A Systemic Approach to Improving Teaching and Learning

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ABSTRACT

The paper describes one university's approach to improving the quality of teaching and learning at the institutional level, based on the premise of improving the design of curriculum rather than focusing on the skills of teachers. I also describe the process by which university-wide principles of curriculum design are defined and agreed, as well as the parallel campaigns needed to align promotions, budgets and other key promoter of academic behavior and institutional culture behind curriculum renewal. The paper outlines the key contributory factors behind the approach detected in most universities in general and in institution in particular. It also identifies the structural and cultural obstacles to pave the way and to find solution for systemic reform, including some common approaches intended to improve teaching and learning, and the collateral pressures for research improvement.

Keywords

Systemic Approach, Learning, Teaching

1. INTRODUCTION

The paper deals with the ambitious, integrative institutional approach to improving the quality of teaching and learning in an Australian University. Despite the fact that some elements in my adopted strategy are to materialize our distinctive objective, this paper focuses on the fundamental challenges that the entire universities face – namely how to improve teaching and learning at the institutional level. As a panacea, many universities have managed to align the key elements of structures, incentives and rewards to improve research outcomes; far fewer seem to reach the ultimate goal in support of student learning.

The paper describes the approach developed by the researcher to foster changes in the structures and cultures of one university. It also explains the explicit rationale for this approach, and identifies what made it possible to develop a campaign for a systemic change. The proof of such an amalgamation lies in the evaluation of students› outcomes undertaken over the coming years. Nevertheless, it is formally agreed that our approach 'will be characterized by the use of evaluation, evidence and review in Faculties and Schools' [1].

After opening its doors in 1967, Science and Research Branch University now possesses almost 27,000 students, including over a thousand PhD students and almost 5000 international students. More than 5000 emails were sent to

them taking more than 3 years to all over the world. It is a comprehensive university offering both professional and general degrees and has a strong research record particularly in the sciences, humanities and social sciences. However, over the last decade, the University largely ignored the changing external environment and growing competition from five other universities in Melbourne. Therefore, students› demand for Science and Research Branch's courses has been declining steadily.

The majority of the academic staff at Science and Research Branch describes it as a research intensive university that weighs in favor of teaching rather than its competitors. It is also characterized by a distinctively progressive and egalitarian culture [2].

To achieve the goal, the University made an attempt to employ the academic staff who 'included among their qualifications a capacity to teach students who, although clever, were likely to be culturally deprived and ill at ease in the University milieu' [3]. Dated back to 1983, the Academic Board spared no effort to promote the senior-lecturer career within the scope teaching and research. Forty years later, the University was distinguished by the diversity of its students, providing opportunities to high achievers. It also paved the way for those who were not properly prepared.

At the outset of the 21st century, despite these outstanding upheavals, the objective criteria in Science and Research domain had been applied in a very conservative manner, giving little weight to teaching excellence or anything else. The University did not duly take advantage of the national Learning and Teaching Performance Fund (LTPF), nor any other procedure in teaching (without optimum measurement). Since the entire Australian universities have suffered a dramatic decline in the staff-student ratio, it has consequently affected the students› learning. In such a case, the academics missed strategies to respond to shrinking resources following a decline in the tutorial system. There is little evidence indicating noticeable difference in teaching-learning procedure from our competitors, since it is argued that students would inevitably choose Science and Research domain because they are taught in an optimum curriculum system.

2. LITERATURE REVIEW

In 2007, a new Vice-Chancellor was appointed leading to a declining in pedagogical practices in both teaching and research. In a new ‹Strategic Plan› announced by VC, the entire University's courses were reviewed to ensure a relevant, up-to-date and distinctive academic system. Despite all endeavors, no senior staff initiated its implementation. At the outset of 2008, the VC joined to a new DVC and DVC (Research). The new DVC had to work out how to conduct such a huge review, and what criteria should be developed instead of measuring all our courses. Fortunately, an opportunity arose for the investigator to transform and re-launch the critical resource in the middle of a restructure in the existing Academic Development Unit (ADU – the unit responsible for improving teaching and learning at Science and Research Branch). In particular, I was able to attract a new Director of the ADU who was sufficiently over-qualified to justify the creation of a new position of Pro Vice-Chancellor (Curriculum and Academic Planning). Within a few months of his arrival in mid-2008, we had a new integrated teaching support unit called the Curriculum, Teaching and Learning Centre (CTLC).

The creation of an integrated teaching and learning leadership team is probably an aspect of this story that is most difficult to replicate. In my view, there are surprisingly few effective and informed leaders of teaching and learning working in Australian universities. We are generally faced with a choice between academics who are looking for university leadership positions via the Head of School, Dean of Faculty career path, or the growing group of teaching and learning specialists who have worked in academic development units, largely influencing only the enthusiasts and the converts who constitute a minority of academic staff in every university I have known. To simplify unfairly, the former often knows little about teaching or learning apart from their own experience, while the latter knows little about institutional politics and how to effect institutional change – and often have a hard time being taken seriously by the most influential academic staff. My good fortune in finding an internationally respected scholar in the field of higher education who simultaneously understands university politics cannot be overstated and is central to the scale and ambition of what we are now trying to do.

2.1. Approach

With a new senior team in place in mid-2008, we agreed that the only way we could systematically improve the quality of teaching and learning across the University was to focus not on individual teachers but on the design of curriculum, including: what is to be learnt, why it is to be learnt, how it to be learnt, and when it is to be learnt. The Australian higher education system began to focus on financial incentives (the LTPF) to promote improved teaching and learning in 2004, and very substantial funds were awarded between 2006 and 2009. While the performance indicators did include a measure of student satisfaction with their course after graduation [4], most academics believe that they have little ability to affect this measure and disaffected it. At the same time, the most visible form of public or institutional recognition remained the major teaching awards that focus on individuals, and which are ignored and possibly disliked by the majority of academics. Meanwhile, individual academics remain wedded to the notion of owning 'their' subject areas. The challenge we face is that: we know that higher learning can only occur across

an extended period of study, some key graduate capabilities are learned over several years; and we need intentional, well-designed and coherent curriculum, for all the students to succeed. How then can we bring the University together around a shared understanding of the importance of 3-4 year curriculum design as opposed to supporting individual innovation? As our PVC (CAP) is fond of quoting, 'you can't fix by analysis what you bungle by design'.

Our solution was to establish a Curriculum Taskforce of about thirty academics chosen, because others saw them as teaching leaders, including the five faculties Associate Deans Academic. We then spent every second Friday afternoon together over four months working to define the principles underpinning the design of all undergraduate programs. From this process came a Green Paper, an open Colloquium, and four months of intensive consultation across the Faculties leading to a White Paper, which was adopted without dissent at Academic Board in May this year.

This White Paper is now known as Design for Learning: Curriculum Review and Renewal at Science and Research Branch University [5]. What is distinctive about it is: the agreement on shared graduate capabilities, to be assessed against agreed standards of student achievement; the mapping of their development, assessment and evaluation at the program level; and a cornerstone, mid-point and capstone structure for all programs ensuring all students receive adequate formative feedback. Implementation is now the major challenge.

3. DISCUSSION

3.1. Changing the Culture

The process described here certainly engaged a significant number of academic staff. However, this is certainly not enough to ensure success. For most academics, the key signals they receive about what is expected of them come from their Heads of School and Deans, and the University promotions scheme. The preoccupations of Heads of School and Deans are often budgets and research, for in these areas there are clear and unmistakable performances targets against which they will be held accountable .

In order to align the major internal drivers with our program of curriculum reform, we have simultaneously attacked these other two drivers of behavior (budget and promotions). We believed that without clear alignment, there is a very real danger of the project losing momentum or indeed being undermined [6].

We opened up the promotions criteria and procedures at the same time as the Curriculum Taskforce was established. A primary objective of the review was to ensure that teaching-focused staff had a defined career path, and one major outcome was a recommendation that academic staff be able to make their case for excellence in either teaching and/or research, at all levels. Not surprisingly, there were concerns from senior staff that saw this as opening the door to easy promotion for their colleagues who failed to perform as researchers. However, the requirements for promotion on the grounds of teaching excellence at higher levels were clarified in a promotions matrix designed to identify the kinds of evidence that would be needed to support such cases. This makes it clear, again, that applications can no longer rely on student feedback or individual teaching innovations, but should also demonstrate contributions to curriculum design and program leadership that have been peer reviewed.

The revised promotions criteria were adopted unanimously at the same Academic Board meeting which approved the White Paper on Curriculum Review and Renewal in May this year. Some staff that previously won teaching awards but failed in their promotions attempts has since submitted applications. The success of one or two well-known and highly regarded teachers will be a critical element in the broader campaign of cultural change, not just because it assures staff that teaching excellence will be rewarded, but primarily because it helps define what being a successful teacher actually involves. The cultural campaign will have been successful when academics stop saying that unproductive researchers should be made to do more teaching.

In the new promotions criteria, we have also asked for evidence about how staff has invested in preparing to be successful teachers (as well as researchers or managers). This innovation aligns with the recommendation, accepted as part of the Curriculum Renewal White Paper, that every academic staff member be required to undertake our new three-day staff development program entitled: 'Effective Teaching for Higher Learning: Practical Research-Based Strategies'.

The purpose of this requirement is not just to ensure some professional preparation by all individual staff members, but to develop a shared conceptual framework for improving student learning. Many academic staff has had a bad experience of 'being developed' and they are notoriously skeptical about such programs. At Science and Research Branch, the Academic Development Unit had rarely ventured out into the faculties, preferring to offer small scale opportunities to the teaching enthusiasts. The requirement that all staff undertake a program would be deeply counter-productive unless the program was well-organized. In this respect, I think we were fortunate in our appointment of the PVC (CAP) who is able to turn the most hardened skeptic into a supporter (even sometimes to a grudging supporter). So confident am I in his abilities that we have invited the VC to sign up, and with his agreement, we have now invited all the Deans and Heads of School to join him in the Program in February next year. This will have a dramatic impact on the Science and Research Branch culture. the PVC (CAP)

plays the most important role on the outcome.

3.2. Budgets

The final key driver in supporting systemic improvements in teaching and learning is the budget. We have been able to win university support for funding the 3 year project of renewing all our programs around the agreed principles of curriculum design. We are also proposing a more modest but perhaps in the longer term equally significant change to annual faculty budgets. This is derived from an approach taken at the University of Sydney some years ago, in which a significant element of the faculties' budgets is held back and then redistributed to them on the basis of their performance against a number of teaching quality indicators over which they have some real control. In an ideal world, the money will go back to the Faculties pro rata, because they are all doing the right things. The indicators we have proposed for our budget incentives relate directly to Design for Learning, and to the revised promotions criteria. They include the proportion of staff who complete not only the 3 day program, but also a Graduate Certificate in Higher Education; the proportion of staff who publish in a high quality teaching and learning journal, as well as improvements in student retention and so on.

3.3. Assessment and Conceptual Model for Quality

External quality assurance is defined as the action of an independent organization to assess the quality of the university, or a program of the university or its internal quality assurance. I would like to distinguish: a- institutional quality assessment: evaluation of the internal conditions enabling delivery of good quality programs; b- program assessment: evaluation of the content of the study-program (s); c- quality audit: evaluation of the internal quality assurance.

The subject of this evaluation is the university procedures to determine whether the provisions are adequate. In the universities, there are three main fields for quality assurance: education, research, and administration.

a) Educational Field: In this sense, the titled university student is the final product of the University, as a result of the teaching-learning process. This product is achieved, on one hand, by means of the legal reference of the Studies Plan, and on the other, as a consequence of the success of the teaching-learning process, in which the students (its entrance level), the faculty, the methods, the means, the global organization, and, in definitive, the quality process assurance system play a very important part.

b) Research Field: The fundamental line of universities is R & D (research and development). These activities should also be subject of a control, so that the given service, in connection with the research plans or the companies that demand this service, have the necessary quality. It would also be necessary to consider, in a wide sense, other activities, such as rehearsals realization, prototypes design and manufacturing, training courses for companies, inside this section and their assurance. It is necessary to remember that all these processes have specified commitments for contract. Thus, a system of quality is necessary that assures customer's satisfaction with the established requirements.

c) Administration Field: The administrative management associated to a university degree constitutes a responsibility attributed to the Centers, although the Departments with teaching staff in these Centers condition it. In this sense, it is necessary to work out the appropriate co-ordination as refers to functional aspects as well as to human resources, the administrative management and the specific quality management. The system should consider the opportune interactions, so that the intervention of different areas on the processes neither impedes the achievement of the objectives nor alters the global management significantly. The process of quality improvement in assurance/management in education is shown in Figure 1.

According to the norm PN - EN ISO 9001:2009, the systemic approach is the basis of the quality management systems. The effective management system should be based on management of suitable processes. Independently from the number of processes existing in the given organization, the essence of management depends on effective management of processes and associations between them, according to one of eight rules of management . The audit is the basic instrument in the management system for evaluation of processes and dependences between them. The norm PN-EN ISO 19011:2003, which constitutes guidelines for the audits of the quality management systems, pays attention to proper conduction of the audits of processes. An idea of process should be introduced for proper understanding of the essence of the audit; the norm PN-EN ISO 9000:2005 defines the process as the collection of interacting activities that help to convert the input state to output state, where the outputs of the processes are simultaneously inputs of the other processes.

The audit of the quality management system is a systematic, independent and documented evaluation made for comparison of the achieved results with the planned results. It is also used as an instrument for evaluation of effectiveness of the management and for evaluation of level of consistency with declared or required standards. The audit is always describing if the quality management system is consistent with planned establishments, if it fulfills the requirements of the norm PN-EN ISO 9001:2009, if the requirements of the quality management system are described by the organization, and if the system is effectively introduced and maintained. The process of education, which is the main process of the quality management system in the university, consists of lots of compounds: projecting – the plan of the

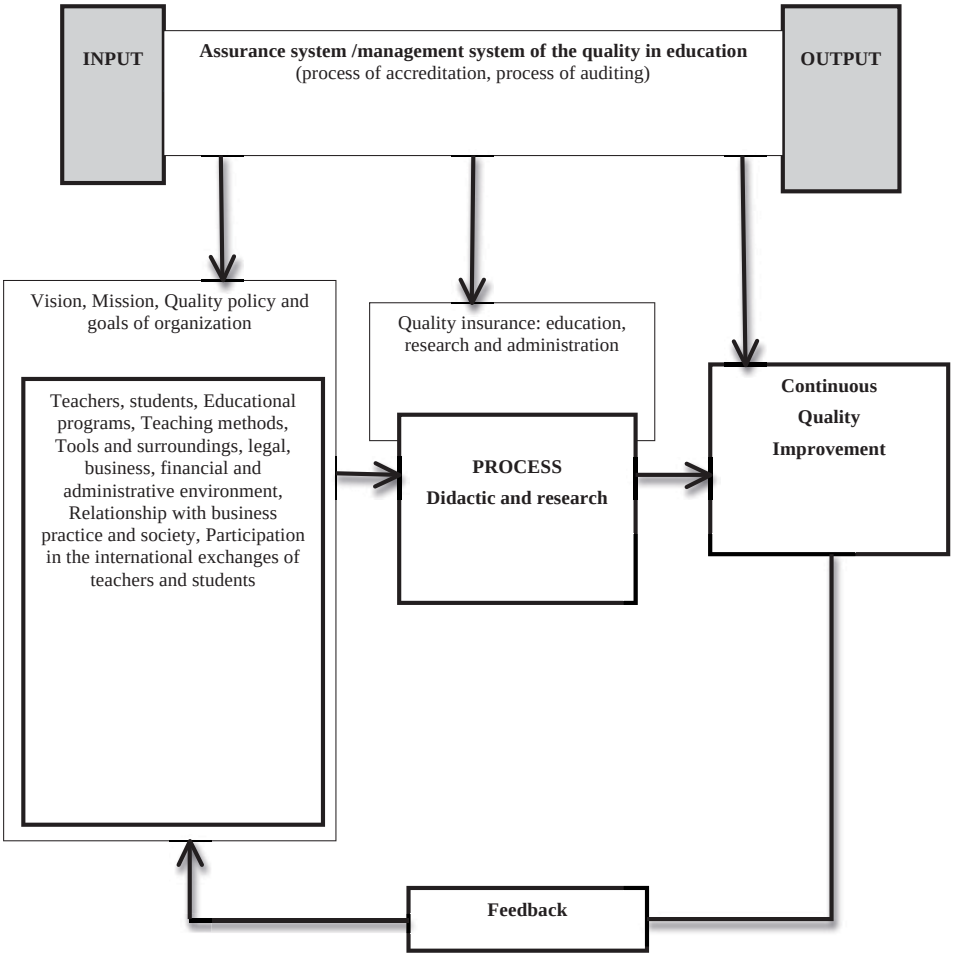

Figure1: Quality improvement process in education

studies, the programs of the subjects, didactic equipment, grades, recruitment, preparation and validation of didactic equipment, the planning of the lectures, the didactic process, professional practices, and the process of evaluation (plan and program of the studies, students, employees – by the students, superiors, graduates and employers). Each of the aforementioned didactic processes consists of the following elements: purposes, contents and rules of education, forms, methods and remedies of lecturers and students, which also experience the whole course of projecting, validation, evaluation, and modernization. When an audit of the management system processes in the services of education is done, one should make an evaluation of the structure of processes and interactions between them. Fixed among research workers feeling of "academic autonomy" is the most important trouble of the modern quality management systems of education. Aversion is associated with certification of the process of education, including its planning, course, and results. The introduction of the quality management system do not limit the creative work of the university workers but it forces significant engagement in process of realization of education and not only doing ordered didactic classes. The quality management system forces to determinate purposes, requirements, indicators, and criteria of evaluation of all the processes of education. It is important to determine: Who? What? How? When? Where? What results? – For all the processes.

4. RESULTS

Science and Research Branch University is only in the early stages of this ambitious project and the implementation of our agreed curriculum principles is unlikely to be straightforward, since this is where our ability to engage and coordinate almost all our academic staff will be tested. Finding time to reflect on lessons we learn will be important, but there are some which are already apparent.

On the positive side, it is clear that our consultative, yet strongly evidence-based approach to curriculum reform has had a good effect on morale. This is revealed in the turnout for teaching and learning events, hits on the website for each bi-monthly DVC Newsletter, feedback on the 3 day program on effective teaching (which is extraordinarily positive), individual email traffic, etc. Many academics that are enthusiastic about their teaching are pleased that the University has a clear sense of direction and resources to support the required work. Each implementation working

party will continue to connect individual academics to others, often from different faculties, in a shared project with clear goals, thereby helping to overcome traditional individualism and isolation. Nonetheless, it would be naïve to ignore the fact that there are academic staffs who remain untouched by this process and resistant if not hostile to any encroachment on their right to teach what and how they like. In one early public forum, for example, it was suggested that I was undermining the principle of academic freedom. Requiring everyone to undertake the 3 day program is central to reaching every individual staff member.

Some of our most well-respected academics who combine leadership positions, such as Head of School with research eminence, were initially unconvinced of the need for any such systemic change to teaching, and hostile in as much as the whole process deflected their staff from research. Here, the intellectual credibility of our approach and our focus on intellectual persuasion as opposed to central directives were critical. While this group mostly now accept the logic and need for change, they remain central to our success, since most academic staff will take their lead from their Head of School rather than the Associate Dean Academic. Some will also continue to make the University's increasing demands on research performance a higher priority.

In raising the visibility and importance of teaching and learning, I have made a point of talking about the importance of the role of the Associate Deans Academic, and we are currently reviewing their employment conditions (partly to deal with their tremendous workloads, but equally to increase their status in the University). Together with the fact that they have spent a great deal of time together over the last year, this has had an unintended consequence. The group has begun to self-organize and exert greater leadership in a number of ways, requesting funds for a planning retreat for themselves (without any PVCs or DVCs) and organizing a combined planning day with School level directors of teaching and learning. This is one of the most important and least planned positive outcomes so far and will have important consequences for the initiatives that require cross-faculty cooperation.

At the same time, it is essential to never confine the campaign to the teaching and learning experts, as their influence will always be subordinate to the line managers, Heads and Deans. If these roles are not held accountable for measurable improvements in learning, then systemic cultural change will not be achieved.

Paradoxically, it has also been necessary to discourage some programs from rushing ahead with curriculum reforms, asking them to delay this work until the university wide working groups have done the work of identifying agreed approaches to everything from standards to the design of the first year experience. Persuading everyone that it is better to do this work in a coordinated and intentional fashion is important.

And while not a lesson learned, certainly one which needs to be constantly re-learned is that we must communicate, communicate and communicate again. And this cannot be in the form of 'all staff emails' that are graphically disagreeable and unhelpful in the work of mobilizing around a change campaign. Newsletters, interesting and well-designed websites, and above all, opportunities to meet face to face are essential. Leaders need to get out of the Vice-Chancellery on every possible occasion.

5. CONCLUSION

This paper describes a strategy for institution-wide improvement in university teaching. What is distinctive is the focus on curriculum and the attempt to align every possible driver in support of this ambitious goal. Providing we are able to demonstrate that these changes improve student learning, retention and success, this is an approach that any university could adopt. However, the will and the capacity will continue to depend on real individuals. I consider myself fortunate to have found myself between a Vice-Chancellor who takes teaching as seriously as research and a Pro Vice-Chancellor with responsibility for teaching and learning who knows what he is talking about.

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