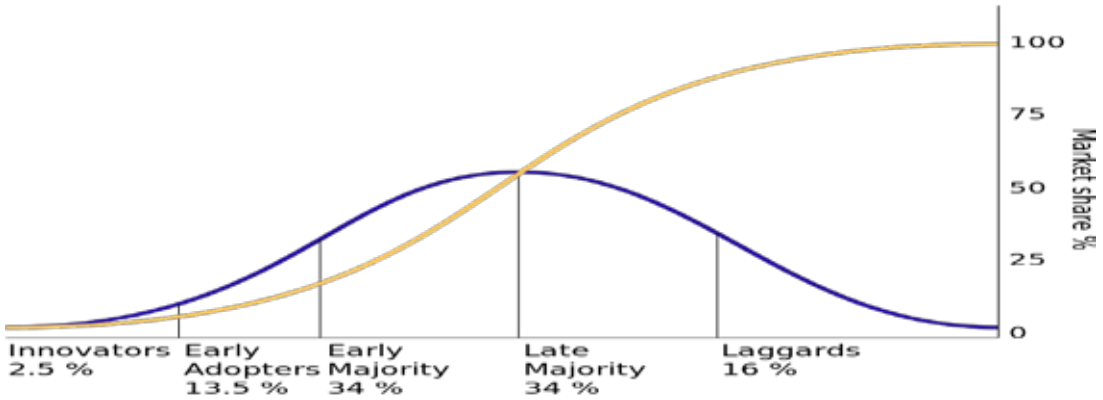
Organisational or business innovation used to be focused on products and services but the need to innovate means that businesses now approach innovation more systematically and holistically.

> We define business innovation as the creation of substantial new value for customers and the firm by creatively changing one or more dimensions of the business system.(Sawhney et al 2011: 28)

These authors took a 360 degree view and identified 12 key dimensions of business (Figure 5) comprising four main 'anchors' 1) the offerings the company creates 2) the customers it serves 3) the processes it employs 4) the points of presence it uses to take its offerings to market. Between these anchors are embedded eight other dimensions of business systems.

Systematic innovation that is stimulated through a deliberate organisational change strategy requires well managed and repeatable processes to move an organisation beyond a dependence on sporadic innovations to create a more constant and dependable and flow of new ideas (Speirn et al 2008:4). Equally important are the cultural conditions that encourage people to feel empowered and to know that support will be available should they invest their time, intellect and creativity in developing a new idea which has good potential for adding value to what already exists.

Figure 6 Rogers' Adoption / Innovation Curve. With successive groups of people adopting an innovation (shown in blue) the proportion of the population accumulates along the S-shaped adoption curve (yellow) i.e. successful innovation goes through a period of slow adoption before experiencing a sudden period of rapid adoption and then a gradual levelling off.



Diffusion and Adoption of Innovations

Diffusion research centres on the conditions which increase or decrease the likelihood that a new idea, product or service will be adopted by members of a given culture. Diffusion of innovation theory predicts that media as well as interpersonal contacts provide information and influence opinion and judgment. Studying how technological innovation diffuses through a social system Rogers (1976, 1995) argued that information about an innovation flows through social networks. The forms of communication used can greatly assist this process. Innovation diffusion research has attempted to explain the variables that influence how and why users adopt a new innovation. Opinion leaders exert influence on audience behaviour via their personal contacts and the respect they command, but additional intermediaries called change agents and gatekeepers are also included in the process of diffusion. Rogers identified five adopter categories : (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards. These categories follow a standard deviation-curve which reflects take-up or adoption over time (Figure 6).

The figure shows that very few people adopt an innovation in the beginning (2,5%), early adopters making up for 13,5% adopt the innovation a short time later, the early majority 34% follow and the late majority 34% follow after some time finally the laggards make up for 16% may or may never adopt the innovation. Based on this distribution curve any university is likely to have about 15% of its members who are willing to innovate or experiment with new practice if they get the chance. These people posses a set of qualities, values and attitudes that when applied to change make them a powerful force. They include: passion, enthusiasm, commitment, ambition, creativity, drive, energy, integrity, honesty, openness to new experiences, self-confidence, self-belief, a positive and optimistic attitude, a willingness to stick their head above the parapet and lead change and the ability to sell their ideas, negotiate with and persuade others that their ideas have value. A willingness to work with ideas and situations that continually evolve means that innovators have to be flexible in their thinking and approach (Jackson and Campbell in press).

This idea works well when the target for innovation is a population of potential users for example a university wanting to promote the use of a new piece of technology. Organisations can of course influence adoptions through managerial actions, use of policy or offering incentives.

Rogers (ibid) considers that for an individual adoption of any innovation tends to follow a pattern:

1 ***awareness*** - knowing something exists
2 ***interest*** – this looks interesting
3 ***evaluation -*** but is it useful to me?
4 ***trial*** - lets try it out / I'm going to change what I do
5 ***adoption -*** well that seemed to work
and we might usefully add
6 ***adaptation*** with a bit of tweaking I can make this work better for me

Rogers (ibid) also considered the influence on potential adopters of the *perceived characteristics of innovations* on the take up the innovation ie moving from *awareness* to *adoption*. They are:

- ***relative advantage*** (the 'degree to which an innovation is perceived as being better than the idea it supersedes of if there nothing comparable exists the degree to which the innovation affords *competitive advantage*)
- ***compatibility*** (the degree to which an innovation is perceived to be consistent with the existing values, past experiences and needs of potential adopters)
- ***complexity*** (the degree to which an innovation is perceived as difficult to use)
- ***trialability*** (the opportunity to experiment with the innovation on a limited basis and in a supportive environment)
observability (the degree to which the results of an innovation are visible to others).

We might also add ***sustainability*** to this list of characteristics **-** the degree to which an innovation can be sustained within the resources that are available.

According to Rogers (ibid), innovations that have greater *relative advantage* and/or confer *competitive advantage*, and which are *compatible*, *trialable*, and *observable* are more likely

to be adopted over existing products and services. And if they have similar functionality but are simpler than existing products and services that are more likely to be adopted.

Evaluating Impact of Innovation in HE

Evaluating the impact of innovation will vary according to the purpose and complexity of the innovation whether the focus is on :
1) *the market* eg a new type of course using a new delivery platform and forms of teaching and learning practices
2) the learner eg new strategies to encourage and support more effective learning or perhaps new types of learning outcomes
3) *the organisation* eg new processes systems and practices that affect the way the organisation works

Historically, two types of evaluation have been used to understand the process, effects, influences and impacts of innovation programmes and initiatives in education (Preskill and Beer 2012:4). *Formative* (process of implementation) evaluations typically focus on details about how a programme model takes shape; their purpose is to improve, refine and standardise the programme and the approach assumes that a programme will soon become a model with a set of reproducible activities, that if implemented correctly and with sufficient quality, will produce a predictable chain of outcomes. The same assumption of a stable programme model underlies *summative* evaluations that seek to answer questions such as 'Did the programme work?' Should the programme be continued or expanded?'.

The danger is that 'when a formative evaluation approach is applied to an innovation that is unfolding, it can squelch the adaptation and creativity that is integral to success' (Preskill and Beer 2012:5). As Knight (2003) explains evaluating the impact of new ideas and practices in complex turbulent social settings, like a university, is often not a straightforward matter.

> complexity theories hold that it is not possible to say that x is the cause of y; more subtle thinking is needed about the relationship between activities and those things we claim to be their effects or outcomes... when it comes to appreciate the impact of [complex interventions] we do better to turn to appreciation, connoisseurship, constructive critique and similar dialogical practices (Knight 2003:87)

Table 2 Assumptions and principles of formative and summative evaluation (Preskill and Beer 2012:4)

- The focus is primarily on model testing with a clearly hypothesised chain of cause and effect
- It is important to measure success against predetermined goals
- The evaluator should be positioned as an external, independent and objective observer
- Evaluations should be predictive logic models
- Evaluations follow a fixed plan
- Evaluation's purpose is to refine the programme or model and then render definite judgements of success or failure

It can be argued that bringing about significant change in a university (such as described in the case studies which follow) is akin to social innovation. While the long term goals might be defined the path to achieving them is less clear - little is known about what will work, under what conditions, how they will work and with whom? Also little may be known about the potential resistances to change, who will resist for what reasons? These things will only manifest themselves through the process of change. Decision makers and change agents have to explore what activities will trigger and then sustain change. Formative and summative evaluations are typically not structured to give decision makers the information they need when they need it to make informed decisions to support new developments where next steps are uncertain.

Preskill and Beer (2012:7) propose that an approach called Developmental Evaluation (DE) is more useful in supporting learning and adaptation in social innovations.

> Developmental evaluation informs and supports innovation and adaptive development in complex dynamic environments. DE brings to innovation and adpatation the process of asking evaluative questions, applying evaluation logic, and gathering and reporting evaluative data to support project, programme, product and or organisational development with timely feedback (Patton 2011).

DE is used in social innovations where there is no accepted model for solving the problem. The practice of continuous learning is embedded into the process and the role of the evaluator is that of a strategic learning partner and facilitator. An emergent and adaptive evaluation design ensures that the evaluation has purpose and it can respond in nimble ways to emerging issues and questions. The developmental evaluator brings complex systems thinking to the conversations about the process and results of innovation in these contexts. Preskill and Beer (2012:7) elaborate the sorts of questions that DE seeks to encourage reflection, conversation and judgments of value around (Table 3).

Table 3 Types of question answered by Developmental Evaluation (Preskill and Beer 2012:7)

- What is developing or emerging as the innovation takes shape?
- What variations in effects are we seeing?
- What do the initial results reveal about expected progress?
- What seems to be working and not working and why?
- What elements merit more attention or changes?
- How is the larger system or environment responding to the innovation?
- How should the innovation be adapted in response to changing circumstances?
- How can the project adapt to the context in ways that are within the project's control?

Evaluating the impact of particular individuals or organisational groups with particular responsibilities for promoting educational development and innovation within a university is of particular interest in the context of the two case studies in this essay. Hall and Loucks (1978) developed a tool for evaluating the level of impact of an educational intervention or unit that is supporting innovation that is very similar in its structure to Rogers' scheme (above) but goes beyond adoption to the dissemination of the adopted practice.

0 Not aware
1 Aware
2 Informed

3 Interested
4 Exploring and evaluating
5 Adopting and adapting (individual)
6 Adopting and adapting (group)
7 Disseminating in a community within an institution
8 Disseminating across communities in an institution

This scheme was adapted by Knight (2003:89-90) to create a tool for evaluating the impact of an Educational Development Unit on a university.

In concluding these comments on the evaluation of innovation in complex social environments like a university, it must also be appreciated that by its very nature, innovation is risky and unpredictable in terms of:

- which particular activity/intervention will work or prove useful or not
- who will benefit
- when exactly it will become useful and
- under which particular set of circumstances it will be useful
- whether the discovery and application will be as intended, or possibly of a quite different nature (Perrin 2000).

When academics try to enhance existing practice through an incremental change, there is a high probability of improvement. This is not the case with innovation which attempts to create something entirely new in that context.

> One does not expect new concepts necessarily to work — indeed, if one is trying really new and unknown and hence risky approaches, most should *not* work (Perrin 2000). In business 'on average, good plans, people, and businesses succeed only one in ten times' (Zider (1998:136).

Innovation involves encouraging the generation of ideas and putting promising concepts to the test. Hargadon and Sutton (2000), Zider (1998) and others remind us that 'success' often only comes after initial 'failure'. Managing and minimising the risk of failure is a serious aspect of innovating in the higher education environment which has the responsibility to provide students with experiences that do not impact adversely on their learning.

It is right to be concerned about the potential adverse effects of innovation and to develop capability for managing risk, but over concern can reduce the capability to innovate and adapt and this holds an even bigger risk to universities. Christensen and Eyring (2011) have perhaps done more to raise awareness of this dilemma.

> The current crisis in today's universities is real, and much of it is of the universities' own making. In the spirit of honouring tradition universities hang on to past practices to the point of imperilling their futures. When reduced budgets force them to cut costs they trim but rarely make hard tradeoffs. Nor do they readily reinvent their curricula to better prepare students for the increasing demands of the world of work. Paradoxically, they respond to economic downturn by raising prices. From a market competition standpoint, it is slow institutional suicide. It is as if universities do not care what is going on around them or how they are perceived.
>
> ...the ideal of the traditional university with its mix of intellectual breadth and depth, its diverse campus social milieu, and its potentially life-changing professors, is needed now more than ever.

> Yet to play its indispensible function into the new competitive environment, the typical university must change more quickly and more fundamentally than it has been doing....
>
> The combination of disruptive technology and increased focus on educational outcomes opens the door to new forms of competition.. This is a situation that is ripe for disruption..
>
> If [universities] cannot find innovative, less costly ways of performing their uniquely valuable functions, they are doomed to decline... Fortunately, such innovation is within their power. Christensen and Eyring (2011 xxii-xxv)

Christensen and Eyring crystallise the challenge for universities in a video interview for their book 'The Innovative University' http://www.theinnovativeuniversity.com/about/
Here is an extract from the interview.

> Higher Education historically has not been very good at finding out what students want and what they need. In the future there will be a wider array of choices for our students. When do I learn? Where do I learn? What do I learn and How do I learn? They will be able to make choices that are not only unique but which vary through time. And they are going to say this semester I'm going to go to college, or this semester I'm going to be at college but take half my courses on-line, or this semester I'm going to go to China and take only half of my courses and they will all be on line.

3. BRITISH UNIVERSITY CASE STUDY
A Tale of Bottom-up Innovation Supporting Strategic Change

Introduction

This illustrative story about trying to accomplish significant bottom-up change in a university is based on a study of strategic change at Southampton Solent University (Jackson in press), a medium size university of about 17,000 students[v]. The University's origins can be traced back to a private School of Art founded in 1856, which eventually became the Southampton College of Art. Mergers with Southampton College of Technology, and later the College of Nautical Studies at Warsash, led to the establishment of the Southampton Institute of Higher Education in 1984. Southampton Institute became a university in July 2005. The university is proud of its heritage with strong traditions in vocational forms of education particularly in business, technology, art and design, and maritime courses. Strong links with employers enable students to gain valuable work relevant education which strengthens their career prospects.

In 2007 the University's first Vice-Chancellor, Professor Roger Brown, retired and Professor Van Gore, who had been Deputy Vice Chancellor, took on the role of institutional leader. It is this point that marks the start of a new period of change. A new Pro Vice-Chancellor (Academic) was appointed in October 2007 and one of the first things she was asked to do was to co-ordinate the strategic planning process. The essence of the plan - a one page presentation (Figure 7) was developed by the senior management team during Autumn 2007 and published early in 2008.

To secure the additional resources needed to accelerate strategic development the University prepared a bid for additional funding through HEFCE's[vi] Strategic Development

Fund (SDF) whose purpose was to support change and innovation in the HE sector. The first stage of the bidding process was an exploration of options for strategic change conducted over 6 months the results of which fed into the bid for Strategic Development Funding to :

> accelerate achievement of its Strategic Plan and enable the creation of a distinctive and different kind of University whereby the cultures of academe and business could be bridged to provide fit for purpose industry relevant programmes meeting the needs of employers, whilst offering learners an experience to enable them to function in a fast changing world. Southampton Solent Strategic Development Fund Business Plan abbreviated text p7.

Figure 7 Southampton Solent University Strategic Plan 2008-13

Vision

- A vibrant, inclusive and successful University that is well known for the excellence of its work with students and employers and the effective integration of theory and practice
- A stimulating student experience characterised by intellectual rigour, personal fulfilment and excellent career prospects
- Imaginative external partnerships which develop the University and make a significant contribution to social justice and economic competitiveness

Mission

The pursuit of inclusive and flexible forms of Higher Education that meet the needs of employers and prepare students to succeed in a fast-changing competitive world.

Objectives

1. Inclusive and flexible forms of Higher Education that meet market needs;
2. Imaginative working partnerships with Further Education and employers;
3. A significant contribution to social justice and economic competitiveness for Southampton and its region;
4. Knowledge creation and exchange that fuse academic rigour and professional practice;
5. Excellent student employability;
6. Entrepreneurship and diversified income streams;
7. Changed employment arrangements that support high performance;
8. Sustainable growth and investment in the estate.

The core ideas that formed the basis of what became known as the Strategic Development Programme or SDP are represented graphically in Figure 8.

Figure 8 Summary of the key elements of the Strategic Development Programme. SDF bid p6

Funded jointly by SDF & Solent Southampton Solent

The outer circle contained five key areas for development that were being funded by HEFCE namely, staff and organisational development; progression partnerships; flexible curriculum delivery; employer engagement and quality assurance, together with new business systems whose development would be funded by the university. The inner circle represents the fundamental change in culture that was anticipated as an outcome from the process.

The anticipated deliverables from the programme of development work in four areas of core activity - progression partnerships; flexible curriculum delivery; employer engagement and business systems development were detailed in a table of anticipated Outcomes and Outputs.

The additional resources from HEFCE (£7.4 million over 3 years) enabled the university to distribute over £1.3m per year to support educational change and innovation, with a similar amount (equivalent to the Full Economic Cost element) assigned to the development of new business systems. This was effectively the university's investment in its own infrastructure.

Leading and Managing Significant Change

The strategic change process was led by the Deputy Vice-Chancellor (Academic) and it is important to note that this leader has remained with the project from conception and design to completion (over 4 years). The programme leader viewed SDP not as a discrete project but as part of an integrated portfolio. This enabled connections to be made that might not otherwise have been made and allowed for the emergence of opportunities that had never been anticipated. The leader acted as a 'broker' to bring people, resources, challenges and opportunities together - to make something happen or create something new.

> I think that brokerage is part of my role. The difficult balance all the time is making sure that you are alert to what people are telling you, that you are listening very carefully as well. ……..It is a very privileged position to be able to see not only what is going on across a programme of activity such as this, but also to have an overview of what is going on in terms of the university's other activities. I saw one of the key parts of my role was to be a champion for SDP at the highest levels of the university, but also, and probably more importantly because in the end it's the real work, to see those connections between what the university was doing and what was happening within SDP so that if there was some mutual advantage there we didn't miss the moment. And I've really tried throughout the whole project not to miss the moment, and that's impossible to write into a project bid or a timeline or anything like that. But it's been absolutely key because those opportunities come up and sometimes you just have to take it at that moment and see those connections and do it. Many of the things that emerged from SDP would not have happened any other way. So perhaps that's been the most important contribution I've been able to make to ensure that the vision that we have for SDP could be realised, the constant searching for the opportunities, linking up, connecting things.....sometimes I feel like I'm just weaving all the time, just pulling threads across, knitting them together and weaving them. *DVC Academic*

It has often been said that managing change where academics are concerned is like herding cats (Garrett and Davies 2010) and the use of project management methodology to manage innovation in the academic environment has the potential to create cultural and procedural dissonance (Kenny 2002). Bates (2000) compared a university to a "Post-Fordist"

organisation - a term used to describe an organisation, where teams of largely self governing experts are loosely held together by a common goal or purpose, only in universities there are at least two purposes formed around teaching and research and these are not always well connected.
The SDP-bid identified the need for a dedicated team to manage the three year programme so the appointment of a Project Manager and the rest of the team was an important step early in the life of the programme.

> The absolutely key element was appointing [the SDP Manager] to oversee the management of the project. Appointing someone who was willing to work with all of the complexity and ambiguity resulting from the way we were running the programme was vital. She has such an amazing range of skills and an ability to work with this type of programme. If we'd not made the right appointment there I think it's unlikely we would have been able to complete the work as well as we have done. *DVC Academic*

Here we see some of the qualities required for managing a large scale change project in the sort of organisational situation described by Bates (2000) who highlights the tension between the classic project management approach used in business environments and the traditional way in which academic staff in a university work. The cultural aspect of the independence of academics and the nature of their work, in which they have a range of teaching and other responsibilities, makes traditional project management practices problematic for educational development projects in which they are involved. In an attempt to overcome these challenges Bates (2000:73) advocated 'a much looser project management approach that specifies responsibilities and completion dates but does not attempt to quantify every activity on a micro level'.

One of the cultural issues relevant to change in a university is the tradition of deliberation and critical analysis which pervades every aspect of academic life. This can lead to inertia, a tendency to prevarication and a reluctance to make decisions to act. An underpinning philosophy of the SDP Team was the belief that change will only happen if people engage in activity that is likely to bring about change.

> [The SDP Manager] is notorious for sometimes getting into trouble because she would say "Just do it. Just get someone in. Let's just do it," and riding roughshod over all the HR protocols...it was sometimes perceived as being a bit too hasty and too none democratic..but it did mean that things happened and we could make progress.

Interestingly, the Project Manager, brought with her a model of organisational change that viewed the university as a complex adaptive social system (Stacey 1996) and this way of thinking influenced the small project management team.

> [the SDP Manager] based our approach on something called – complex systems. …she kept thrusting things in front of me which I probably should have read more thoroughly. But I sort of got it. I got what she was trying to do and we tried to work in an emergent sort of way. But we didn't know it was a theory called complex adaptive systems *SDP Team member*

The important thing was that this way of thinking chimed with the way the project leader also believed that strategic change should be approached. Both the leader and manager respected the emergent and adaptive nature of change and the need to 'watch in anticipation' that good things would emerge if the right conditions were created. Such a

perspective has important implications for the way the SDP and organisational development within it was conceptualised and implemented.

There are many indications that project management was conducted in a way that was sympathetic to the way Bates (ibid) considered it had to be conducted in a university setting.

The SDP Team fulfilled a number of important roles including: building trusting relationships with staff, sensing the needs and interests of the university community and how they aligned to the needs and interests of SDP. The role involved promoting the SDP and raising awareness of the opportunities it provided through events that they organised. It involved finding people who had ideas that they wanted to turn into new practices and encouraging and mentoring colleagues so that they were able to secure the resources to undertake this work. It also involved monitoring progress and holding those who received funding and support to account so that they could provide feedback to the Management Board. Above all the role involved putting their energy, enthusiasm and creativity into the process of engaging the university so that the intended outcomes could be achieved. These roles were complex and interconnected and they involved participating proactively rather than reactively in the change process.

Pattern of Development

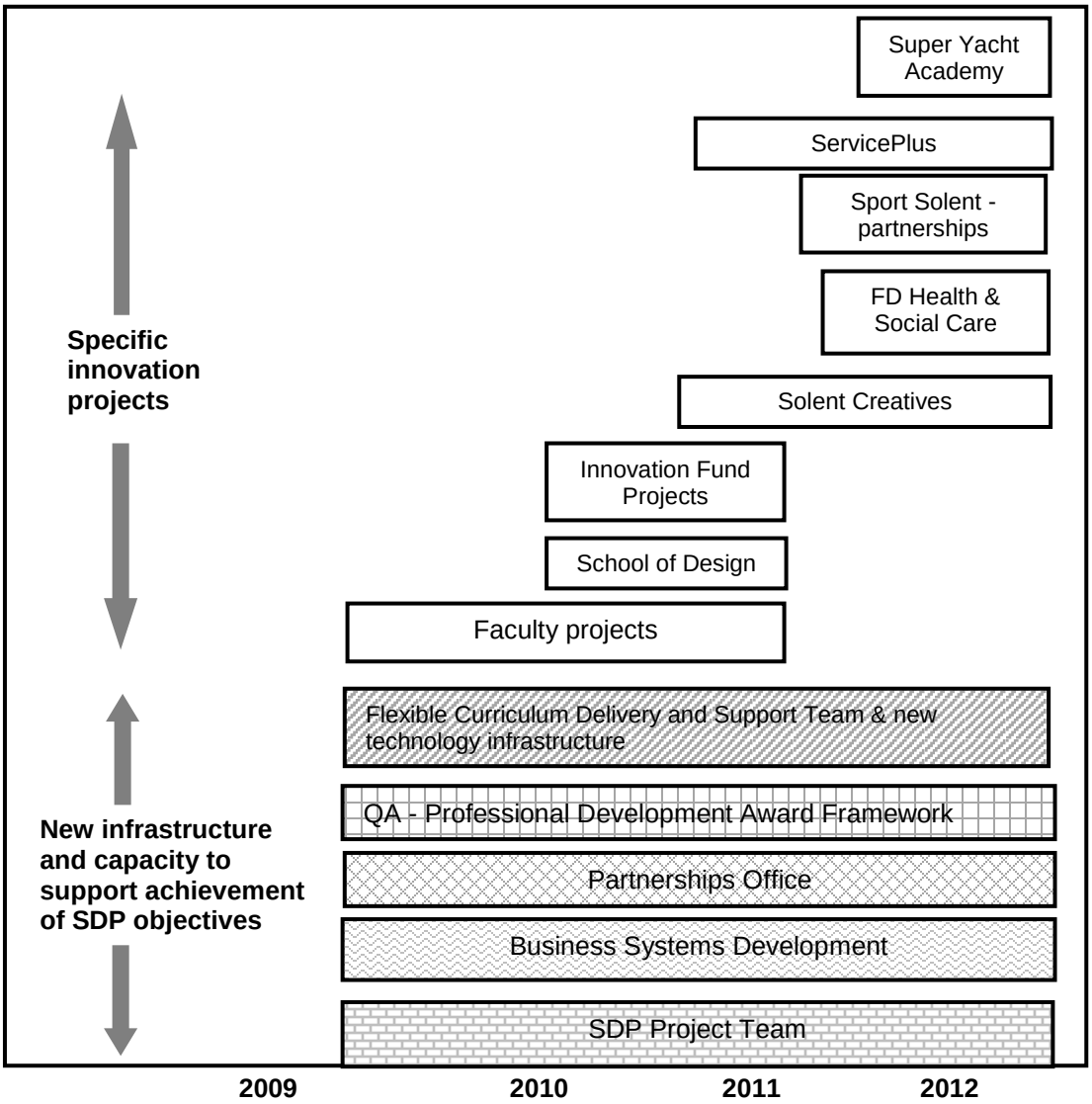
The SDP has a *beginning i*n which the focus was on engaging Faculties and the building of infrastructure to support the changes that were anticipated. A *middle* during which many experiments were undertaken and the best ideas were implemented, and an *end* which was focused on consolidating the gains that had been made. But like all organisational change there is never really an end as the continuous process of change means that ends are merely the platform for new change. Another way of describing the overall pattern of development is that the first two years of SDP were focused on achieving the objectives set out in the SDP plan through Faculty- and Service-based projects. The final year of the programme was about sustainability and making decisions about which parts of the SDP to maintain as part of business as usual and supporting staff in developing their capability and confidence to move the organisation forward. Figure 9 provides a map of the significant elements of the process and provides a timeline for locating the case studies described in subsequent chapters.

The story of SDP is complicated because it involves change within particular organisational structures like Faculties, Schools, Services and individual subjects and programmes. But it is a story whereby successful achievement in these areas has been enabled or facilitated by central infrastructures like Quality Assurance, Partnership Team, Flexible Curriculum Delivery and Support Team and a variety of new business systems. When these two dimensions of change are integrated change can be viewed through the lens of the broad themes that SDP was intended to address namely - employer engagement, flexible curriculum and delivery, and new partnerships for progression.

While innovation was only one aspect of the comprehensive change that SDP was intended to promote, the aspiration to innovate was deeply embedded in the change strategy. But how did the people who brought about the changes described in the case studies view the changes they had accomplished?

Academics are modest in the claims they make about their own contributions to the development of practice but they are no strangers to change, designing and implementing new curricula, teaching, learning and assessment practices is a part of everyday life. But SDP provided the Southampton Solent academic community with encouragement and support to engage in more significant change and innovation. This distinction of significance was made by many contributors during interview who emphasised that what they had done was more than the incremental change that characterises every day work.

Figure 9 summary of some of the major activities undertaken within the SDP over the three years of the programme. Innovation case studies (unshaded boxes) described by Jackson *ibid* are located on this timeline.



Types of Educational Innovation

The types of educational innovations accomplished within SDP are rich and varied and they extend across all four faculties and several non-academic areas. Examples are shown in

Table 4 using the twelve dimensions of business innovation diagram Figure 5 (Sawhney et al 2011: 30) as a mapping tool.

Consistent with previous studies of innovation in universities, interviewees recognised that their educational designs and experiences were new and original to their own thinking and practice and to their own context but they could not always appreciate the significance of their inventions in the wider university context and beyond. To understand the wider implications they needed the perspectives of others who were better placed to make that judgement eg members of the SDP team or senior managers.

Table 4 Examples of SDP educational innovations using the twelve dimensions of business innovation diagram Figure 5 (Sawhney et al 2011: 30) as a mapping tool.

What? new offerings
New types of educational programme like the:
- Foundation Degree Health and Social Care designed, delivered and resourced in partnership with a local Hospital Trust.
- MSc Shipping Operations
- new designs for professional development units in areas where there are known to be markets

New types of experiences for developing employability skills
- within existing programmes eg real world design, manufacture and marketing of garments in fashion courses
- new opportunities for freelance work with employers in the creative arts through Solent Creatives

Who? new customers
New types of learner like :
- distance learners who are working at sea served by the MSc Shipping Operations or SuperYacht Academy
- learners served by new professional development units in areas where there is a market for this type of provision.

How? new processes
New business systems and processes
New delivery and marketing platforms - Solent Virtual Campus, SuperYacht Academy
New networks through the assimilation of existing networks from outside the university into the university structures Solent College School Partnerships
New problem solving and opportunity creating practices -

Where? - new points of presence to take offerings to market
New relationships with FE colleges to improve student progression.
New relationships/strategic alliances with employers to create new co-designed programmes like the Foundation Degree Health and Social Care
New relationships with schools and colleges through the sports partnership

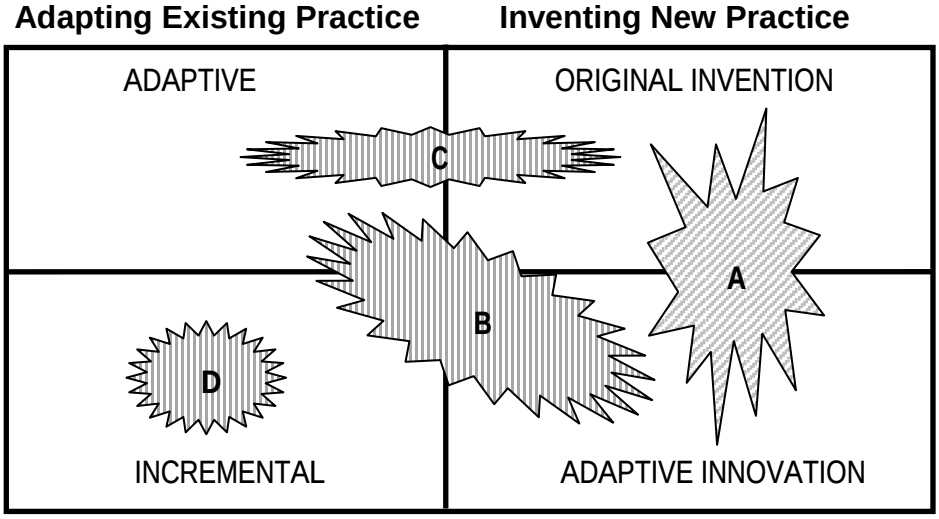
Contributors to the SDP case studies were invited to locate their own project in a framework (Figure 10) which categorised change as either essentially building on existing practice (either incrementally or more adaptively) or essentially inventing new practice where non-existed before, perhaps incorporating some elements of things that existed before but conceptually creating an entirely new process, service or product. The following conclusions can be drawn from these patterns of change.

Firstly, none of the SDP innovations described in the case studies (Jackson 2013) were entirely new inventions created from a blank sheet of paper - all incorporated elements that

had existed before into entirely new designs for services and processes. Essentially new inventions for the institutional context incorporating some existing elements (A domain in Figure 10) include: the 1) MSc Shipping Operations, 2) Foundation Degree in Health and Social Care, 3) Solent Creatives 4) Warsash SuperYacht Academy (see Jackson 2013 for descriptions of these innovations).

The second pattern of innovation (B in Figure 10) is one where the orientation is on transfer and assimilation, followed by significant adaptation such as occurred when Sport Solent appropriated an existing external network structure into the university, assimilated it into its structures and then began adapting it by introducing new elements and connections.

Figure 10 Summary of types of innovation found within Southampton Solent University's strategic development programme (SDP)



Some innovators also recognised a combination of adaptations of home grown practice combined with original invention (pattern C) such as was found in the School of Design's 'Collegiate range' and 'Industry-school partnerships' projects.

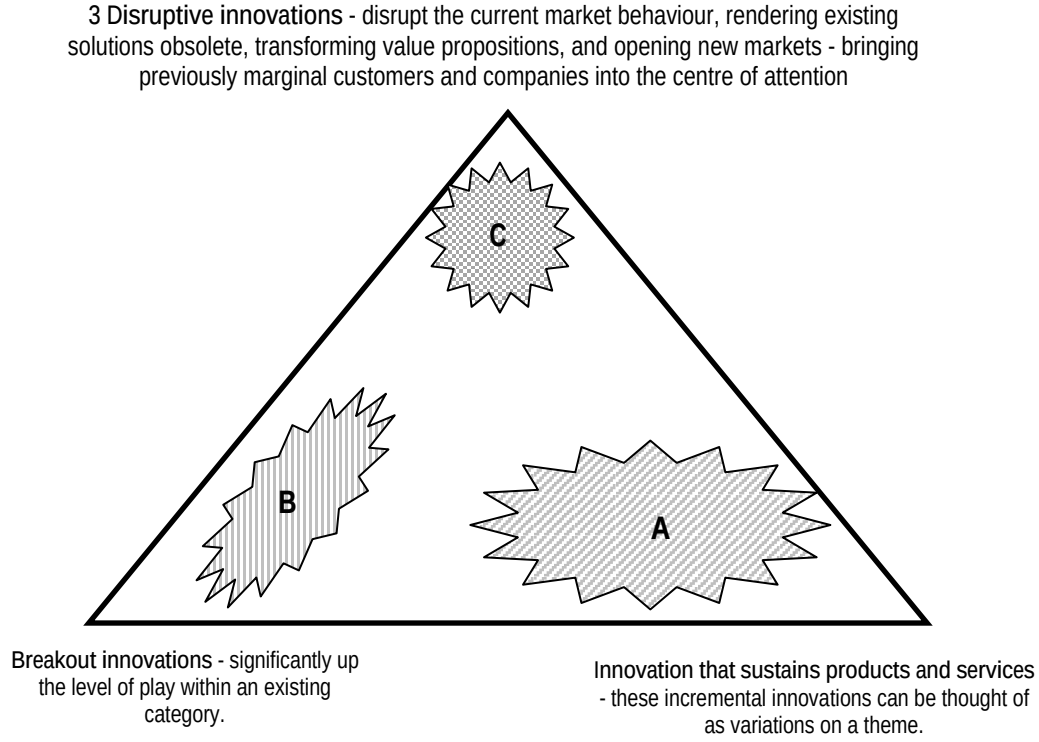
The fourth pattern of change associated with the SDP innovations was the shift to incremental change once the main change had been accomplished (D). All the case studies reveal this pattern once they have been through the first cycle of implementation.

Using the tool developed by Wai (2011 and Figure 11) there are examples of SDP innovations in all three categories. Innovations that fall into the sustaining products of services category include most of the innovations that were created through the SDP Innovation Project Fund (Jackson in press). Examples of sustaining innovations include the introduction of new software to create better reading lists or the introduction of text messaging to improve access to the library enquiry service. Most of the innovations described in the School of Design SDP project also fall into this category. The university's attempts to involve its administrative teams, by building a culture of continuous improvement through the Service Plus approach to identifying and solving problems, might also be placed in this category of innovation. Another significant area of development work was focused on business systems and the processes that underlie

them. These are best seen as structures that support and enable the other innovations. In that sense they are sustaining innovations but they pave the way for others to create breakout and disruptive innovations.

In the breakout innovations category we are dealing with significant improvements of existing products, services or processes, such that it sets new standards. SDP innovations that fall into this category include Warsah SuperYacht Academy which created a new portal as a way of representing and marketing its educational opportunities and other services to a niche market that Warsah Maratime Academy was already serving. There are other players in this field but the portal sets new standards in targeting and presenting educational and training opportunities to a niche market. Furthermore, this innovation could combine with the type of on-line delivery developed in the MSc Shipping Operations to create an innovation that was disruptive (see below).

Figure 11 Summary of types of innovation associated with SDP case studies. See text for explanations of letter coding.



The Foundation Degree in Health and Social Care might also be described as a *breakout innovation* because the change has 'significantly upped the level of play within the category of activity called 'working with employers to provide learning and development opportunities for their employees.' In developing this programme which closely relates to the needs of a specific employment sector, using new principles of design (a structure based on self-contained Professional Development Units - PDU's), it might also be deemed 'disruptive' as it is opening up entirely new markets. Perhaps it is also disruptive to thinking within the university in the sense that 1) it offers a new model for working collaboratively with employers in the co-design and co-delivery of learning and 2) this new form of collaborative provision is challenging traditional ways of organising and allocating resources and making

decisions. Because of this it may lead to new forms of organisation and new business models.

Some innovations span more than one innovation category, especially if they are viewed from different user perspectives. For example, from the perspective of someone working in a local school- Sport Solent's School and College Partnership scheme could be described as an innovation that *sustains services* (services that had previously been provided by someone else). However, from the university perspective this is more of a *breakout innovation* because the change created an entirely new network structure which effectively created an entirely new university service enabling students to find high quality work placement opportunities in sport-related professional fields.

Three characteristics distinguish disruptive innovation from regular change (Clayton et al 2011, Soares and Morgan 2011). Firstly, disruptive innovators target their service or product at the needs of a new group of customers. Initially, this may be a local niche market but over time attempts are made to expand from local to regional, national and international markets. Where a product or service already exists, the 'disrupter' provides a simpler, more affordable product than the one offered by other companies but often there is no suitable product or service in an entirely new market. These new customers have a different job they want done to what higher education normally provides. The second characteristic is that disruptive innovation uses enabling technology which simplifies and routinises the way a company delivers its service or product. The third and final characteristic is that disruptive innovation eventually gives way to a new business model—a new way to organize the people, technology, and processes to deliver a service at a lower cost in an expanded market. The new business model allows disruptive innovators to beat their competitors who are unable to respond because they are locked into an old, clunky business model.

From the characteristics described above, the best example of an SDP innovation that meets these criteria is the MSc Shipping Operations which is seeking an entirely new market (professional learners who are at sea) and has adapted its expertise in maritime education face to face delivery to on-line delivery. The programme is designed in both a continuous and small course Professional Development Unit (PDU) format again to meet the needs of these types of learner. Learners make use of their own professional experiences and the technology permits interaction with other learners even though they may also be at sea. Technology, in the form of a new delivery platform, is clearly the enabling device. But the teachers have had to adapt and develop new forms of pedagogy to support and deliver this type of programme.

Innovator Perspectives on Accomplishing Change

The innovation of professional practice is a highly situated phenomenon. Only the people involved can see the possibilities and turn their imaginations into new practice that has meaning in and beyond their context. One of the important contributions that the innovators can make to organisational learning, is to share their perspectives on the factors that enabled or inhibited change in their particular contexts.

A questionnaire was developed from a pilot study within the larger SDP study which identified factors that seemed to be important in enabling change to happen. These factors showed a remarkable degree of consistency with a recent study conducted by Amabile and

Kramer (2012), of factors that influence inner work life, which in turn impact on employee performance and creativity in the work environment. A small number of additional factors were incorporated into the questionnaire from this study. A total of twenty two factors were identified in the questionnaire and twenty one people who were involved in SDP innovations completed it. Their responses are summarised in Table 6

The most striking conclusion is that all these factors are important to people when they are undertaking significant change. 21 of the 22 factors scored an average of 4 or more, and 19 factors scored 4.3 or more (max 5.0). The only factor to score less than 4 was (1) 'Having a clear vision of how the university saw its future and how SDP contributed to that vision.' However, most innovators had a clear vision of what they wanted to accomplish. Their vision is clearly more important to them than the strategic vision of the institution.

Table 6 Innovator ratings (n=21) of the importance of a range of factors in enabling them to accomplish their innovation A) importance to them B) extent to which this factor was realised.

	A						*B*					
	Not very important				*important*	*Av*	*Not realised*				*realised*	*Av*
	1	2	3	4	5		1	2	3	4	5	
1 Having a clear vision of how the university saw its future and how SDP contributed to that vision		1	4	12	3	3.7						3.8
2 My readiness and willingness to get involved in the SDP opportunity			1	5	15	4.7			2	8	11	4.4
3 My vision of what I wanted to achieve			2	7	12	4.5		2	4	9	7	4.1
4 My will/motivation to succeed with something I cared about			1	9	12	4.7		1		13	7	4.2
5 Having explicit goals and realistic work plans to achieve my objective		1	1	8	11	4.4	2		8	5	6	3.1
6 Having the autonomy to implement the project as I wanted to		1	2	8	10	4.3	1	1	5	8	6	3.8
7 Having the opportunity to use my personal creativity	1	1	3	5	11	4.1		1	7	8	5	3.8
8 Believing I could take risks without feeling I would be criticised if I wasn't completely successful	1		1	9	10	4.3		3	3	7	8	4.0
9 Having the financial resources I needed when I needed them			1	7	12	4.3	1	2	4	11	3	3.6
10 Having the time I needed to complete the job			1	10	10	4.4	2	4	8	6	1	3.0
11 Being able to find the help I needed when I needed it			2	10	9	4.3	1	1	12	6	1	3.4
12 Having good communication with the people I needed to talk to			1	9	11	4.5		3	7	6	5	3.6
13 The active involvement of others - good teamwork				6	15	4.7			5	11	5	4.0
14 Learning through the experience (learn from problems as well as success)			2	11	8	4.3			3	12	5	3.9
15 Feeling trusted and being allowed to get on with it without interference				7	14	4.7	1		2	10	9	4.4
16 Feeling that I made good progress within the time available			1	8	12	4.5	1	1	4	7	8	4.0
17 Feeling that what I was doing was valued by my colleagues			2	6	13	4.5		1	4	10	6	4.0
18 Feeling that what I was doing was valued by Head of School/Service/ Dean			3	7	11	4.4		1	8	8	4	3.7
19 Forming new productive relationships with colleagues in my school or elsewhere in the university		1	3	7	10	4.2			3	10	8	4.2
20 Forming new productive relationships with people outside the university		1	2	8	10	4.3		1	4	8	8	4.1
21 Feeling that the environment encouraged and supported me throughout the process especially when things did not go as planned			2	11	8	4.3	1	3	9	6	2	3.2
22 Feeling my contribution to the SDP has			1	12	8	4.3		2	4	13	2	3.7

been recognised and appreciated												

The highest rated factors scoring 4.5 or higher (max = 5.0) were -

2 My readiness and willingness to get involved in the opportunity provided by SDP
3 My vision of what I wanted to achieve
4 My will/motivation to succeed with something I cared about
12 Having good communication with the people I needed to talk to
13 The active involvement of others - good teamwork
15 Feeling trusted and being allowed to get on with it without interference
16 Feeling that I made good progress within the time available
17 Feeling that what I was doing was valued by my colleagues

Personal characteristics (my will, my vision, my readiness) feature prominently in what is important, together with the way people wanted to be trusted and feel that their contributions would be valued. High value is also placed on communication, the social dimension of work and the need to make progress. The large number of factors innovators believe are involved in enabling innovation to be accomplished is striking and accounts for much of the complexity involved in innovating.

Innovators were invited to consider the extent to which each factor was realised through their particular SDP change project. The general conclusion here is that there is often a gap between innovators ratings of the importance of a factor in accomplishing significant change and the extent to which it was realised in their particular innovation process.

Eight factors had significantly lower average scores for realisation compared to the average scores for what was believed to be important, namely -

5 Having explicit goals and realistic work plans to achieve my objective (3.1 versus 4.4)
9 Having the financial resources I needed when I needed them (3.6 versus 4.3)
10 Having the time I needed to complete the job (3.3 compared to 4.5)
11 Being able to find the help I needed when I needed it (3.0 versus 4.4)
12 Having good communication with the people I needed to talk to (3.6 versus 4.5)
13 The active involvement of others - good teamwork (4.0 versus 4.7)
18 Feeling that what I was doing was valued by the Head of School/Service or Dean (3.7 versus 4.4)
21 Feeling that the environment encouraged and supported me throughout the process especially when things did not go as planned (3.2 versus 4.3)

These factors boil down to a combination of having the resources to complete the task of innovating, and innovating in an environment that supports and values the efforts of the innovator. In other words there was a consistent pattern of responses that suggests that there is a gap between the type of environment innovators believe is important to bring about innovation successfully and the environment that they experienced while they were innovating. Closing this gap would go a long way to creating an organisational culture that was as supportive of innovation as the innovators would like it to be.

4. FACTORS AND CONDITIONS INVOLVED IN FACILITATING BOTTOM-UP INNOVATION THROUGH STRATEGIC CHANGE

The study of strategic change at Southampton Solent University demonstrates the value of bottom-up innovation within a comprehensive and sustained strategic change project. While top down initiatives, like the introduction of new business systems and processes are essential to enabling a university to be more effective, responsive and adaptive in its educational work, it is the innovators who provide the key resource to enact and embody the significant educational changes the university is trying to make. The study reveals that innovators thrive in an organisational culture where leaders and managers are encouraging, supporting and enabling. Where they have the resources - especially time to make change happen. Where the institution's systems and procedures enable rather than hinder progress. Where they have the respect, emotional support and encouragement of managers and colleagues and where they can find help when they need it. Where they feel their efforts have been valued and have made a positive difference.

It stands to reason that for organisational change to be successful the conditions and situations embodied in the factors that innovators consider to be important in accomplishing significant change (Tables 6), have to be supported and realised. Twelve factors summarised in Table 7 and elaborated below, provide an overarching framework within which bottom-up innovation is more likely to be encouraged, supported and facilitated within a process of strategic change.

Table 7 Summary of factors and conditions which are conducive to organisational change and encourage and enable bottom-up innovation. These factors and conditions would accommodate the factors that innovators consider to be important (Table 6).

Leadership, management & facilitation of strategic change & bottom up innovation

1 Leadership is shared and distributed
2 A strategic vision that inspires people to create their own visions for change that they will embody
3 A strategy for both planned and emergent change
4 A strategy that involves the whole socio-cultural environment
5 Involvement of brokers to facilitate change across and between organisational structures, hierarchies and boundaries
6 An effective but flexible approach to managing and accounting for resources

Environmental/cultural factors that support, encourage and enable strategic change and bottom-up innovation

An environment/culture that:
7 promotes effective, honest and meaningful communication
8 recognises and supports resolution of local contentious practice - that facilitates rather than inhibits progress
9 encourages new relationships and collaborations to foster change
10 provides emotional support and celebrates what has been achieved
11 values learning and encourages and enables people to share what has been learnt so that it can be used or adapted to other contexts
12 encourages people to take risks and harness their creativity to actualise themselves

Leadership, management & facilitation of strategic change & bottom up innovation

1 Leadership is shared and distributed across the whole organisation

Whole organisation change is led from the top, middle and bottom. Leadership is shared and distributed throughout the organisation and innovators must be viewed as leaders of strategic change.

Leading from the top involves visualising the future and creating the conditions that motivates people to move the organisation in the direction of that future. It requires an integrating style able to hold the vision and deliver on commitments, but which is also open, flexible and trusting to allow ideas to emerge from the middle and bottom, and enable people to take ownership and exercise their autonomy to create and implement change. It involves trusting people to create the change once the direction has been set and encouraging and supporting the right sort of changes as they emerge.

Leading from the middle requires managers to accept responsibility for involving their Department, School, Faculty or Service in the strategic change and creating the conditions that encourage and enable their staff to participate in change. Leading from the middle involves translating organisational objectives into objectives that are meaningful in the local socio-cultural practice environment. Leading from the middle does not mean 'go and do it' it means 'we will do it together.'

Leading from the bottom involves individuals accepting responsibility to make change happen by adapting existing or inventing new practice that is consistent with the change the institution is seeking to make. The innovators are people who lead change by involving themselves in it and showing others how to accomplish it.

There is one secret to leading organisational change. The leaders at the top and in the middle have to create the conditions in which people at the bottom feel empowered and are enabled to change themselves and their own practices in order to make strategic change happen. This is a shared concept of leadership in which leadership is broadly distributed, such that people within a team and organization lead each other. It is a social, non-hierarchical concept and contrasts with more traditional notions where leadership roles are vested in individuals appointed by management.

2 A strategic vision that inspires people to create their own visions for change that they will embody

An organisational vision for strategic change must encourage and enable people to create their own visions through which they can enact and embody change that they own. The secret of encouraging bottom-up innovation through strategic change requires people to connect their own visions for educational change with the institution's strategic ambition.

Organisational change involves someone with the power and authority to see the direction in which the organisation needs to travel and communicate that through a vision for a different and better world. An organisational vision for strategic change, must encourage and enable people to see things in a different way and inspire them to create their own visions through which they can enact and embody change that they own. A vision at the top is of little value if people at the bottom cannot understand and relate it to their world of everyday practice. Middle managers have an important role in translating high level ideas and engaging staff in new conversations about the implications of such ideas.

The SDP vision was simple and clear, and consistent with the University's strategic plan. But the vision has to be interpreted and animated through conversation so that they enter the

imaginations of individuals. The SDP Team and the SDP Project Leader played an important role in communicating the vision to all parts of the university but middle managers were key to translating the vision into ideas that their staff could create meanings that related to their everyday work.

3 A strategy for both planned and emergent change

To be successful a strategy for significant change has to be owned at the top, middle and bottom of the organisation. Strategy needs to balance the needs for planned action with the need to create the conditions that encourage an organic and emergent process of change in the practice environment.

The university set out to transform itself through the SDP and investment in bottom-up innovation formed a significant part of the strategy. The architects and managers of the strategy were aligned in their thinking and action was coordinated and sustained in a consistent manner over time. Furthermore the vision that was communicated and the support that was given from the top encouraged and enabled people in the middle and bottom of the organisation to interpret the SDP goals in ways that were meaningful to their own contexts and practices.

> You have to balance the pursuit of aspirations and goals with taking advantage of unanticipated opportunities. Managing this part of the strategy process is often the difference between success and failure for companies.. (Christensen et al 2012:42)

For a strategy to be successful it needs to involve deliberate planned actions to achieve tangible objectives and goals but also contain the space and intention to improvise as new and better ideas emerge. It needs to encourage, stimulate and support activity that will lead to change and provide sufficient resources to enable change to happen and ensure that people involved in change have the necessary resources when they need them. This

process of connecting top, middle and bottom in this way is more likely to create ownership and responsibility for ideas and actions so that the change that emerges is owned at all levels of the organisation. It is this connectivity that creates the sense of affiliation that is so important in change – we are all in it together.

Emergence cannot be controlled, predicted or managed but the leaders, managers and facilitators of organisational change can create conditions that are more likely to lead to changes of a certain type (Richard Seel's ten conditions for emergence are highly relevant here - Seel 2006).The successful management of change combines and integrates managed, purposeful and focused change through planned activities that enable and encourage people to *improvise and discover* the best ways forward for themselves.

4 A strategy that involves the whole socio-cultural environment

Strategic change must involve the whole organisation. It involves working within, across and outside the cultural and practice grains of the organisation

Change will only happen if people actually do new things ie they get involved in change by actively doing things rather than only thinking and talking about it. The strategy must eventually involve most of the people in the organisation doing new things only then will change at the level of the whole organisation occur.

The SDP sought to involve the academic (faculty) teaching community in all the Faculties and Schools through the funding of innovation through Faculties, Schools and individuals. It engaged Faculty and Service Administrative teams through the Service Plus project that sought to involve administrators in creating solutions to problems and challenges relating to the strategic agenda. Furthermore, by changing a number of business systems that were central to many of the university's operations it involved all staff in fundamentally new

practices that were more in tune with the strategic changes the university was seeking. The feeling that everyone was involved, and change was not just targeted at a specific group of people was an important factor in accomplishing change at the organisational scale. By offering incentives to stimulate change and innovation within academic Faculties and Schools the university was seeking to work within the disciplinary cultural grain.

By supporting individuals and teams with central expertise, for example in the design of on-line flexible learning, the university facilitated development and innovation in the Schools that was more consistent in its outcomes and quality standards than if development had been entirely from within the School. There are many examples of the university supporting innovation within the cultural grain to achieve the global objectives of the SDP in ways that are appropriate and relevant to the discipline area

Working across the academic cultural grain has been accomplished through the introduction of new business systems and through the Service Plus project which is increasingly involving teams containing both academics and administrators.

Working outside the existing cultural grain is witnessed in the Foundation Degree in Social and Health Care and more recent spin-offs where university staff are working in partnership with employers who have a very different cultural heritage to that found in the university.

People are more likely to commit themselves to significant change if their will to be involved is driven by their own intrinsic motivations rather than extrinsic forces. Giving people the choice or freedom to chose to be involved seemed to be crucial for involving innovators

Innovators are people who create and innovate regardless of whether there is a strategic change initiative they are the key resource for leading bottom-up change and to changing institutional culture. The SDP performed the role of an 'attractor' and people who are naturally innovative will be attracted to such initiatives.

> I always put my hand up for those things because I like doing other things. I mean I love teaching but obviously I like getting involved in other projects. *Innovator*

> I respond to challenges and I am always looking for the next thing, the next idea. I come up with lots of ideas. I like following through with them as much as I can. Obviously there does need to be support for that, so yeah. I have got involved as much as I can. *Innovator*

People like to invent their own ideas they don't like being given them. For any plan for change to be credible it has to be based mainly on ideas that are familiar and authentic to the people who will turn them into new practice. This is why top down strategy has to enable people to interpret the strategy offered by the top and create their own ideas for change at the bottom.

A strategy that seeks to involve everyone in change (Figure 6) invites the innovators and early adopters to lead strategic change through their inventions of new practice and adaptations to existing practice.

> you have to harness your champions and your front [line] leaders *Dean*

The insights and new practice models that they provide can then be adapted to other parts of the organisation and change is propagated in this way. Organisational and trans-organisational brokers involve others through activity that encourages, supports and generally facilitates change. External consultants may also be employed to introduce new ideas and / or facilitate changes of behaviour (for example the involvement of administrators in bringing about change through the ServicePlus project). The process of disseminating the results of change, for example through the annual Solent Exchange conference, means that large numbers of people in the organisation are exposed to new ideas and ways of doing,

and the introduction of new business systems and processes means that most people in the organisation are eventually involved in change.

5 Involvement of brokers to facilitate change across and between organisational structures, hierarchies and boundaries

Brokers play a key role in organisational change they facilitate communication, networking and working between and across the constituent parts of the organisation and help overcome impediments to progress

The SDP team played a key role in supporting the implementation of strategy. They encouraged and facilitated staff engagement, cultivated relationships, organised activities and monitored and reported on progress. They performed a 'brokerage role' which Jackson (2003) considers an essential role in bringing about change in complex organisational systems. Organisational brokers work in collaborative and creative ways with people, ideas, knowledge and resources to enable things to happen that otherwise would not happen. Brokers are a kind of multi-skilled anthropologist who can get inside and comprehend not just needs and desires, but the language, politics, positioning and outlook of the different parties (Barnett 2003:xviii).

Given the organic nature of the emergent process they were trying to facilitate, the SDP team's brokerage role might be characterised through the metaphor of gardeners cultivating the conditions for SDP projects and innovators to flourish and enable people with new ideas and practices to grow through the process of enacting change.

Overcoming inertia and securing initial engagement is the most difficult thing to achieve in bringing about change in a university. Like all good gardeners the SDP team were proactive, they 'nudged' people into action and encouraged them to take risks - sometimes in opposition to established procedures. Like good gardeners the SDP Team kept a watchful eye on their garden. They were the eyes and ears of the institution gathering information

relevant to accomplishing change and monitoring and documenting progress and making small interventions where they believed more growth could be nurtured. As some of the case studies reveal, bringing about change, especially when it is on top of an already busy life, can cause anxiety and be very stressful. On occasion members of the SDP Team provided emotional support, 'a shoulder to cry on', or took on a coaching/ mentoring role suggesting that they were also involved in the empathetic management of anxieties within the SDP process. The SDP Team was also proactive in sowing new seeds (eg involving new people), propagating ideas and disseminating the results of innovation.

The SDP Team with its overview of the 'Solent garden' and its expertise in organisational change was also able to appreciate what was missing. The willingness to try out new techniques and take risks, led to the introduction of entirely new and novel approaches to organisational change, such as the ServicePlus approach.

Like all good gardeners the SDP Team accumulated and used the knowledge that they had gained about what works or doesn't work. This book is just one example of the concern for consolidating and applying the learning that was gained**.**

The change programme also utilised brokers who spanned organisations. For example, the secondment of a member of the Southampton Hospital NHS Trust to the University resulted in a number of innovations that would not have been possible without their involvement.

6 An effective but flexible approach to managing and accounting for resources

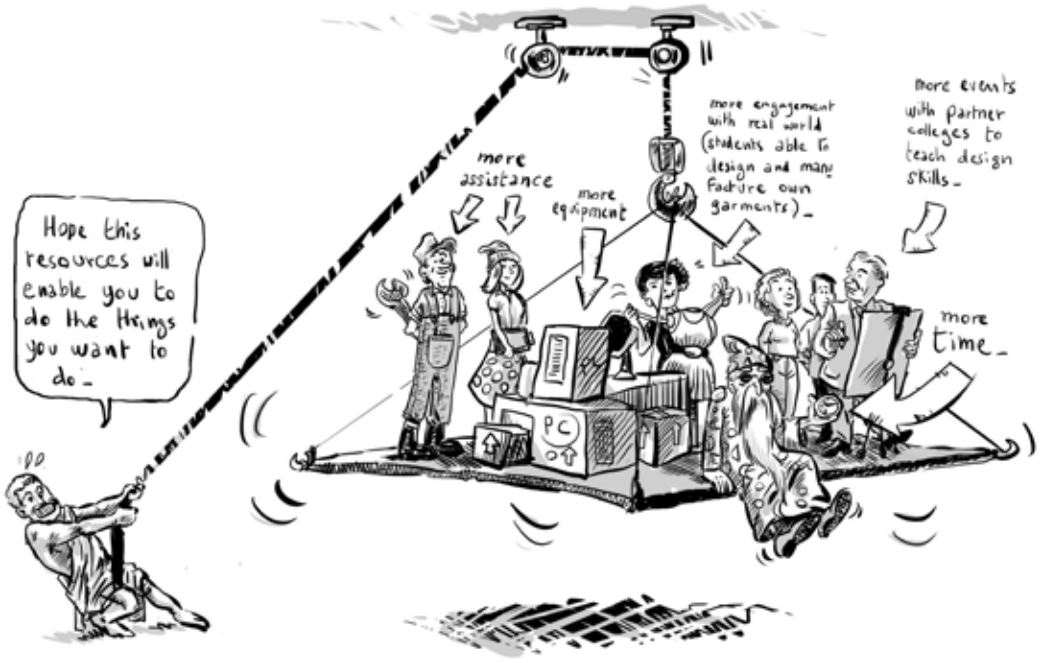
Changing an organisation requires new resources or the redistribution of existing resources - the most important of which is time. Resourcing change that is emergent requires a more flexible and adaptive model of distributing resources than is used in more predictable operational processes

Real strategy in companies and in our lives is created through hundreds of everyday decisions about how we spend our resources. As you are living your life from day to day, how do you make sure you are heading in the right direction? Watch where your resources flow. If they're not supporting the strategy you've decided upon, then you are not implementing that strategy at all. (Christensen 2012: 62)

Large scale organisational change requires the distribution of significant new resources. Regardless of whether the funding is externally or internally sourced there needs to be effective mechanisms for assigning and distributing resources, monitoring and accounting for their use. The Solent strategic change programme used a combination of SDP Team procedures and decision making, and the University's Management Board to approve the distribution of resources and account for their use.

Large publicly funded projects in universities are often overseen by a Steering Committee whose purpose is to ensure that there is proper and effective accountability. For the SDP project the decision was taken to use the existing university 'Management Board', the senior collective managerial decision making body of the university to provide the supervisory and project approval function. This governance mechanism was efficient in terms of the use of managerial time and they served the project well: the downside was that SDP was treated as

one item in a busy and competing business agenda and the structure did not encourage the growth of new institutional champions beyond the membership of Management Board.



People who were directly involved in change discussed resources in terms of their time and workload, and their ability to manage their time for development work alongside existing teaching and administrative commitments. Being able to manage and juggle time for development and existing commitments is an essential capability for all those involved in change. For academics the additional complication involves managing time within a fairly rigid academic calendar and weekly timetabling of teaching activities.

SDP resources provided additional capacity to employ knowledgeable consultants, or administrative or technical assistance from people within and outside the School. People also talked about resources in terms of funding and physical resources like equipment, the manufacturing of products created through an educational process, and social activity like hosting events and exhibitions for students from local 6th Form Colleges. The Strategic Development Fund was able to help with all these things.

SDP provided a reason and focus for change and through the resources it provided it enabled more ambitious change to occur than would have been possible through the normal incremental change process. SDP was able to provide time, support and funding that was not otherwise available, thus acting as a catalyst to enable individuals to actualise their ideas

> I mean bottom line, it gave us the cash, so it bought time and it bought people like the part-time lecturer. We could pay her to undertake that research. We could pay a student to upload, so it gave us the cash and freed up some of our time to get involved with it as well through remission. *Innovator*

The downside of upfront planning and resource allocation is that estimates have to be made in advance of the problems, challenges and opportunities being known. Consequently it is difficult to anticipate needs and match actual requirements particularly in response to the unforeseen challenges of radical change.

> I think .....more resources would have been helpful because ..... they didn't realise how big each project was, so ideally each of those projects should have had an extra person giving their assistance and that would have been very helpful to all of them actually. *Innovator*

While it is a straightforward matter to distribute and account for resources in a system that is operating in a business as usual mode, it is not so easy when the business is change and much of that change appears in an emergent form. The case studies reveal that from the innovators' perspective resourcing mechanisms were not always responsive to the emergent nature of the change process. Designers of strategic change and innovation projects need to design in a significant contingency to deal with the unexpected or develop mechanisms for gaining additional funds as a change process unfolds.

Transparency and fairness in how resources are allocated to where they are needed is an important aspect of involving people in change.

> *Faculty Dean* We had to create a fair system. It was creating that fairness that was the hard bit.
>
> *Interviewer:* So creating a fair system sounds like an important thing to do when you are trying to get buy-in above and beyond the day job.
>
> *Faculty Dean*: Hugely, it is massively important to me....The teams know that work with me that I will be awfully fair about sharing out the workload and sharing out the rewards that come from it as well. You do get money that comes in. I have gone over backwards to be transparent about it.

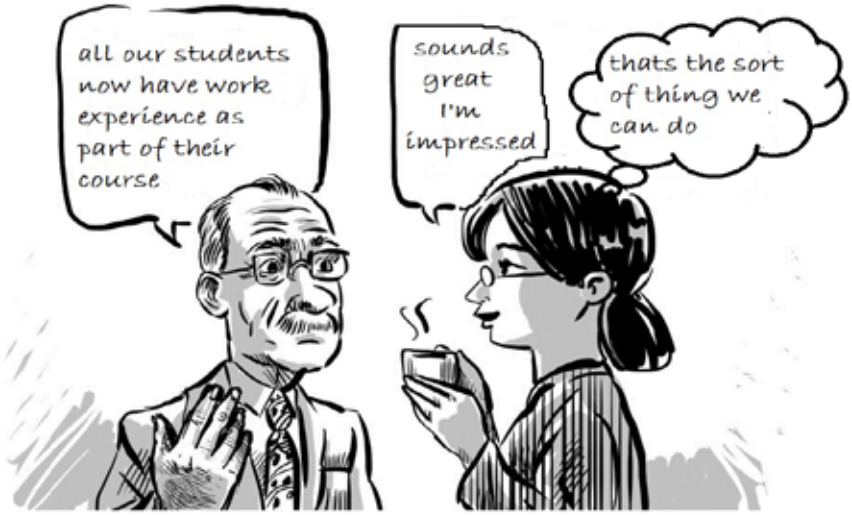
When such transparency is not achieved, and the people involved in bringing about change feel there is a mismatch between what they are being asked to do and the resources that are available to do it, there is dissatisfaction and a loss of morale. As one innovator explained.

[there was resource, but there wasn't sufficient resource to do what we had to do] It required the goodwill of people like myself and my colleagues to work holidays and not have a break basically, it pushed us to the limit, it really did push us to the limit. So, again, I wouldn't say it was rational because it's about power and politics, you know, it wasn't allocation on the basis of this is what's needed here and that's what's needed there, it was, you know, there were certain things going on at levels I wasn't involved in that meant that it wasn't transparent so I wouldn't say it was rational in a way everyone understood. *Innovator*

Environmental factors and conditions that support, encourage and enable strategic change and bottom-up innovation

7 An environment that promotes effective, honest and meaningful communication

Communication that is honest and meaningful connects the managed, social and individual worlds of change and is the means to overcome the barriers between these different worlds. You cannot change an organisation without changing the conversations within it (Seel 2004).



Change involves creating new meanings and communication that is meaningful to those receiving it, pervades innovators' stories of change. If visions, ideas and invitations to contribute are not communicated in a way that has meaning to those who receive it - nothing will happen. The lesson is clear that just sending information to people who are busy and who have many urgent priorities, will often not cause them to act. What causes them to act is when information causes them to create their own interpretations and meanings for themselves.

A good example of this is seen in a story called, 'Where and how does strategic change begin?' Strategic change has to begin somewhere and that is when 'someone chooses to do something and then acts on that decision'. The case of the School of Design provides a good example. The Faculty of Technology had spent a year implementing an SDP project so the Head of School was well aware of the SDP and the opportunities for getting involved but involvement was triggered by a specific event that suddenly created new meaning.

> [it was at] a head's meeting, everyone was talking about it. I suddenly thought, oh, what was going on here? ..... I ... sat there listening to what other people were doing and I think I heard that [two Faculties] were developing lots of professional development units.....I thought, oh, that's a lot; we're not even doing any.. Listening to what other people were talking about I just thought, we need to be doing this, and that was important. That day, I can sort of picture myself in that meeting thinking, I feel like we failed and we need to do something about it. And that, to me, was the day when I decided we would do something about it.

From this story it can be inferred that the decision for the School to be involved in the SDP did not arise from the formal distribution of information about the SDP, rather it emerged through social interaction and conversation - a Head's meeting in which people talked about their involvement in SDP. The change in attitude that resulted in the School becoming involved in the SDP was due to conversations that carried personal meaning and significance, and created feelings of dissatisfaction and a sense that an opportunity was being missed. An opportunity highlighted by what others were managing to achieve. This is a good example of how communication about the SDP became personally meaningful and it was only at the point at which it became meaningful that it became emotionally engaging and change began to happen.

Good and honest communication creates the trust and mutual understandings that are essential when trying to accomplish change. Poor communication or an absence of communication invariably causes problems and a loss of trust. Communication, particularly conversation, lies at the heart of an organisation's culture and its ability to learn and to spread new learning. What the SDP did was to change the nature and pattern of conversations which enabled people to do new things and these activities stimulated different sorts of conversation. What emerged through this process was new learning, new ways of being and doing and the modification of culture in small but measurable ways.

8 An environment that recognises and supports the resolution of 'local contentious practice'

Tensions and conflicts often arise when bottom-up innovation meets existing procedures and systems. An organisation involved in strategic change needs the awareness, will and capability to facilitate the resolution of local contentious practice. This is another role for the organisational brokers.

People working in an organisation (persons in practice) historically constitute their everyday world as they help to make it through their participation in it while being shaped by the world in which they are a part (Holland and Lave 2009). Local contentious practice, and its resolution, lies at the heart of bringing about innovation in an organisation that is full of systems, procedures and traditions. Local practice comes about in the encounters between people as they address and respond to each other while enacting cultural activities under conditions of political-economic and cultural historical conjuncture. Elements of the SDP narrative reveal that when working within their cultural domain (eg their school) innovators have control over what they do. But once they have to relate their innovations to existing business systems there is often conflict between the new practices they were trying to create and practices that already existed within the institutions established systems and processes.

Posing the question 'how can we do this?' challenges existing ways of doing things and the innovator initiates the struggle to resolve the issue. These are the 'pinch points' where innovations can be thwarted and innovators can become demotivated if progress cannot be made towards resolving the problem. These are the areas that organisations involved in strategic change need to pay particular attention to. Relationships and communication between innovators and system owners are crucial to resolving these troublesome areas.

One of the really crucial factors in enabling local contentious practice to be resolved, is for the people who are trying to make change happen to be able to find people who will help them overcome the procedural and decision making barriers between different parts of the organisation. These are the brokers and boundary spanners, that hierarchical and silo'd organisations need in order to unblock things that seem to be frozen.

9 An environment that encourages new relationships and collaborations in order to foster change

Organisational change is accomplished through the deepening of existing relationships and the forging of new collaborative partnerships that generate ideas and new opportunities, and which provide encouragement, practical help and support.

The SDP study demonstrates the importance to those accomplishing change of new relationships through which ideas were generated, problems were solved and practical and emotional support was given. Such relationships helped innovators to appreciate the value of

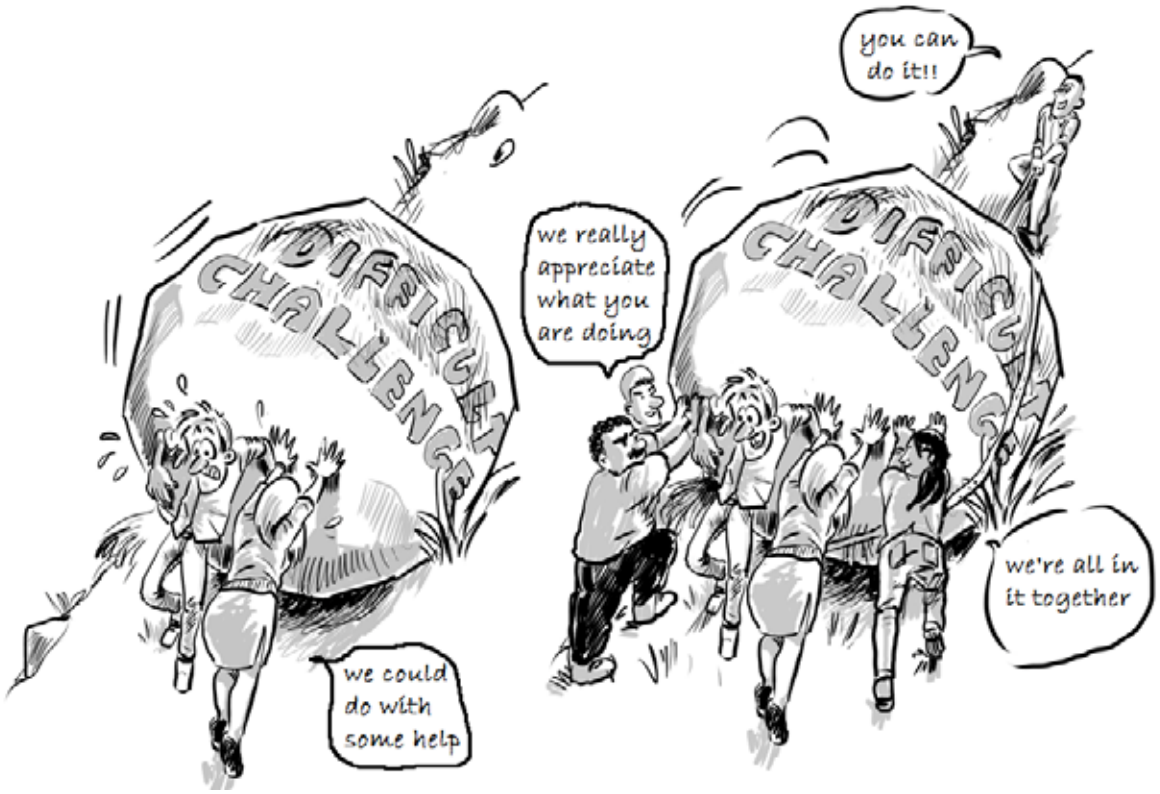
their own work and efforts, encouraged them to 'go the extra mile' and enabled them to persist especially at the most frustrating and challenging moments.

Forming productive, co-creative and emotionally supportive collaborative working relationships with members of their School or colleagues in central university departments - particularly the Flexible Delivery Team (e-Development and Educational Technology Unit) and Partnerships Office was an important strategy for innovators. Extending existing relationships or building new relationships in the external environment was also a priority in the strategic change process. Relationship building with employers was crucial to the success of several of the innovations. In the case of the Foundation Degree in Health and Social Care the relationship was underpinned by a formal strategic alliance but ultimately it is the interpersonal relationships between the people who are directly involved in change that really matter.

10 An environment that provides encouragement and emotional support and celebrates what has been achieved

An emotionally nourishing environment helps people deal with the challenges, stresses, anxieties and frustrations of trying to bring about significant change and helps them to remain positive in the face of setbacks. Such an environment recognises the efforts and celebrates the achievements of those who are involved in change.

Stress, anxiety and frustration are often associated with significant organisational change as people encounter problems and setbacks, things do not work out as intended or other situations. Sources of stress, anxiety and frustration encountered in this study included: 1) the competing demands of developing new practices while continuing to teach 2) inadequacy of resources for some projects where the amount of resource was underestimated or could not be estimated in advance, or when there was a lack of transparency as to how resources were being allocated 3) insufficient support when dealing with difficult problems 4) seeming inability of some institutional systems, procedures and infrastructures to adapt to the changes that they were creating. Such adverse psychological impacts could have been reduced if participants had more time particularly at critical moments in the change process, had more resources - not only money but practical help at certain stages of their project and had more support and empathy in resolving difficult problems that blocked progress.



Amabile and Kramer's study of the socio-cultural work environment identified four categories of nourishers (Amabile and Kramer 2011: 131- 33) and all seemed to be important to the innovators. They have a significant impact on the way they feel and on their creativity and productivity. These are:

1 Respect - managerial actions determine whether people feel respected or disrespected and recognition is the most important of these actions.

2 Encouragement - for example when managers or colleagues are enthusiastic about an individual's work and when managers express confidence in the capabilities of people doing the work increases their sense of self-efficacy. Simply by sharing a belief that someone can do something challenging and trusting them to get on with greatly increases the self-belief of the people who are engaging with the challenge.

3 Emotional support - People feel more connected to others at work when their emotions are validated. This goes for events at work, like frustrations when things are not going smoothly and little progress is being made, and for significant events in someone's personal life. Recognition of emotion and empathy can do much to alleviate negative and amplify positive feelings with beneficial results for all concerned.

4 Affiliation - people want to feel connected to their colleagues so actions that develop bonds of mutual trust, appreciation and affection are essential in nourishing the spirit of participation. One of the challenges for innovators is that they often feel alone because they are moving into new territory by themselves - where there is no-one they can affiliate with!

The role of the SDP team was important here in giving people an affiliation that was purpose- as well as culturally-based.

It is clear from the case studies that innovators thrive and innovation is more likely to happen when the environment is emotionally nourishing in the manner described above. An environment that is respectful, positive, encouraging and emotionally as well as practically supportive. SDP was an important additional element in the institutional climate that contributed to a climate of positivity.

> the way I find the most effective way to get things accomplished is to constantly believe it is possible to have a sort of can-do attitude and to assume other people have also got a can-do attitude and to treat them as if they have. On the whole I find that I get more productive responses if I do that. But it involves huge amounts of diplomacy and of trying to establish and sustain relationships, really. We want the shared goal, don't we? How do we together make that happen? Sometimes you just want to say 'For goodness sake, get on with it and do it.' Yeah, I think its masses of flexibility, respect, grace and diplomacy. *Innovator*

A lack of support might not be due to deliberate interference: rather it might be due to more passive disinterest.

> I think it is largely because people have got enough on their plates. This is something that is different, it demands them to think in a different way, to do things in a different way. With the best will in the world, they are busy enough and I quite understand where they just don't really want to try. *Innovator*

But the case studies also reveal that progress was hindered where there was scepticism about the potential of an idea or where ideas were not respected and someone else's ideas were imposed.

> I think overall, because in some ways it's been a relatively small part of our business up until now, there was some scepticism from a number of people ...not just here but [higher up]..... and probably because they didn't really understand the market, underestimated just what the true potential was*. Innovator*

Appreciating and valuing the efforts of innovators and the contributions they have made

Professional satisfaction and a sense of well being through accomplishment in the workplace often derive from the belief that our work and contributions to change are valued by colleagues, managers and students. Recognition, for what they had done and achieved, was very important to the innovators and it's absence was a source of unhappiness

The university's annual Solent ExChange conference provided one opportunity for participants to share their innovations and gain recognition from colleagues in other parts of the university. Events that were organised locally like Away Days or talks also provided important opportunities for public recognition.

> It was probably only until the Away Day they really fully understood what we were doing with everything.....the Away Day was for the staff in a way. I just wanted everyone to feel part of something good and that we've achieved *Head of School*

Anyone who takes risks to deliver a change he or she feels the organisation is seeking, needs to know whether their efforts have made a real difference but it is surprising how many innovators said they lacked this feedback.

> The problem is that I have never felt comfortable or confident in the University's strategic decision to back this. It's almost been like a, "we'll see how they get on" and there doesn't seem to have been the commitment.
>
> I just felt for me personally I needed to know that this was the way we were headed and that we weren't just doing this just for a play to see how it would go, because it took so much work and I still don't feel comfortable that I'm hearing that message, this is the way the University is going to go. Well not the whole University obviously, but a significant portion of the University's strategy may be devoted to this type of approach. *Innovator*

11 A culture that values learning and an environment that encourages and enables people to share what they have learnt so that it can be reused or adapted to other contexts

If learning to do new and better things is the core enterprise in strategic change it is vital that new knowledge and understanding grown through the change process, is consolidated, made visible and distributed to other members of the organisation in ways that are appropriate and meaningful to them. Only then can what has been learnt be applied in other situations and contexts.

It's clear from the interviews that people involved in change learnt through the process of trying to do new things and there were numerous ways in which this learning was shared both formally and informally. But it was not always clear to innovators that this learning was being retained and applied elsewhere and some concerns were raised about utilisation of this knowledge for practice in future, for example when individual innovators were no longer a part of the university. In spite of these concerns dissemination of what had been learnt and celebration of what has been accomplished were important processes in the SDP. In each of

the three years there was an annual one day conference called Solent Exchange. The design of the conference changed during the course of the three years from an initial focus (Year 1) of trying to get more people involved and showing them how they can get involved, through sharing and celebrating achievements (Year 2 and 3) to focusing on sustaining new practices.

This brings us back to the important issue of meaningful communication and the plethora of ways and occasions through which people have conversations. Creating opportunity for meaningful communication is as important after change has been accomplished as it is before and during the change process, remembering that to change an organisation you need to change a majority of conversations in the organisation (Seel 2004).

12 A culture that encourages people to take risks to put themselves in unfamiliar situations where they need to harness their creativity to actualise themselves

Accomplishing change - involves new ideas, new ways of thinking, new practices and new ways of being - it's an inherently creative process and ultimately it involves people becoming different and taking risks in order to achieve their goals.

Innovators viewed creation in terms of the invention of practice that was entirely new to them or existing practice that was significantly modified. They also recognised creation in new relationships and infrastructures to support new practice, and new policies and procedures to guide future practice. The real value of initiatives like SDP is in enabling people to realise their creative potential to actualise themselves to become who they want to become. Innovators and early adopters thrive in such a culture.

due to the fact that I was doing something new allowed a level of creativity yes, I think when you are developing any aspect of the curriculum you are being 'creative', you have the feeling that you have the opportunity to 'shape' what is available for people/students to learn and you are 'creating' that learning experience. I personally find that a creative process. It isn't entirely without edges though, there are boundaries and quality considerations to work within but still, there is room within the set frameworks to 'create' the richness of content and the teaching and learning strategies that encourage an inspirational learning process. *Innovator*

Higher education teachers are motivated to innovate by the ideas of helping their students learn, and through this to improve their chances in life. By creating a more imaginative and more effective curriculum they are helping their learners to actualise themselves. In the process of designing and implementing and new curriculum they are actualising themselves.

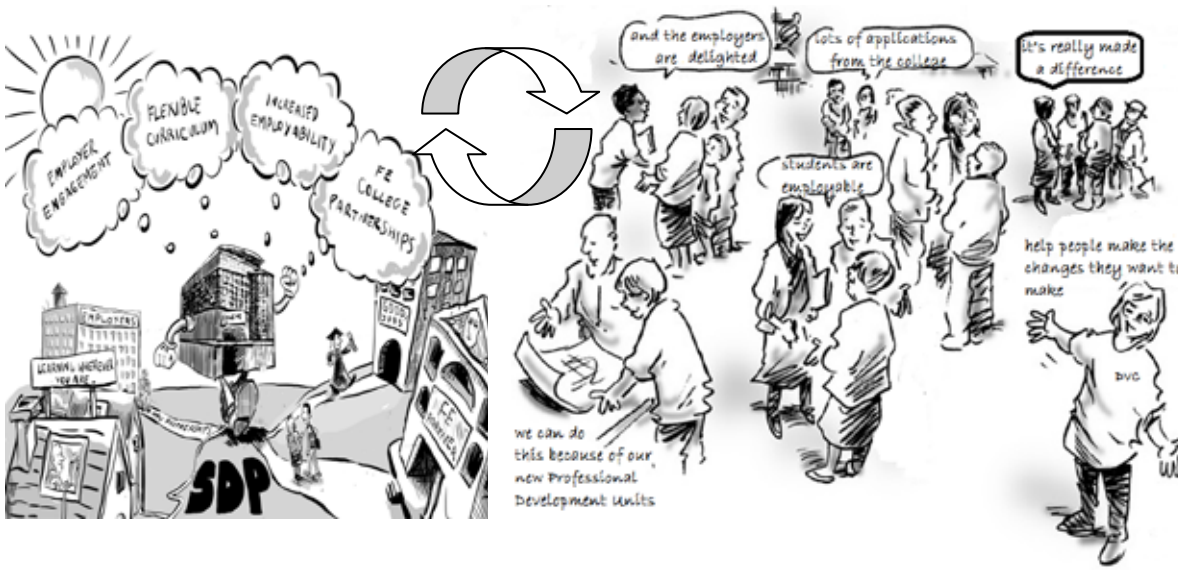
I don't really call them students. I think they are designers or photographers or whatever the student is…....' You are actually working now, you are part of industry. What you are doing is part of a unit. It sort of carries the same risk as if you are doing it in business. The money is not involved where you could design a collection and it doesn't sell. Well, that is a risk. But the risk they are learning, no, because I think it enriched them. It was exactly the same as what we would do in a [commercial] unit, but we actually went further and actually said we are going to produce these to actually contextualize your whole learning process.... People usually stop at the ...concept [stage]. You do the concept and then you say 'Actually here is what we are handing in on a sheet [of paper] and then it is done.' You don't really get a final outcome. You just sort of maybe theorize the work, but you don't actually actualize the work.

This project allowed them [the students] to actually reach out and visualize what is possible. It is fantastic for me to .....see those students design and then see people wear [their garments]....People are actually paying real money..... then it becomes something special, I think. That is my motivation for being in it.. That is my motivation for being here, otherwise I would still be working in industry *Innovator*

A self-actualising university

The secret of accomplishing significant organisational change is to connect the people who want to actualise themselves through their innovations with the strategic changes the organisation wants to make

In trying to answer the question how does a university accomplish strategic change in which a large part of the change is brought about through the educational innovations of individual teachers (faculty) we discover that an organisation's strategic ambition and the will and creativity of the individuals who bring about change are intertwined.



In its mission and vision statements a university sets out where it believes its destiny and future identity lie but it is only through the concerted and deliberate actions of individuals and groups of individuals in its community, each of whom is striving to actualise their own vision and destiny, that the university achieves its ambition.

People leading and enacting change appear to be a particular type of person with the will to get involved in something and stay involved until the job is done. Not only do they generate ideas, they also like to actualise these ideas and they do not want to fail so they persist until they are satisfied. The will to complete something is a strong as the will to begin it.

It is the will to be and become a certain sort of person (like a better teacher) or to help others (like enabling students to learn better), or to develop a better system (to improve the support given to students, teachers or perhaps external employers and businesses), that provides the deep motivational force for many of the people who contributed to the Southampton Solent change project. The combination of challenge, personal autonomy, the desire for doing something new and the invention and mastery of new practice, and the belief that people are making a valuable contribution to the educational enterprise of students, were the most important factors that caused deep and sustained engagement in SDP projects.

What comes out of this process is not something that can easily be codified or quantified on a piece of paper. What comes out of it are new relationships and new sorts of conversation

within and outside the university, new forms of practice and models or approaches that can be re-used and adapted to other contexts, and new ways of seeing and understanding things - in other words culture that is different to what existed before.

Post script

I am interested in finding out whether these twelve factors are universally recognised as being important in processes of strategic change that support bottom-up innovation in a university or any other organisation. I welcome all comments and collaborations please contact me through normanjjackson@btinternet.com.

The paper was written as background for a keynote presentation at the International Forum of Innovators in University Teaching at the Imam Muhammad Ibn Saud Islamic University (IMSIU), Kingdom of Saudi Arabia. Following the presentation I spoke to a number of Saudi academics who confirmed that these factors were also relevant and important to accomplishing change in Saudi Arabian universities suggesting that they might be the basis for a universal set of principles.

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End Notes

[i] i http://www.new-paradigm.co.uk/Planning.htm
[ii] (Oxford Dictionary).
[iii] Business Directory http://www.businessdictionary.com/definition/innovation.html#ixzz29lDLGezs
[iv] School for Innovators (http://www.thinking-expedition.com/change7.html).
[v] http://solent.ac.uk
[vi] Higher Education Funding Council (England)