ALT-J, Research in Learning Technology
Vol. 12, No. 2, June 2004

Carfax Publishing
Taylor & Francis Group

Implementing a learning technology strategy: top–down strategy meets bottom–up culture

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Using interview-based 'insider case study' research, this paper outlines why the University of Salford has adopted a Learning Technologies Strategy and examines the factors which are likely to lead to its successful implementation. External reasons for the adoption focused on the need to: respond to 'increased Higher Education (HE) competition', meet student expectations of learning technology use, provide more flexibility and access to the curriculum, address the possible determining effect of technology and establish a Virtual Learning Environment (VLE) presence in this 'particular area of the HE landscape'. Internal drivers centred on the need to: continue a 'bottom–up' e-learning pilot project initiative, particularly given that a VLE is a 'complex tool' which requires effective strategic implementation, and promote the idea that learning technology will play an important role in determining the type of HE institution that the University of Salford wishes to become. Likely success factors highlighted the need to: create 'time and space' for innovation, maintain effective communication and consultation at all levels of the organization, emphasize the operational aspects of the strategy, establish a variety of staff development processes and recognize the negotiatory processes involved in understanding the term 'web presence' in local teaching cultures. Fundamentally, the paper argues that policy makers should acknowledge the correct 'cultural configuration' of HE institutions when seeking to manage and achieve organizational change. Thus, it is not just a question of establishing 'success factors' *per se* but also whether they are contextualized appropriately within a 'correct' characterization of the organizational culture.

Introduction

The recent CHEP report (Collis & van der Wende, 2002) which examined the current and future use of learning technology in HE concluded that:

> Change is slow and not radical but HE institutions which have a clearer view on their mission with respect to serving different target groups (such as lifelong learners) with learning technology and on their position in those markets demonstrate higher levels of use of learning technology.

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ISSN 0968–7769 (print)/ISSN 1741–1629 (online)/04/020175–14

DOI: 10.1080/0968776042000216228

The main challenge arising from these findings is for HE institutions to develop more strategic policies on how learning technology can be used for different target groups especially given that as Timmis (2003, p. 1) argues:

> Learning technology is set to change the prevailing teaching paradigm as well as helping address other national drivers such as widening participation, increased student numbers and accessibility.

This is not to exclaim that the call for more strategic approaches to learning technology implementation is a relatively new phenomenon. For example, the Macfarlane Report (1992, p. xi) recommended a more strategic and longer term approach to the development of learning and teaching in an expanding HE system within which there should be a 'vigorous programme of research and development in teaching methods and educational technology'. In the mid-1990s, Daniel (1996) urged universities to adopt learning technology strategies to address the changing conception of the 'university campus' and the need to enhance curriculum accessibility, reduce costs and increase the flexibility of teaching and learning provision. On similar grounds, the Dearing Report (1997, section 13.17) emphasized that existing communications and information technology (CIT) resources could only be used more effectively if 'institutional managers developed and implemented a coherent and comprehensive CIT strategy.'

That said, recent studies of the uptake of new technologies in the HE sector (Jenkins *et al.*, 2001; Smith, 2002; Stiles, 2002) have highlighted the lack of institutional learning technology strategies as a barrier to their more widespread adoption in teaching and learning practice. However, even where it has been acknowledged that learning technology is moving to the centre of HE institutional teaching and learning strategies, it is:

> Marginal in terms of the practices and cultural values of most academic departments. A common theme in the audit of institutions was the presence of 'pockets' of activity and innovation, while senior managers still talked about 'the enthusiasts' as a small but precious minority. (Timmis, 2003, p. 2)

Learning technology implementation and managing organizational cultural change

Timmis seems to be suggesting that the gap between policy, strategy and local practice needs to be bridged or what Clegg *et al.* (2003, p. 51) refer to as the 'need to keep track of the messiness on the ground'. Within the learning technology literature, various authors have argued that the successful implementation of learning technology based teaching and learning practice will require changes in organizational culture. Saunders (1998, p. 175) reports that it is the organizational culture and environment rather than the technology that ultimately determines the learning experience as well as being the principal influence on the use of the technology. However, implementation studies of learning technology within HE settings have tended to display rather unsophisticated perspectives on the nature of the organizational culture and how to

achieve effective cultural change. They have usually focused on the need for some combination of having a clear vision, strategic planning, technological infrastructure development and a strong pro-active institutional leadership (Garrison & Anderson, 2003, p. 112). McCartan and Hare (1996) highlight the dynamic relationship between institutional culture and strategies for change led by the need for senior management support, integrative staff development policies, responsive central services and a mixture of funding arrangements. The Dearing Report (1997: section 13.57) however, placed less emphasis on financial factors as a possible barrier to successful implementation, in favour of the need for well-informed institutional leaders to consider both a 'fundamental rethink of institutional priorities' and 'an equally essential change of culture'. Littlejohn and Cameron (1999) and McNaught and Kennedy (1999) focus on the importance of combining policy, culture and support alongside strong senior management direction in effecting strategic change involving the integration of new technologies within the academic curriculum.

Brown (2002) makes the case for 're-engineering the university' in seeking to introduce more flexible learning technology based teaching and learning methods. This will involve not only a technical challenge but also a culture change, although he acknowledges that this will be harder to achieve especially in the democratic environment of a university. Collis and Moonen (2002) give little consideration to the nature of HE organizational culture *per se*; instead they focus on what they regard as the four key components of technology based flexible learning: technology, pedagogy, implementation and institution. They assert that strategies that require the effective implementation of learning technology in educational settings revolve around the 4-E Model: environment (institutional context), educational effectiveness (perceived or expected), ease of use and engagement (the person's response to technology and to change). The individual's likelihood of making use of learning technology innovation will be a function of these four factors. Hanson (2003, p. 119) in examining the strategic implementation of e-learning in Australian universities emphasizes the importance of senior management support, top–down budget allocation, the organization of central support—technical and pedagogic—and effective links across these and with faculties and schools, staff development opportunities and reward and recognition for teaching or involvement in e-learning. She regards the most critical factor as being the 'winning of hearts and minds of lecturers', who not only have to adapt their teaching methods but also change their conceptions of teaching in terms of generating a culture change.

These learning technology implementation studies all identify the need for some form of organizational cultural change to occur alongside the existence of 'key' success parameters in driving this change but they tend to characterize university organizations as culturally rather simple and uniform. Theorists on change and the ambiguity and complexity of organizational culture such as Fullan (1993, 1999, 2003) and Alvesson (1993, 2002) suggest that organizational change may not be such a straightforward process. Alvesson (2002, p. 171) in particular warns against the 'trivialization of managing culture' by authors who offer 'unitary and unique' views of organizational culture that can be 'shaped by managerial intentions'.

The University of Salford and its Learning Technology Strategy

Hannan and Silver (2000, p. 87) describe the University of Salford as an institution 'disaggregated into interlocking subcultures' within which a 'number of competing cultures wax and wane'. Given an ever changing HE environment, they argue that teaching and learning cultural contexts are likely to be best explained by acknowledging 'local' complexity, conflict and confusion with regard to institutional policy developments. The University of Salford Learning and Teaching Strategy (University of Salford, 2002a) is embedded within a Strategic Framework which emphasizes the institution as an 'enterprise university' alongside its two other core activities of teaching and research.

The Learning Technologies Strategy (LTS) is viewed as being central to the institution's programme delivery and learner support system. The principal aim with regard to integrating learning technologies within the University of Salford curriculum is to:

> Enhance the quality of, and access to, learning by supporting and developing the curriculum through the appropriate and effective use of learning technologies. (University of Salford, 2002b, p. 2)

Two objectives are identified in relation to achieving this aim, that is, to:

> Enable staff to identify where the appropriate and effective use of technology will add the greatest value to the curriculum and to support staff in the application and integration of learning technology;
>
> Maximize the institution's commitment to, investment in, and return on, the effective application of learning technologies. (University of Salford, 2002b, pp. 2–3)

Driven by the formulation of these two objectives, the LTS has adopted a staged top–down three year development plan whereby all modules within the University curriculum should establish a 'web presence' using the *Blackboard* VLE by August 2005. Prior to the LTS, *Blackboard*-based curriculum innovations took the form of organic bottom–up developments, championed by enthusiasts and supported by an informal coalition of central support agencies as part of an evaluated 'soft money' e-learning pilot project initiative. For example, findings from the e-learning pilot project evaluation reported that in some Faculties there were:

> One or two highly enthusiastic adopters of learning technologies, and that these individuals were the most effective agents of change … major barriers are 'people issues', including cultural traditions, risk aversion, lack of knowledge and user acceptance … compounded by the fact that the teaching staff involved had a wide range of CIT literacy, varying attitudes to technology and differing levels of prior experience in collaborative projects. (Keegan, 2003, p. 6)

In making the transition from bottom–up experimentation to a more strategic top–down learning technology approach, the University of Salford LTS is overseen by a Learning Technology Steering Group. This reports to the University's Teaching and Learning Development Sub-Committee which is an adjunct of the University's main Teaching and Learning Committee. The LTS is facilitated by a newly formed

Learning Technologies Centre (LTC) in collaboration with the University's Education Development and Academic Enterprise Units. The LTC also offers technical and pedagogic support for the *Blackboard* VLE alongside ongoing guidance for Faculties and Schools to identify and address learning technology priority areas in the context of their annual academic and business planning requirements. Furthermore, the LTS is underpinned by different staff development and learning technology support processes comprising of awareness raising, demonstrated 'exemplar' projects and *Blackboard* training alongside a network of Faculty based Learning Technology Teaching Fellows.

Research approach and the emerging cultural 'narratives'

In order to examine why the University of Salford has adopted a Learning Technologies Strategy and the factors which are likely to lead to its successful implementation, seven semi-structured interviews were conducted with people involved in the development and implementation of the University of Salford LTS at different levels of the organization. The people interviewed were: three members of the Learning Technology Strategy Development Group, the LTC manager, a learning technologist and two academics who use the *Blackboard* VLE in their educational practice. Each interview was tape recorded and subsequently transcribed and anonymized for the purposes of interpretation and analysis. This approach was underpinned by the phenomenological assumption that the university organization exists as a 'narrative' of individual experiences. Therefore, people's individual experiences of the organization can be studied in relation to the organization and any findings can help to explain how these participants experienced this type of organizational culture with regard to the LTS implementation. Interview respondents were asked to distinguish between the external and internal reasons for the adoption of a LTS at the University of Salford and what factors were likely to lead to the successful implementation of the strategy. As this is an 'insider case study' and to maintain anonymity, respondents have been identified by capital letter rather than job title.

External reasons

Typical responses on the prevailing external conditions driving the adoption of the LTS were:

> Competitors have really taken on board the use of learning technologies … we are becoming uncompetitive in that what we have to offer isn't as flexible, isn't as accessible and there is an expectation from the students that that's what they are going to get … there is also a notion that the technology is there now and so some of the drivers are the technologies themselves… (Respondent D)

> They have got to do it because other people are doing it, its become flavour of the month … but the university needs to and wants to address key developments and student expectations, for example, doing postgraduate courses … to be able to access components of that online, for undergraduate students, there is the need for more flexibility in delivery as

> recent internal Salford research indicated that students were working more and longer hours but they were struggling academically… (Respondent G)

Smith (2002, p. 1), Stiles (2002, p. 5), Hanson (2003, p. 119), Watson (2003, p. 106) and recently published e-learning strategy documents from the DfES (2003, p. 11) and the HEFCE (2003, p. 2) all emphasize the need for HE institutions to: respond to the rising global competitive pressure of additional educational providers, promote the accessibility and flexibility of curriculum delivery and cater for the more sophisticated technology expectations of an increasingly diverse and growing student population. With regard to the isomorphic tendency of 'everybody else's doing it', Jenkins *et al.* (2001, p. 9) report that this may have 'something to do with critical mass, i.e. as more institutions began to use these VLEs, other institutions felt that they needed to invest in this area also.'

That said, both Saunders (1998, p. 178) and Boys (2002, p. 2) emphasize that introducing new technologies into HE challenges fundamentally conventional academic roles, practices and organizational assumptions. Concerns were expressed in the interviews about how the strategic use of learning technology could impact on the role of academics and their practice:

> We should abandon our control over the curriculum at our peril, we are still academics who design, define and largely deliver our own curriculum … we should not allow the technology to make that decision for us … if an unanticipated outcome of introducing learning technology was that that changed without us having stopped to think about whether or not that was a change that we wanted to happen, then we would be failing in our duties, so we should have that dialogue about what the role of an academic is where technology is part of the context… (Respondent A)

Clegg *et al.* (2003, p. 47) maintain that a crucial issue for academics in HE is 'who has control over curricula and teaching methodology?' For example, Becher and Trowler (2001, p. 12) present evidence from Rhoades (1997) who found that academics had been 'professionally marginalized' in important decisions about 'whether, and how to, introduce and use' learning technology. It is alleged that this is more likely to occur when top–down managerialist strategies are invoked to mainstream learning technology innovations; the inference being that managers are able to exert more control over the composition, design and delivery of the HE curriculum.

Internal reasons

The need to maintain the momentum of the previous bottom–up and localized e-learning pilot project alongside a desire to develop the University of Salford's identity in learning technology innovation formed the centrepieces of the internal driver responses for the adoption of a more centralized and top–down LTS. For example:

> We managed to bring together a whole host of people throughout the University and to co-ordinate them and to try and provide something, some sense of direction and what needed to be achieved, the fact that we now have a learning technology strategy has to be as a consequence of what we tried to do… (Respondent D)

> There has been a drive from the bottom–up which has caused pressure and led to changes… (Respondent G)

> Given the history, nature and culture of this institution, it would expect of itself that it would have one, it has traditions of being a technologically based university, very vocational, those would appear to be part of the rationale for having such a strategy, the institution might think that its slipping down the table, getting more and more concerned about its place, and its position, about its competitiveness… (Respondent F)

Within the literature, learning technology innovations in HE organizations have been characterized as being part of a 'transformational process'. Jenkins, Browne and Armitage (2001, p. 29) suggest that VLE implementation can be tracked as being 'part of a continuum of development' ranging from: small scale enthusiasts (individualized), to localized, to co-ordinated, to transforming, to embedded and finally to the institution wide 'innovative' stage. Such processes are also reflected in the CHEP report (Collis & van der Wende, 2002, p. 8):

> Institutions are now transferring from a period of rich and mostly bottom–up experimentation to a phase in which institution-wide use of CIT is being encouraged.

However, adjusting from bottom–up to more strategically placed and centralized top–down approaches is not without its potential pitfalls. Brown (2002, p. 241) reports that although bottom–up approaches may lose out to competing initiatives and priorities within different parts of the university, a top–down management led strategy may be thwarted at middle management level where tough choices have to be made about the allocation of resources in the face of competing priorities at the departmental level of the organization.

Likely success factors

Interview respondents regarded the need for: creating 'time and space' for innovation, effective communication and consultation, more emphasis on the operational aspects of the strategy, staff development processes, negotiation as to the meaning of 'web presence' in local contexts and recognition by managers of the correct cultural configuration of the university as being the key success factors in the implementation of the LTS.

The following comments are examples of the need for room to innovate:

> Its going to be difficult for them to do given workloads and the problems with time that they already have, using the VLE isn't going to solve their problems with time, its not going to be a means of reducing student contact… (Respondent C)

> There is very little slack, flexibility, within the whole notion of how people develop their own programme, the teams that we have to develop, the whole approval systems and the work they are balancing, a lot of it is set in concrete at the beginning of the year, very little time given to development, you know we do not value the fact that in order to put together something that is really robust and innovative, takes time you know, its not just something that you can do overnight… (Respondent D)

Smith (2002, p. 1), Saunders (1998, p. 176), and Jenkins *et al.* (2001, p. 23) emphasize the importance of academics being given time to develop familiarity with different technologies and produce learning materials. Steel and Hudson (2001, p. 109) report that learning technology innovations must be recognised alongside other competing agendas and that the 'notion of lack of space' principally in terms of time may not be acknowledged by senior management. Indeed as Reynolds and Saunders (1987, p. 207) illustrate in tracing curriculum planning formulation to changes in curriculum practice by using the metaphor of an 'implementation staircase': 'making a response to policy requirements was only one amongst many other pressing concerns' and that 'what teachers thought and did about curriculum policy involved recognizing their shifting and precarious scales of priority over time'. Steel and Hudson (2001, p. 109) also highlight the importance of effective communication at all levels of the HE organization in undertaking curriculum innovation and development. This is not just about delineating a clear vision but also how to develop and maintain a dialogue between senior management and teaching staff as to what management think is achievable using learning technology and what is actually achievable on the ground by academic practitioners. These issues were reflected in the Salford context:

> It is all very well the strategy saying we will do x amount of things in the first year or whatever but that's very much coming from the directors, the managers but its important to find out what the academic staff think is feasible, its hard to know exactly what information is feeding down but my perception is that perhaps not a lot is feeding down or feeding both ways… (Respondent B)

A common theme in the responses was the challenge of operationalizing the strategy between the top–down intentions and day to day academic practice at all levels of the organization:

> The strategy is never going to include everything which may happen but a lot more could have been included which would have made the strategy appear far more robust and in return would probably have gained greater support and trust from staff if they felt that all angles were covered… (Respondent B)

> I am not convinced that the thinking has been properly done about how to operationalize the strategy and work with the Deans, the Schools and the individuals to do that, the mechanics haven't properly been worked out … although the teaching fellows will be a really good link but in terms of operational detail there is an awful lot that needs to be done alongside the dissemination of that… (Respondent D)

The learning technology literature is awash with arguments that emphasize the importance of staff development when undertaking learning technology implementation (McCartan & Hare, 1996; Littlejohn & Cameron, 1999; McNaught & Kennedy, 2000; Brown, 2002; Hanson, 2003; Timmis, 2003) and this was reflected in the interview responses:

> People have got to feel equipped to do it, you just feel that you don't have the time to do it and you don't need to use it enough so its that need to do it and being given the time and the resources and support to be able to do it and to feel that its of genuine benefit, so the staff development is important… (Respondent G)

The key challenge here is how various staff development processes are able to engage with, change and improve local academic practice. The danger, however, is that the argument for staff development becomes a 'catch all' success factor; a seemingly quick fix solution for changing diverse work place practice and culture. Oliver and Dempster (2003) argue that given the complexity of supporting e-learning, no single model of staff development may be able to engage all staff. For example, centralized models of learning technology staff development maybe too separated from diverse 'local practice', accredited courses require staff time allowances for immersive participation and one to one support requires the provision of resource intensive activity.

The importance of 'bridging' organizational level and individual level cultural signifiers and practices

The University of Salford LTS makes explicit reference to establishing a 'web presence' via the VLE in terms of pursuing an accessible, flexible and 'value added' curriculum. Interview respondents displayed extreme variation as to what may transpire from this in terms of academic practice:

> You can make a strategy which says every individual shall have a web presence and the individual doesn't have to do anything about it because they just have to supply the information, it might be something very simple… (Respondent A)

> It could be anything from just having a bit of detail about the members of staff that are teaching on the module, maybe a few useful web links, some very minimal stuff it could be a few powerpoints, or it could be a significant part of the course supported or delivered through the VLE, they are leaving it open to anybody's individual interpretation, which gives them more flexibility to the way that it all develops… (Respondent B)

> For staff, it's enormously challenging for them, it's potentially threatening, frightening, producing anxiety and fear… (Respondent F)

The term 'web presence' is the symbolic cultural mediator between the strategic goals of the LTS and how these are translated into effective learning and teaching practice on the ground. On the one hand, it seemingly offers flexibility and room for interpretation within different cultural contexts but on the other may produce fear, anxiety and increased pressure on academic staff. Knight and Trowler (2001, p. 43) cite Tierney (1989) who advises that university leaders need to 'use symbols consistent with the local culture' in seeking to change academic practice:

> Rather than assume a functional view of symbols and a passive view of individuals, we need to reconceptualize culture as an interpretive dynamic whereby the leader's symbols may or may not be interpreted the way he or she intended. The challenge is to understand how these symbolic forms exist within particular cultural contexts.

When undertaking learning technology strategies, policy makers need to be cognizant of the different cultural perspectives and loyalties that exist at different levels of the university organization. Alvesson (1993, p. 105) in examining organizational cultural practice within what he refers to as the different 'social fields' of the university argues that:

> There is a discrepancy between the organizational level and the individual level which, however, through its connection with social fields, is collective in character … at the organizational level people's values and ideals are expressed in a weak form, partly as a matter of compromise. Deep values and ideals are more strongly expressed in forms of work, these being largely connected with specific social fields rather than collective/organization-related.

Similarly, Trowler and Turner (2002, p. 247) argue that developing a strong workgroup culture may mean 'developing distance from, but interactive tension with, the wider university context'. Respondents' comments on the University of Salford culture reflected this picture:

> It is an individualistic culture … my favourite definition of faculty is a group of people united by a common grievance on car parking … you can't understand universities and academics by talking in terms of a collective … the analysis of culture at the organizational level would miss the diversity of the various perspectives that exist within and between different parts of the university as well as the even richer diversity of actual individuals… (Respondent A)

> I don't think that there is such a thing as a university culture, there are lots of sub-cultures … you perceive things from where you are and from where your immediate reference group are, it's a whole rag bag of cultures ranging from out and out rebellion and anarchy, there is no concept of the university … they are quite complex, not all distinct, some people share things with other sub-cultures but not others… (Respondent F)

University strategists faced with the challenges of undertaking cultural change in the face of learning technology initiatives need to recognize their organizations as a fragmented 'domain of factions' or 'collection of groups' (Silver, 2003, p. 165) where 'conflict, uncertainty and the difficulties of response have penetrated the daily lives of academic staff' and as dynamic 'multiple cultural configurations' (Alvesson 2002, p. 190) where local practice and its associated meanings and symbols crucially affect how strategic change proposals are understood, received and appropriated within the local workgroup cultures.

Conclusions

The University of Salford has adopted a LTS in response to external forces such as growing national and global HE online provision, perceived student expectations of e-learning availability and the need to provide more accessible and flexible learning and teaching opportunities. However, the challenge remains as to how this more strategic approach will be received and translated into 'local' academic cultures and practice on the 'ground'. The University of Salford LTS is a staged top–down strategy which emphasizes a 'web presence' vision and goal driven processes targeted at increasing curriculum flexibility and accessibility. Such strategies have been characterized by Trowler, Saunders and Knight (2003, p. 7) as being 'technical-rational' in nature where well-designed interventions aim to cause organizational change. Control is directed from the top and mediated within seemingly tightly coupled systems. In such circumstances, Knight and Trowler (2001, p.14) state that the organization is assumed to act as a:

> Co-ordinated unit with a common understanding of objectives, at least in the ideal situation. The assumption is that the outcomes of properly managed change processes are predictable.

However, Weick (1976, p. 6) describes educational organizations as 'loosely coupled systems' which are amenable to 'localized adaptation' without affecting the whole organization. Thus, the 'situated character of professional practice' (Trowler & Knight, 2002, p. 153) is likely to determine local responses to centralized top–down approaches to the management of change.

There may be an inherent contradiction between the University of Salford LTS that is principally technical-rational in design within an organization that is recognized both externally and internally as one which is 'disaggregated' in terms of its cultural form. There is a danger of 'organizational schizophrenia' in such circumstances manifesting itself in a mismatch between organizational goals and achievable practice on the ground. The achievement of the University of Salford strategy will require a high level of co-operation and mutual understanding between the different central support units, and in relation to, locally based priorities and practice within the Faculty and School structures of the University. This may produce a 'contested space' where the 'web presence' cultural symbolism of policy confronts the reality of practice on the ground. Trowler and Knight (2002, p. 158) suggest, that in such circumstances, educational development professionals will contribute most to policy interventions 'by working as consultants with departments' thereby engaging with specific work group practices'. Furthermore, they argue:

> A university hoping to make a fundamental difference to teaching and learning quality by requiring all departments to introduce new learning environments should anticipate that there will be a considerable range of outcomes and recognize that learning quality might better be improved by encouraging a diversity of innovations.

In effect, the challenge for the University of Salford LTS remains one of implementing a top–down strategic approach within a university characterized as 'disaggregated into interlocking sub-cultures'. (Hannan & Silver, 2000, p. 87) This provides a 'site for contestation' (Webb, 1996, p. 32) where top–down strategy meets bottom–up culture. The CHEP report (Collis & van der Wende 2002) cited at the start of this paper argued that increases in learning technology use in HE were slow with little underlying change in pedagogic practice. This is not surprising as Stigler and Hiebert (1998, p. 6) describe teaching as a 'cultural activity' where such processes evolve over long periods of time 'in ways that are consistent with the stable web of beliefs and assumptions that are part of that culture … and that these beliefs serve to maintain the stability of cultural systems over time'. Because these teaching beliefs are cultural, then Stigler and Hiebert argue that they must be understood 'in relation to the cultural beliefs and assumptions that surround them.' With regard to learning technology implementation aimed at enhancing teaching and learning practice then, as Trowler (2003, p. 146) asserts, if innovations are to be effective there must be 'mutual understanding' between

policy makers, implementers and practitioners. Thus, it is not just a question of establishing 'success factors' *per se* but also whether they are contextualized appropriately within a 'correct' characterization of the examined organizational culture. Therefore, it becomes essential for strategists to become fully aware of the 'cultural configuration' of their organization and the likely response of the practitioners to, in this particular case, strategic learning technology innovations. As Kezar and Eckel (2002, p. 457) are keen to point out, strategic change will only be successful if such initiatives are 'culturally coherent or aligned with the culture.'

We need to have a more disfigured view of the policy implementation process within a more realistically characterized notion of HE organizational culture. Learning technologies cannot be unproblematically applied to improve learning and teaching practice. It is not just a question of putting in place the right 'success factors' but rather the need to have clear rationales which are effectively communicated throughout all levels of the organization in conjunction with strategies which correctly configure the cultural landscape and localized teaching and learning practice of the HE organization.

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