

Technology supported learning – Tensions between innovation, and control and organisational and professional cultures

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Abstract

The use of technology to support learning in institutions of Further and Higher Education has become almost ubiquitous. Institutions normally start with strategies aimed at introducing these innovations, but there is much about the organisational and cultural nature of educational institutions that acts as a barrier to innovation. Staffordshire University started this process in 1997, and by 2002 reached a point where innovation had slowed and the embedding of what had been achieved was at best partial. An embedding process based around the review and implementation of policy ensued which, by 2005, had proved highly successful in terms of embedding, but due to cultural and organisational factors, this had been at the expense of sustaining innovation and had created tensions within the organisation. This was compounded by changes in technology and the advent of new web-based services, which stimulated innovative practitioners. New initiatives to address the tensions between the need of the organisation to control its processes and the needs of practitioners to experiment and innovate have begun. These have highlighted the requirement for tools to enable strategy and policy to be considered against the processes making up the learning experience in terms of ownership and control.

Keywords

e-learning
organisational change
VLE
strategy
policy

1. Introduction

Introducing and embedding technology supported learning (TSL) into an institution is a complex process, usually involving a variety of approaches to coping with associated organisational changes. The activities of introduction and embedding each require those involved to address issues of strategy, policy and organisational practice and relate them to staff development, professional practice and organisational culture. However, the embedding of the results of innovation can itself impact on the sustainability of the innovation process, as the relationship between control and innovation is a difficult one, which appears not to be well understood in educational organisations.

The introduction of TSL frequently takes place in response to political and economic drivers and can result in strategies that underestimate required changes in organisation and professional practice. Institutions can, by allowing strategies to be driven by technology, find that business and educational processes have become constrained by their adopted technologies (Stiles 2004: 87). Also, many external drivers present challenges to professional practice and, coupled with the technological dimension, can reveal that 'traditional' models of teaching and learning may be inadequate in the changed context and place unfamiliar requirements on staff for which they are unprepared (Stiles 2004: 94).

TSL strategies in UK Higher Education normally focus on its introduction and follow a number of 'traditional' approaches. These range from scattergun approaches to innovation – 'let a thousand flowers bloom' – to project driven approaches linked to strategy. Whilst there is often some attempt to tie the strategy to other strategies, there is seldom recognition of implicit organisational changes and their subsequent embedding (DfES 2003: 6).

An informal examination of published University teaching and learning and eLearning strategies indicated that typically one (or a combination) of three approaches to the introduction of TSL have been adopted:

- Funding projects by innovators/enthusiasts
- Top-down 'revolutionary' change driven by a directive central strategy
- Make the technology available and promote take up

This perception is confirmed by more formal research. It seems that, regardless of the approach adopted, success is, at best, partial. White quotes an interviewee who reported a conversation comparing progress at their own institution with that at another, which had taken a more managerial approach:

'But when we compared progress we were just about at the same place forward'.

(White 2006: 85)

Typically, such 'strategy' approaches are characterised by:

- *Failure to address change management*
- *No consolidation of progress made*
- *Failure to learn from experience as an organisation*
- *Staff development for eLearning seen as a 'one-off'*
- *Lack of 'follow through'*
- *Little or no evaluation* (Stiles and Yorke 2004: 2)

These are manifested in development approaches adopted, the most extreme being the 'Fred in the Shed' or 'Lone Ranger' (Bates 2000: 59) approach,

which often fails to deliver anything and suffers from 'creep', false expectations and late delivery. Even team-focussed, organised, development processes from the Computer Aided Learning (CAL) era suffer from isolated roles and differing cultures and agendas (Stiles and Yorke 2003: 1).

There is a considerable literature relating to innovation and organisational change. Whilst detailed discussion would be inappropriate here, there are aspects worth consideration in this context. For this, the following definition of innovation will be used:

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

(West and Farr 1990: 9)

Firstly, what are the characteristics of an organisation that make it able to innovate successfully? Common factors identified include: a corporate vision of being innovative tied to the realities of the relevant marketplace, organisational structures that are flat and exploit small teams, an approach to developments, which encourages parallel developments and the use of groups and approaches that go beyond traditional functional and authority structures (Quinn 1985: 76).

It is also clear that management and organisational culture are important. The reason for undertaking innovation must be understood – is it about effectiveness, quality, client satisfaction and so forth? Writers stress the importance of rewarding behaviours that encourage innovation, the acceptance and even celebration of failure, and the removals of barriers (Martins 2003: 80). Commonly cited barriers include management values such as rigidity, control, predictability, stability and order, and organisational characteristics such as specialisation, standardisation and centralisation (Martins 2003: 78).

Issues around an organisation's ability to learn corporately and to ensure the effective dissemination of learning and innovation across the organisation, feature prominently in the literature. The concept of the 'Learning Organisation' (Senge 1990; Marquardt 1996) is much cited. Marquardt notes the following, amongst others, as capabilities required of an organisation that learns effectively:

- *Anticipate and adapt more readily to environmental impacts.*
- *Accelerate the development of new products, processes, and services.*
- *Become more proficient at learning from competitors and collaborators*
- *Expedite the transfer of knowledge from one part of the organisation to another.*
- *Learn more effectively from its mistakes*
- *Make greater organisational use of employees at all levels of the organisation.*
- *Shorten the time required to implement strategic changes.*
- *Stimulate continuous improvement in all areas of the organisation* (Marquardt 1996: 2).

How well educational institutions match up against the various features and required factors relating to innovation thus far discussed will be considered later.

The introduction of TSL into educational organisations is typified by two common strategic approaches (often backed by a top-down strategic drive). The can be loosely described as 'let a thousand flowers bloom', where a technology is made available to practitioners and active encouragement (often via enthusiast led small projects funded from the centre) and 'build it and they will come', where the new technology is installed and its use promoted by advertising its availability. Both of these are forms of the 'diffusion' approach to innovation (Rogers 2003: 436). However, Rogers recognises that the agents of change within an organisation tend to regard the innovation as inherently a good thing, and Allen noted:

The adoption and diffusion approach has a strong bias towards assuming that a technological innovation is positive, and will be adopted by a target population over time. This bias tends to lay the "blame" of poor adoption on adopting individuals and organizations, rather than on systems or situations, and does little to help IS [Information Systems] research understand the crucial problem of trying to learn which innovations will be beneficial, and which will not.

(Allen 2000: 213)

Allen also notes that "Technological innovation is underdetermined – there is no single "best solution"". This resonates strongly with the views of many of those working in the field of TSL who have long argued against a 'one size fits all' approach on pedagogic grounds (Stiles 2000: 174; Britain and Liber 1999: 19; Britain and Liber 2004: 12).

The place of communities of practice (Brown and Duguid 1991) and professional networks (Brown and Duguid 2001) in organisational learning and innovation has long been recognised. Earlier literature in the area focused on the naturally formed and informal aspects of such communities, both intra- and cross-organisational, and, whilst recognising their role in innovating practice within communities, noted that both can also act as barriers by constraining innovation and learning within themselves.

Communities of practice are popular within the TSL and 'eLearning' field and, in line with more recent thinking in the field of innovation research, organisations and institutions seek to exploit them in more 'planned' ways. Wenger commented that communities of practice could be nurtured by organisations, and encouraged to interconnect more effectively by:

- Legitimising participation.
- Negotiating their strategic context
- Being attuned to real practices
- Fine-tuning the organisation
- Providing support. (Wenger 1998)

However there are tensions between the way communities operate and the tendency for organisations to be formally and hierarchically structured (Easterby Smith 1998: 269). It has also been widely recognised (Swan et al. 2002: 483) that because radical, as opposed to incremental, change tends to challenge existing communities and professional networks; it can provoke partisan and protectionist reactions and pose significant management problems.

2. A local experience

The process and experiences relating to the introduction of TSL at Staffordshire University and the associated organisational and cultural changes up to 2005 have been described in detail elsewhere (Stiles 2006) but are summarised here to enable consideration against the discussion thus far.

At Staffordshire, TSL was labelled as ‘distributed learning’ during the first phase of its introduction. This began in 1996/7 with the creation of a centralised learning and teaching strategy focused on learner centeredness and resource-based learning – ‘Building the Learning Community’. In its first phase, change was promoted by a ‘Fred in the shed’ approach, where enthusiasts were encouraged to bid for central funding for projects aimed at furthering the strategy. This had predictable results, producing only localised impact and was replaced by a more directed ‘seeding change by project’ approach, whereby schools were required to produce local strategies and plans aligned to central strategy and submit projects aimed at furthering these for central approval.

In 2002, a review indicated that there had been significant cultural change, with a raised profile for teaching and learning issues, widespread adoption of the use of virtual learning environments including instances of significant pedagogic innovation (Holland 2000: 30) and successful new distance eLearning awards. There were prominent examples of staff having been rewarded for engagement in innovation, and outside recognition in the form of QAA recognition in assessments of teaching and learning.

However, it was also clear that the institution was not learning at an organisational level, as activity had breadth but not depth across the various academic communities. Whilst all faculties were involved, the involvement was localised to specific fields or groups of staff within them. There was also considerable reinvention of the wheel, with staff groupings duplicating developments and not learning from each others’ mistakes. This was characterised by central support staff not being made aware of new developments at an early enough stage to intervene effectively. The rate of change had slowed noticeably and innovative benefits gained were insufficiently sustainable.

A resulting initiative in 2002 was the ‘integrative development’ approach to eLearning development. Described elsewhere (Stiles and Yorke 2004: 3; Stiles 2006: 13), this continues to be refined, focusing on involving the right people from the outset, agreeing roles and responsibilities,

ensuring awareness of available support and planning the complete development. Staff development is situated by addressing educational design as the imperative, and planning workshops for technical/media development at point of need during production. Separating technical workshops from educational design and theory avoids impairing the focus on learning experience.

As described earlier, this took place in the context of strategy driven developments. To address embedding, more was needed. A review of policies, procedures, roles and responsibilities impacting on eLearning started in 2003 (Stiles 2006: 9), resulting in the integration of eLearning into academic planning processes and a holistic approach to eLearning quality assurance. Whilst successful, the approach still had weaknesses. It was concluded that the work focused on achieving 'horizontal coherence' to the institutional approach to eLearning, but lacked provision for its overall conduct – 'vertical coherence' (Romanainen 2004) – frequently resulting in difficulties progressing review-derived changes through committees and incidences of staff resistance to change caused by misunderstandings and a lack of a 'big picture'. Particular examples related to course approval mechanisms and the promotion of the reuse and repurposing of content.

This led to the creation of an eLearning Policy, providing 10 principles for its conduct. This, and associated quality assurance approaches, received national recognition (QAA 2005: 26). The policy, intended to act as an enabler for further change and innovation, laid out the 'rules of engagement' for TSL activity and is designed to ensure:

- flexible and independent learning; informal and individual learning.
- equity of opportunity and alignment of student support
- provision of a learning environment encompassing all of the learning experience
- support of independent and lifelong learning and continuing professional development
- access to eResources from point of need; repurposing and reuse
- robust quality assurance/enhancement with scope for innovation and employment of professional skills
- encouragement of research, scholarship and development in eLearning
- appropriate staff development, to ensure understanding of others' roles
- practice, policy and strategy are responsive to lessons learned and new opportunities; removing barriers that impede or restrict effective eLearning.
- resources and support are appropriate to requirements and understood
- pricing of eLearning is both competitive and appropriate to the target populations.

By 2005/6, it was clear that the approach had been largely successful, with considerable increase in the rate of uptake of TSL, and eLearning being explicitly embedded in other corporate strategies and policies, giving

much improved organisational alignment. In addition there was real evidence, backed by evidence from validation, review and external projects, that cross-institutional learning had improved. However, there were a number of indicators giving cause for concern:

- Although the rate of increase in take-up was high, this was mainly in the area of the use of a VLE for 'eSupported learning' (making notes available in support of traditional delivery) and even where learning was genuinely focused on engagement with 'e' activities, there were few instances of the type of pedagogic innovation cited earlier.
- Some teaching staff and faculty managers felt the centralised emphasis on policy and procedure was restricting their freedom to act and was impeding their plans, and others complained of processes such as quality assurance being over-onerous.
- There were increasing instances of enthusiasts and innovators 'subverting policy' and finding 'ways around' or ignoring institutional procedures and processes.

3. Freedom vs. control

As described above, the use of TSL at Staffordshire had gone through an adoption stage driven by strategy and, then following review, a stage aimed at embedding use in practice with strategy reinforced by policy and institutional level procedures. The situation in 2005 had revealed tensions between the 'control' needed for embedding and the 'freedom' needed to sustain innovation.

The nature of a University tends to promote regulation and control. It is recognised that there is much that is outside of the control of the individual tutor or learner and that institutional-level structures, such as committees and regulations, such as assessment and validation exert strong controlling influences on their behaviour (Read et al. 2003: 269). Read also comments on the cultural impact of the modern market-driven approach to higher education and how, despite its emphasis on the individual, it does in reality further inequality rather than reduce it.

Universities and colleges suffer multiple external influences which encourage controlling approaches to both processes and the systems, which enable them in the face of change and innovation. These include audit, inspection – of both teaching and institution – and national policy – even where such policy is aimed at change and is accompanied by funding designed to enable it (Harvey and Newton 2004: 151; Gosling 2004: 146). Others are the changing nature of the education market, and the inherent conservatism of academic culture Middlehurst, in concluding that University governance must change to allow innovation to be sustained, noted that barriers included:

'excessive hierarchy and over-heavy bureaucracy, the comfort of ingrained routines, strong vertical command structures and weak lateral and bottom-up

communication, unbalanced and non-integrated authority across professional domains, conservatism and risk aversion, territoriality, defensiveness and insecurity as well as wilfulness’.

(Middlehurst 1998: 277)

Satisfying the requirements of central funding, bodies can have a strong influence on the systems used to support and data held about the learning experience. This has been noted as being particularly true in the United Kingdom Further Education, where the learner record is highly targeted at funding (Ramsden et al. 2004: 408; Glenaffric 2005). Drivers for corporate and centralised control in universities present challenges to innovation and come into direct conflict with a second barrier to innovation: the traditional organisational structure of universities, which has been typified as ‘professional bureaucracy’ (Mintzberg 1979: 349). Summarising the innovative potential of this type of organisational structure, Lam notes:

‘The individual experts may be highly innovative within a specialist domain, but the difficulties of coordination across functions and disciplines impose severe limits on the innovative capability of the organization as a whole’.

(Lam 2005: 122)

4. A local approach to ‘Loosening the Bonds’

At Staffordshire University, in response to the need to sustain innovation, initiatives aimed at ‘loosening the bonds’ (or the perception of bonds) of organisational regulation have begun through the implementation of a creative eLearning staff development strategy.

The dominant characteristic of the immediate HE context of that strategy is the pursuit of the quality enhancement of teaching and learning through formalised, often imposed, ‘professional’ development (Nicholls 2001: 10), particularly for new staff. In response, Staffordshire University has developed a number of post-graduate level programmes including a Post-graduate Certificate in Higher and Professional Education (PgCHPE). An important feature of those programmes is the integration of modules in Technology Supported Learning: for example an Embedding Learning Technology module is core (non-optional) to the PgCHPE. Notwithstanding the general criticisms of imposed, accredited developments, the explicit integration of TSL, nevertheless, clearly demonstrates the University’s commitment to embedding learning technology and to helping practitioners to research, reflect upon and solve some of the complex issues that changes to practice may require.

As previously stressed, practitioners engage with TSL for a number of reasons and formal, accredited programmes may not be the most appropriate development for all. This is supported by a study by Beetham (2001: 2) which found that ‘people already proficient in the skills of embedding learning technologies had rarely acquired those skills through formal development’. Beetham suggests that, as individuals become more proficient

they 'become less dependent on structured interactions with more experienced others and more self-sufficient' (Beetham 2001: 2).

Enabling change across an organisation clearly requires facilitating those self-sufficient champions of change as much as those perceived to need more guidance. The most innovative aspect of the eLearning staff development strategy is not the degree to which it has successfully embedded TSL into professional development frameworks, although this in itself is innovatory. Rather, it is the way it integrates that accredited development with bespoke, flexible opportunities and optional accreditation, provided by the 'integrative approach' initiative described earlier, through a third, core initiative to build a community of practice based around 'models of good practice'.

In 2006, the University launched its eLearning Models project to develop and share representations of good practice in eLearning to promote uptake and quality. The project has been extremely successful in building a large community of practice of both external and internal practitioners to share expertise. The strategy has been to engage 'experts' in eLearning and to 'capture' their practice through models or representations, supported by case studies, 'how to' guides and live 'ask the expert' seminars. Models developed are embedded in both the formal accredited eLearning modules and in the bespoke, Integrative Approach: in the former, to help practitioners relate pedagogic theory to practice, and in the latter, practice to theory. Although questions remain about effective representation of practice, it is already apparent that the combination of approaches is justified: it appears to provide freedom to innovate, whilst at the same time not avoiding advocacy of considered good practice. For example, whilst a rather simplistic hope had been that the project would provide models, which practitioners could simply select and apply, the reality is more complex. Whilst many are drawn in by that same hope, they quickly 'jump' to the supporting narrative accounts provided by the case studies before returning to a model.

The case studies may be being used to interpret the models in more depth as well as from a greater variety of perspectives, which would lead not only to a fuller understanding of the models but help mitigate any perception of prescription – an inevitable disadvantage of any simplified model or framework. A remaining project strand will further address loosening the bonds, both real and perceived, associated with quality processes. This will refine and 'badge' models or approaches endorsed by the University to create a 'fast-track' process for practitioners adopting them. Hopefully, will help lighten the administrative burden associated with the quality approval of new awards delivered or supported by technology. It should reinforce the other strands of the University's eLearning staff development strategy to enhance the agility of eLearning development across the University.

In a second initiative aimed at enabling diversification of systems used to deliver supporting material to learners, tutors, employers and mentors,

the University is deploying a repository system designed for the storage management and discovery of learning content. This will be used to extract quality assured eLearning materials from the current VLE systems and serve them back not only to the VLEs, but to portals and other technologies. Doing this will enable the reuse and repurposing of content (a 'difficult' aspect of the eLearning Policy) to be carried out easily by staff, increase flexibility in delivery, and stimulate innovation, whilst maintaining the focus on quality assurance and enhancement, successfully achieved by the policy initiative. A particular example of this is the work of a JISC funded project aimed at providing individualised support for all involved in the development, support and execution of work-based learning in Foundation Degrees delivery by the University's partner Further Education institutions (SURF WBL-Way).

Finally, the challenge of emerging 'Web 2.0' technologies is to be met via the development of a strategy coupled to evaluated pilots with faculty. This will address the issue of learners adopting preferred toolsets to support their learning which go beyond those offered institutionally and the challenge of reconciling such use with the need to manage and facilitate the learning. The issue of emerging technologies, such as Web 2.0, takes this discussion into its next phase.

5. The 'new factors'

There are a number of recent developments that challenge institutional approaches relating to the ownership of processes, systems and information and give rise to uncertainties in terms of strategy and policy. A first example is the growth of Service-Oriented Architectures to provide flexibility and responsiveness by aiding systems interoperability in corporate (and wider) contexts. The e-framework initiative in the United Kingdom and Australia is the prime agent of this in education sectors (e-Framework). Coupled to this is the growth of systems, where the ownership of the information held may be less than clear – the ePortfolio may be the most accessible example of this. Lastly, the growth of Web 2.0 services such as MySpace, Google Docs, Wikipedia and del.icio.us are heralding the growth of the user-selected toolset using the web, rather than organisational systems, as the platform.

Web 2.0 technologies are typically characterised as representing a shift towards a web based on online collaboration and sharing. Importantly, they challenge the way the applications are provided and employed by users (O'Reilly 2006).

These new factors, by creating a highly flexible and partly individual-created environment for TSL activity, are presenting a major challenge to the hegemony of the Virtual Learning Environment (VLE) and its organisation-centricity (Stiles 2007). (The term hegemony is particularly apposite here as it 'results in the empowerment of certain cultural beliefs, values and practices to the submersion and partial exclusion of others' (Wikipedia 2007)). VLEs are typically firmly under the control of the institution, which leads this discussion into its next consideration.

6. On ownership

In education many processes are loose in structure and often based on informal cooperation between institutions and between institutions and external agencies. As such, it is frequently unclear which organisation 'owns the process' and there is no agreement in place covering this (Larsen 2004: 1).

Recent work which considered issues of ownership in the context of interoperating systems (Carney 2005: 13) noted that ownership covers concepts such as possession, authority and control, and that in terms of computer systems ownership (for example hardware, software and processes) is probably divided among a number of parties. The same paper points out that, in the case of interoperating systems, it is the relationships between systems which are of prime importance and that the ownership of these (which might include the right to alter or sever them) is a complex issue. Carney also raises the issue of data ownership, citing Schlenker (2003) who raises the concepts of ownership, stewardship and custodianship of data. These same concepts have been raised more recently in work in the United Kingdom, examining the legal issues surrounding the implementation of portfolio and personal development record systems (Charlesworth and Home 2006: 6).

7. A 'new world'?

Institutions need to recognise that centralised control will be increasingly difficult in a world where faculty and learners build their own preferred toolsets from what is provided by the institution, what they have on their own (personal) computer and what is available on the Web. In particular, institutions and practitioners will need to understand and manage the fact that, increasingly, learners may opt out of the systems that they might prefer them to use for formal learning activities by employing personal toolsets. Also, learners will increasingly initiate sharing and community activities outside of the formal learning experience using tools they have chosen themselves.

This 'student initiated' form of activity may not be confined to direct peers, in that learners will engage with and draw on much wider and more diverse communities. Practitioners will need to cope with a very diverse range of approaches by learners, guard against making stereotypical assumptions of what approaches will be taken and consider how learning strategies may be interpreted by the learners. As discussed earlier, all of this will confront existing perceptions of control and ownership, and will present both cultural and organisational challenges. This could impact on all aspects of the learning experience, and institutions will need to consider what (and to what level) they actually need to control and/or influence, and what might be 'let go' or merely exploited.

Issues of control and ownership need to be taken very seriously when considering emerging technologies. From an organisational perspective, institutions need to understand the dangers of uncontrolled experimentation

(as do practitioners). For example, IT managers will question the wisdom of reliance on 'free' services provided from outside the organisation from control and risk viewpoints and will point to the vulnerability this can bring to the learning experience in terms of service availability. It will be necessary for practitioners and institutions to be sure that that an appropriate approach to ownership is being taken in any particular context.

The authors would suggest that working within a varying spectrum of control and ownership will mean that practitioners will need to think carefully about how they will articulate the learning strategies they wish the learners to adopt, communicate these to learners and manage and facilitate the learning that takes place. If learners are working with self-selected tools and approaches, and within more diverse communities, this will severely test many existing institutional processes, for example quality assurance and the monitoring of learner activity. In turn, it will also present learners with the problem of how they can translate outputs from self-generated activity into the more formal part of the learning experience.

The mix of interoperating corporate and agency systems within (and outside of) the institution with the use of self-selected web-based services – and indeed the interoperation of both of these categories – produces a blurring between informal and formal learning and the key to understanding the future in learning may well be in understanding the nature of the zone between the two and how, why and what activities and artefacts exist within (and pass through) it.

Given what has been discussed thus, the imperative to examine which systems and services should be (or might be desired to be) provided by the institution and how these will enable independently student-generated activity to join up with the formal infrastructure will require a cultural shift by both support services and practitioners in how they view both risk and control.

8. A decision-making framework

At Staffordshire University, the initiatives described earlier aimed at 'loosening the bonds' of controlling policy to enable the pace of innovation to be further increased without destabilising the considerable progress made towards embedding the use of TSL in both professional and organisational practice have thrown the relationships between control and policy into sharp relief. This has been manifested in direct challenges to both policy and its implementation.

To provide quality learning experiences in a diverse and increasingly rapidly changing environment will require a clear view of the issues discussed thus far. It is postulated that some form of decision-making tool is needed to inform strategy and policy and hence guide practice within institutions trying to strike an appropriate balance between control and innovation.

In response to this challenge, the authors have begun to develop a decision-making framework aimed at providing a contextual tool to allow

instances of innovation in practice and the systems used to enable them to be considered against their strategic and policy implications.

Concepts of control will need to be considered in a much more graduated form than previously, and, initially, the following ‘spectrum of organisational involvement’ is proposed, using definitions taken from commonly available dictionaries:

- **Control** – to exercise restraint or direction over; dominate; command. To hold in check, curb.
- **Manage** – to take charge or care of, to dominate or influence. To handle, direct, govern, or control in action or use.
- **Facilitate** – to make easier or less difficult, help forward (an action, a process, etc.). To assist the progress of.
- **Enable** – To make able; give power, means, competence, or ability to; authorise: to make possible or easy:
- **Recognise** – to identify from knowledge of appearance or characteristics. To perceive as existing or true; realise.

The last verb here, ‘recognise’ is an important one in establishing the relationship between learner-initiated activity using services from outside of the institution and the formal learning process.

The second dimension to this framework is the ‘locus of activity’. In educational terms, the authors consider it likely that the initiation of a given activity within the learning experience will prove its most useful characteristic when considering that activity in its strategy and policy contexts.

The following loci are proposed:

- **Institution Initiated** – at a corporate, departmental, or course management level
- **Tutor Initiated** – as part of the learning process and conduct of course delivery
- **Learner Initiated** – either completely independently, or as part of the individual’s learning strategy

Until more work has been done on examining the effectiveness of this approach, it is unclear whether additional granularity (e.g., splitting corporate and departmental initiation into separate loci) would be desirable.

Using these two dimensions to form a decision-making grid, it should be possible to position both processes and systems with it and to reflect on the validity of the positioning. Once positioning is decided, strategy and policy might then be examined to see if they reflect the organisational needs arising whilst maintaining the educational intent.

Consider the examples in Table 1, learner initiated processes such as personal blogs or discussions held outside the institutional systems could be ignored as part of the learning experience, but the institution could decide to recognise both their existence and value – in this case how will

Control level	Institution initiated	Tutor initiated	Learner initiated
Control	Enrolment, progression, <u>transcript</u>	Summative assessment, course structure	Submission of work for assessment
Manage		Tutor led discussion, lecture, course resources	
Facilitate		Group project	Course/group discussion, <u>portfolio</u>
Enable			Formal peer discussion, blog of learning experience
Recognise			Informal peer discussion, personal blog

Table 1: A possible decision making framework.

this be achieved and how will policy be formed to ensure this is done in a way which satisfies issues of quality?

The problems become more complex when the relationship between two processes is considered: An institution is likely to regard the construction and maintenance of a formal record of a student's achievements, whilst at the institution (transcript) as an activity which it will both initiate and fully control using its own systems. It might also decide to provide all learners with the facility (hence the 'facilitate' positioning) to maintain an ePortfolio – using a system it will provide and host – but to make doing this an option for the individual students (hence 'learner initiated'). However, a learner is certain to want to make reference to their formally accredited achievements in any portfolio, and this exposes issues of data ownership (as discussed earlier) when enabling links between the two systems involved.

It is hoped that, by exposing such issues visually, the framework will enable policy makers to identify issues in a way which maintains focus on educational intent.

9. Conclusion

The introduction, development and embedding of the use of technology to support learning is an endemic feature of higher and further education. Many institutions are still at a stage of introducing TSL and are at the stage of using strategic approaches to innovation. Many others are now focused on its embedding. The community involved in TSL has not, in general, focused overmuch on the cultural and organisational nature of the institutions in which their initiatives take place, and where this has been done have focused mainly on changing teaching and learning practice. The use of policy as a tool for embedding TSL following its successful introduction has proved a double-edged tool in that, whilst effective in embedding what has been achieved, it creates barriers to the sustainability

of innovation and tensions which might undermine policy itself. This is being exacerbated by the arrival of new technologies and services, which further confuse and weaken organisational control. Those involved in TSL need to examine closely what methods might be employed to enable innovation to be sustained and to question what strategic and policy approaches are needed to avoid blocking both organisational and cultural change.

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