Game for change? Balancing an enterprise-level LMS implementation

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Abstract

With increasing importance being accorded to web technologies for learning and teaching, many universities are now considering changing or moving to enterprise-level learning management systems (LMS). Stories about the perils of advancing change in a university environment are well known in the higher education sector. Change is something that universities do not do well! Drawing on the idea that change can be empowering, enabling and educational, this implementation uses the inter-related approaches of culture, leadership, project management and change management to inform its strategies for change.

Outlining some of the theory behind the approaches and the practical strategies enacted, this paper aspires to provide others who are game for change with a practical framework that may inform their own change endeavours.

Keywords

culture, change, leadership, project management, LMS, implementation, elearning

Introduction

> There is no more delicate matter to take in hand, nor more dangerous to conduct, nor more doubtful of success, than to step up as a leader in the introduction of change. For he who innovates will have for his enemies all those who are well off under the existing order of things, and only lukewarm support in those who might be better off under the new.
>
> (Machiavelli, 1950, p. 21)

In a turbulent higher education sector, most major change is perceived as disruptive and often met with resistance or disinterest across the university community. The theories around how to manage change still seem to be somewhat foreign to many in this sector. Change literature in the higher education context predominantly contains generalised strategies that lack enough detail to be of use to others (Kezar & Eckel, 2002a, p. 435; Phelps, Ledgerwood, & Bartlett, 2000, p. 206). The challenges of implementing an institutional-level change in such a diverse and complex culture are enormous.

In his paper aptly named 'The Implementation Game', Vrakking (1995, p. 31) advises that the main issue in implementation is "how can we create, with a minimum of effort (and cost), the best possible chance that implementation of intended and approved complex innovations will actually take place? In other words: how do you do all this?". Practical strategies derived from theory are of major importance to those who have a leadership role in change. Of course, amongst them is no simple panacea as change is complex organisationally and is also culturally situated. Straightforward solutions often miss the complexity of real situations and the opportunity to consider a range of competing approaches when devising a tailor-made approach to change (Stace & Dunphy, 1994, pp. 5–6).

This paper attempts to explore some of the theories and ideas around change and detail some of the practical strategies used in a university-wide implementation of an enterprise-level learning management system (LMS) at a large research-intensive Australian university. In order to seek a more balanced approach to change in a complex environment the inter-relationship between culture, leadership, project management and change management is explored.

Imperative for change

The University of Queensland (UQ) first adopted a learning management system (LMS) in 1998 and this system (WebCT) gradually became the centrally supported university system. For large, traditional universities in Australia, the overall adoption, incorporation and institutionalisation of web technologies for learning and teaching is, initially, a slow process.

In 2003, the UQ eLearning Working Party decided that since the market for such systems had somewhat matured, pricing had increased, and there was generally a low adoption rate of the system, it was time to go to an open tender for an enterprise level LMS. A full tender process ensued which involved evaluation teams from across the university including representatives who were put forward from faculties, specialists in higher education and educational web technologies, the library and the eLearning Working Party. A range of criteria was developed by which the competitors were assessed. Heavily weighted criteria for the tender included the ability of the system to integrate with other university systems and the ease of use factor which was understood to be essential to increasing adoption rates across the university staff community. In mid-2004 it was announced that the LMS (Blackboard), had won the tender and was especially strong on the integration and ease-of-use criteria. For UQ, moving to a new LMS would be a major university-wide change affecting both staff and students.

Approaching change

Change is something that universities always find uncomfortable (Kezar & Eckel, 2002, p. 435). Universities in Australia are encountering unparalleled major change in all directions from industrial relations, to voluntary student unionism to intensive learning and teaching quality assurance measures. Many of these changes are coming from top-down (predominantly from the Commonwealth Department of Education Science and Training), are transactional in nature with the threat of financial penalty if they are not enacted as directed. For many university staff there is a perception that with each of these changes comes more work, less money, less empowerment and less academic freedom. In such an environment, change has a bad name and the notion of 'balance' is simply not in the equation.

In June 2004 the author of this paper was seconded into a role as the university-wide project manager for the Blackboard implementation and as such was faced with a major challenge in a change-weary environment. It was a deliberate strategy that the project manager be an educationalist (in this case a lecturer in higher education) rather than a technology specialist so that a teaching and learning perspective informed leadership and decision-making. I had previously worked in a faculty-based role as the project manager, curriculum specialist and academic staff developer in a successful three-year technology enhancement project. It was important to bring the knowledge gained about leadership (see Steel, 2003) and supporting technology innovation in a higher education environment (see Steel, 2004) to this major change role at the university. In particular, I was interested in how words such as *transformational*, *empowering*, *enabling* and *educational* (which were key to the success of the previous project) might be translated in this more complex initiative.

The perils of the game of change

As the Machiavelli quote in the introduction suggests, those game to lead change are likely to find themselves caught in an endeavour fraught with danger and often at odds with those who were quite comfortable under previous circumstances. Although the choice to use the centrally supported LMS is up to individual course coordinators, in a university with approximately 5,000 staff and 30,000 students such a change was obviously going to have a great impact on the lives of a great many people. When faced with this scale of change it is wise to be aware of some of the known perils of change game such as:

Culture

- Failure to consider the cultural assumptions and beliefs of the organisation: within any organisation exists a cultural framework within which participants constantly interpret and express their identity (Tierney, 1999b, p. 52)

- Violation of cultural norms with culturally insensitive strategies: using change strategies that are culturally aligned seem to be more successful (Kezar & Eckel, 2002a, p. 457).

Leadership

- Lack of effective leadership: effective leadership needs be create the conditions under which participants can enact and engage with the change (Tierney, 1999b, p. 57).

- The decision to change is not convincing: people later say (in retrospect) that the decision to change was not a good one, or late resisters unite and take exception against the decision-making process (Vrakking, 1995, p. 31). People need to know what the reasoning is behind the change and the reasoning needs to be robust.

- Lack of vision: people need to know where the change is leading (Kotter, 1999, pp. 81–82).

Project management

- Preparation, planning and support are inadequate (Vrakking, 1995, p. 31): particularly for a large scale project this can lead to chaos. Timelines and budgets will run over and project teams may be working at odds with each other.

Change management

- People affected by the change don't feel part of it: participants in the change need to feel part of it so that they have the motivation, skills and knowledge to adapt to the change (Dawson & Jones, 2003, p. 23).

- Lack of communication: communication is central (Stace & Dunphy, 1994). It needs to be consistent, aligned to the vision, and must involve powerful mechanisms for 'listening'.

The approach taken to culture, leadership, project management and change management all have a significant impact on the outcome of any change initiative. When addressed from a transformational, empowering, enabling and educational perspective, each provides powerful tools to assist with the complexities inherent in many change situation. Cultural assumptions and beliefs can be considered and culturally aligned strategies can be implemented. Leadership can provide vision and enable the participation of the community to engage with the change so that transformation occurs on a cultural level with less emphasis on structure.

Project management offers a way of planning, operationalising and monitoring the various activities and expenditures that are required to meet the specific objectives of an initiative within a particular timeframe. However, project management can occur in culturally sensitive ways through transformational leadership and vision. Change management can provide a framework for communication that engenders community engagement with — and commitment to — the initiative, with consideration to the organisational culture.

Change management can also enable the community to better engage with the change through education and support. Thus, a strong inter-relationship between culture, leadership, project management and change management can better equip us to deal with the perils of the game of change. Collectively, they impact upon one another and influence how a change initiative is received and integrated into the institution.

Where possible, the approach taken in the implementation of the LMS at UQ attempted to utilise these tools as informative lenses to create a balanced approach unique to the circumstances in which the change occurred. Although no formal evaluation of the project has been completed, the UQ eLearning Working Party has indicated that it has been one of the most successful implementations at our university. To better understand how these approaches were utilised to enable change through transformation, empowerment, and education, it is worthwhile to briefly provide some information about the specific aims and scope of the project. The following section is drawn largely from the project's 'Charter' document.

The implementation project

The purpose of the implementation project was to migrate the UQ Learning Management System from WebCT Standard Edition to Blackboard. An interim migration to WebCT Campus Edition was required for second semester 2004. The implementation project commenced in mid 2004 and was completed by the end of June 2005. The specific project aims and key performance indicators for the project are detailed in Table 1 and provide a reasonable idea of the scope of the project.

Table 1: Project aims and key performance indicators

Aims
• Allocation of staff to implementation teams.
• Development and implementation of a detailed project plan.
• Development and implementation of a communication and change management plan.
• Purchasing and installation of the software and hardware.
• Provision of technical training for technical support and help desk staff.
• Provision of training in the use of Blackboard for instructional and course designers and students.
• Provision of technical and pedagogical staff development for teaching staff, designers and tutors.
• Provision of Blackboard specific help desk service for staff and students.
• Review and development of eLearning policies and procedures.
• Integration of Blackboard with my.UQ (UQ portal) and Peoplesoft (SI-net).
• Development of single sign-on for Blackboard.
• Development of specific templates for Blackboard.
• Conversion of the courses for Semester 2 to WebCT Campus Edition.
• Conversion of the courses to Blackboard for Summer Semester (pilot).
• Conversion of all existing WebCT Courses to Blackboard for 2005.
• Development of processes and procedures for the conversion of non-WebCT courses.
Key performance indicators
• Blackboard Pilot: Summer 2004 — all Summer semester, year-long and library sites successfully converted.
• All 2004 WebCT courses converted to Blackboard by Semester 1, 2005.
• Blackboard is the only centrally support LMS in use by Semester 1, 2005.
• Blackboard is implemented with all project aims achieved.
• Sign off by Sponsor or nominee of Implementation Project by July 2005.

With the appointment of the university-wide project manager, existing staff were allocated to working teams. The operational project teams consisted of an Information Technology Services (ITS) team who provided the technical and systems expertise, a Teaching Education Development Institute (TEDI) team who provided the functional, educational, staff development and staff support expertise and the Library team who provided the student support and training expertise. A Project Management and Communication Team was also formed (consisting of the university-wide project manager, the ITS project manager and the TEDI project manager) to consult on project management and handle all communication with the UQ community and between work teams. An operational working group was established with representatives of all operational teams to facilitate communication and collaboration. The project sponsor was the Deputy Vice-Chancellor (Academic), and the Information Technology Services and Policy and Planning Committee (ITSPP) and the eLearning Working Party were the overarching university committees that oversaw the project.

Initial documents developed at the tender stage informed the project planning, the allocation of staff and budget. Time was already a concern when the university-wide project manager was appointed, however, the value of well-considered planning cannot be underestimated. Detailed planning, analysis and strategies were developed for the UQ community and operational working teams with the concepts of 'transformational', 'empowering', 'enabling' and 'educational' at their core. The following sections detail how change was approached through culture, leadership, project management and change management.

Culture

> One of the best ways to begin to prepare for (change) and to cope with the challenges is to examine our own institutions in order to appreciate and engage diverse and often conflicting cultures that reside in them.
>
> (Bergquist, 1992, p. 230)

Universities are places of great diversity that often represent conflicting interests, beliefs and values. This applies equally to the area of learning technologies. An organisational culture comprises 'the informal codes and shared assumptions of the individuals who participate in the organisation' (Tierney, 1996, p. 372). Using culture as a conceptual lens one can begin to understand what is happening within the organisation and how the participants make sense of it. A focus on culture can promote more fluidity and potential for individuals to work across previous structural departmental/ disciplinary boundaries in response to changing needs.

It also encourages us to explore the expectations and issues of importance of the differing cultures that constitute a university when planning for change.

Practical cultural strategies used in implementation

Culture of dispersed decision-making

As a traditional Australian university, The University of Queensland does not have a highly centralised model of decision-making and many sub-cultures exist at faculty, school and discipline levels. Although there was some push to mandate the LMS as compulsory for every UQ course, it was a deliberate strategy to enable individuals and/or school and faculty decision-makers to decide how and when the LMS would be used. When people had negative beliefs and assumptions around the use of technology in their courses then it was a more empowering strategy to use education (formal and situated staff development) to enable them to use technology in a way that suited their curriculum, themselves and their students. In this way people were *invited* to participate in good practice rather than forcing them to participate in bad.

An analysis of the various community stakeholders and their expectations of the implementation was undertaken early in project planning in the development of our change management and communication plan. Analysis took into account major community stakeholders and their sub-groups. For example, sub-groups of academics included teaching and learning committee members, pilot users, experienced and new users of the system, power users (those who are experienced with using technology innovatively within their teaching), remote users and sessional staff. An example of the analysis is provided in Table 2. Focusing on organisational cultures within the university, our analysis provided a way of creating strategies to engage them with the change, target communication at crucial times and plan for their specific needs.

Table 2: Stakeholder analysis

Stakeholders	Subsets	Stakeholder expectations
2. Academics, tutors and sessional staff	2.1 Pilot user group	a. Rationale for a pilot b. Who will be included in the Summer Pilot and why c. Whether early start Semester 1 courses included in the pilot d. When the migration to the new system will occur for this cohort e. The structural and functional changes that will occur to a site due to migration f. The timeline for access to the new system for this cohort g. How to access the new system and request new Summer courses in Blackboard h. How to access to training and support i. What is the rationale for a pilot evaluation j. What role will they have in the pilot evaluation strategy (especially related to workload issues)

Leadership

Transformational leaders are critically engaged in the on-going definition of their organisation and in the work of empowering all of the participants to help define the nature of their realities; moreover, they are also those individuals who try to find others who will lead. Transformative leaders recognise and foment leadership opportunities in all people, in all sorts of situations (Tierney, 1991).

Leadership, Tierney proposes, is an explicit type of empowerment that is deeply connected to the organisation's culture (Tierney, 1991, p. 164). The parameters of the institution's culture combined with the interaction of individuals involved in the creation of organisational reality define leadership (Tierney, 1996, p. 372). As leadership is a mutual and enacted relationship between individuals power is implicitly available to those who share in its the creation and can thus be utilised as a tool of social transformation (Tierney, 1991, p. 164). Tierney espouses that universities require leaders that perceive themselves as designers who can create ownership for the cultural community. Such leaders, he argues, need to concentrate on process, performance and creating the conditions for the institution's participants to enact change and achieve significant goals (Tierney, 1999b, pp.54–57). To achieve these aims it is important to explicitly develop core strategies that will enable participation in change.

Practical leadership strategies used in implementation

Leadership of teams

With the timeline and the broad aims of the implementation identified, project teams were asked to develop their own project brief and terms of reference. In this way they were empowered to make decisions about how they would approach the implementation, individual team member roles and the tangible outcomes of their work. To enable them to fulfil their roles and achieve their goals they were provided with training and education that again was provided based on their own needs-analysis. Operational working group meetings (which included representatives of all project teams) were focused on raising project related issues, mutual problem solving, communication and collaboration. The university-wide project manager facilitated this kind of leadership and consequently there was no tension between team members or teams and all project aims were successfully met to the standard expected or higher.

Leadership within the community

When a large scale change is occurring within any community there is likely to be resistance based on protectionism (of self, status, organisational values), lack of trust in those enacting the change, lack of understanding for why the change is happening or change-weariness (Johnson, 2001, p. 136–138). Community resistance to change can also be caused by mis-interpretation, fear, cynicism, scepticism and lack of skills. For all these reasons it was crucial that the leadership approach would enable community participants to achieve their goals in relation to use of the new system, to empower them with the education, skills and information to use the system, to create some level of ownership of the system within the culturally dispersed components of the university. Effective communication was a key factor in achieving these aspirations. Table 3 summarises the leadership and communication principles that were valued and aspired to and enacted during the implementation.

Table 3: Leadership and communication principles

Principle	Rationale
Transformational approach	Facilitates creating empowering opportunities for individuals to contribute to the shared values, mission and objectives of the change thereby enabling cultural change.
Consistent and central coordination	Ensures consistently in information and approach.
Visible support from senior management	Commitment and visible support from senior management gives credibility to communication.
Open, consultative and transparent	Supports a transparent approach and community engagement with the project.
Credible through action and communication	A credible approach engenders the community towards a belief that the end goal is achievable.
Community engagement not just information	Supports a transformational approach and community engagement with the project.
Realistic expectations	Need to be realistic not overly optimistic to be credible and manage community expectations.
Multiple mechanisms for communication	Facilitates audience involvement and feedback.
Avoid information 'overload'	Important information will be lost if there is too much of it.
Respond to the community's demands for information and education	Encourage teams to seek the kind of information and education the community requires rather pushing it at them. Also assists with engagement with the change.
Tailor communication to varying community needs	Makes information 'real' and culturally sensitive.
Listen and be responsive to feedback	Assists in knowing what is going on in the community that may be causing resistance. Being responsive means that feedback needs to be utilised in informing leadership and decision-making to demonstrate that feedback is valued and so is the community.

(Source: Adapted from *The project management planning framework* web site)

A number of communication mechanisms were developed to support the project and these included:

- Supporting the formation of various staff networks throughout the University to act as local leaders and sources of knowledge and expertise to assist staff within faculties and schools with achieving their goals in relation to the change. These were:
    - A Network for eLearning and Teaching (NeLT): recruited through faculty teaching and learning committees to provide academic-to-academic mentoring in the effective use of electronic technologies. Support and staff development is also provided to this group.
    - An eLearning Power User Network: formed comprising academics and others with a sound knowledge and experience of integrating innovative eLearning strategies and technologies into courses and curriculum. This group contributes to the UQ vision of elearning, participates in the evaluation and exploration of elearning technologies and contributes to staff development.
    - An existing Technical Administration Network: comprising technical experts within faculties and schools who are placed to locally support teachers and learners from a technical perspective.

- Attendance by designated project team members at a broad range of meetings involving stakeholder groups to listen, share knowledge, expertise and assist in local situations.

- Monitoring and responding to queries through the enquiry log and help desks (types of issues arising, volume of calls) from staff and students. These queries informed the direction of project work, decision-making and staff and student training.

- Creation of the UQ Staff elearning Community site within Blackboard with moderated discussion forums (by help desk staff) on using and improving Blackboard. These forums also encourage staff to help each other and share ideas across the community.

- Setting up a reference group for the project to represent diverse organisational cultures within the university.

- Conducting staff development sessions (centrally offered, situated and informal) to education staff and enable them to use the system to meet their own needs and objectives.

- Conducting student training and awareness programs to education students and enable them to use the system to meet their own needs and objectives.

- Conducting targeted information sessions across campuses and disseminating printed booklets and bookmarks (staff and students) to create awareness about the change and the reasons for the change.

- Creating awareness and information about the project, the product and where to get assistance through the creation of an eLearning web site.

- Regular announcements to provide critical information to the community.

- Targeting communication to specific community groups (print and electronic).

These communication mechanisms enabled the type of leadership that focused on listening to and responding to community needs. Feedback and suggestions were actively sought, valued and responded to both privately and publicly (where possible). Helping the community to achieve their goals was a priority for the project leadership and this was enacted through education, the development of staff networks, information about the system functionality, changing project processes to better meet staff needs and making modifications to the system where possible. Of course a high level of project management was also required to achieve these goals.

Project management

As a concept project management is somewhat foreign and incongruent when interacting primarily with people who are academics. In fact, it has been said that the introduction of project management methodologies into an academic environment can lead to cultural and procedural discord (Phelps et al., 2000, p. 206). None-the-less in a large-scale change endeavour, which involves large budgets, transparency, and reporting on milestones and outcomes, project management is an invaluable tool. Detailed planning, as with any other large-scale endeavour, is a crucial aspect of the project (Johnson, 2001, pp. 50–51). Implementation however involves applying and monitoring these plans as well as creating flexibility to make adjustments when necessary.

Practical project management strategies used in implementation

Project management is essentially about planning and monitoring different aspects of the project. In respect to the cultural sensitivities of an academic environment pointed out by Phelps et al. (2000), 'project management speak' was not generally used in communication with the UQ community apart from the project committees, working groups and teams. Planning included the development of a project charter and a detailed project implementation plan that articulated the project aims, timeline and milestones, risk management, key performance indicators, stakeholders, associated committees, budget and project deliverables. Disciplinary and multi-disciplinary teams and work groups were formed to support the implementation rollout. All plans, activities, budgets and timelines were monitored closely as were the community responses, feedback and issues. Where necessary, planning and activities were altered to better meet community needs and requirements.

Change management

While project management focuses on the planning and structures that are created for responsibility and accountability it does not consider the human factors associated with the ensuing change. People rather than processes are the central focus of any successful change management and communication approach (Dawson & Jones, 2003; McAlpine & Jackson, 2000; Tierney, 1998; 1999a; 1999c; 2001). The philosophy underpinning the approach is to recognise and acknowledge the differing needs of individuals and create conditions and opportunities that enable the university's participants to engage with and enact the change (Tierney, 1999a, p. 57). To create, stimulate and maintain an environment in which change can take place effective leadership needs to occur (at different levels) that creates the conditions and opportunities for people to engage with change and for teams to perform at a high level (Tierney, 1999, p. 49).

In higher education words such as 'change management', 'achieving buy-in' and 'communicating effectively' provide little insight to the community (Kezar & Eckel, 2002a, p. 435) unless used with examples that reveal on-the-ground planning and strategies that have been utilised to progress the change process in a complex cultural environment. As with the project management terminology it was important to keep these words out of community communication and find meaningful ways for the community to engage with the change and gradually develop ownership of it.

Practical change strategies used in implementation

A full change management and communication plan was also developed and is now used as a model for best practice at the university; many of the aspects of this plan have already been discussed in the preceding sections. The aim of the plan was to provide a framework for managing and coordinating communication, and engendering UQ community engagement with and commitment to the implementation of Blackboard. In particular, the plan was used to engage with a broad spectrum of community stakeholders to develop an environment conducive to the successful implementation of the change. Some of the strategies that were most crucial to the implementation were the community analysis, the development of critical staff networks, the range of staff development strategies, the enquiry and help desk logs, the elearning and staff community web sites, and attendance by project staff at a range of meetings of different community groups. Issues that were encountered during the life cycle of the project were honestly and realistically communicated to the community, along with the various strategies that were being utilised to resolve the issues.

Implementation achievements and reflections

At the completion of the project in June 2005, 1024 WebCT sites had been converted to Blackboard and several hundred new sites had been requested. In Semester 1 2005, over 940 unique staff and over 20,000 unique students were using the new system. There was a 30.07% increase in course web sites using the central system from Semester 1 2004 to Semester 1 2005. Timelines were met as detailed in planning and budget expectations were also met. The community communication mechanisms outlined above were well utilised. To the end of June 2005, the elearning web site had an average of approximately 360 visits per day, enquiries handled via the enquiry log exceeded 180, since its release on April 3, 2005, the UQ elearning staff community (Blackboard) site had 116 postings in the discussion forums. Over 461 staff engaged with the various educational opportunities available through formal, situated and informal staff development. As project manager, the author personally answered hundreds of emails. These were sometimes passed on to various support mechanisms for action but invariably the emails were responded to in such a way as to value the individual and their input.

The feedback from the community was also used to inform decision-making, staff development, student training, FAQ's and the direction of the implementation. We acknowledge that communication and change management is always extremely challenging in a university environment, however the mechanisms outlined here did serve the implementation project well and provided for multiple ways of "listening to" and "responding to" the UQ community.

Of course, the implementation was not perfect and the change process continues beyond initial implementation. As project manager and an educationalist, I would have liked to have had more educational staff evaluating the functionality differences between systems and particularly the affordances and limitations of the new system. Our lack of thorough knowledge in this area caused us quite a few problems and some criticism. We had a relatively small number of staff on the project teams with the only full-time staff member being the university-wide project manager. We could always do better with more money and more staff (to a certain point anyway) but with shrinking university budgets this is not always a possibility. There also would have been a great advantage to have the staff networks (NeLT, eLearning Power User Network and Technical Network) more involved with the early stages of the implementation and evaluating the differences between products. Congruent with the sentiments of the original Machiavelli quote, there were some staff who were accustomed to the previous system (particularly experienced users) and were clearly unhappy with the new system and what it had to offer.

Conclusion

As mentioned at the beginning of this paper, the challenges of implementing an institutional-level change in such a diverse and complex culture are enormous. Using the inter-relationship between culture, leadership, project management and change management, to inform our change strategies, greatly assisted us to implement our new enterprise level LMS. In reflection, there are certainly areas where our approach and strategies can be improved; however, we hope that this paper may assist in answering, Vrakking (1995, p. 31) questions: "how can we create, with a minimum of effort (and cost), the best possible chance that implementation of intended and approved complex innovations will actually take place? In other words: how do you do all this?".

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