TRANSFORMING THE CURRICULUM ACROSS THE UNIVERSITY: POLICIES THAT PROMOTE TECHNOLOGY-ENHANCED PEDAGOGIES

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Abstract

Serving the ‘Greater West’ of Sydney, Australia, a region with a culturally diverse population of over two million and a rapidly developing economy, Western Sydney University (WSU) has approximately 48,000 students distributed across ten campuses in its region, including a growing number of online programs. WSU successfully transformed its curriculum through its ‘blended learning’ strategy. From 2013 to 2015, over 1,000 courses were transformed from predominantly ‘traditional modes of delivery’ to blended learning, and in excess of 40,000 iPads were distributed to commencing students to provide richer learning experiences and access to blended learning materials. The next iteration of transformation is building new technology-enabled campuses and developing commensurate pedagogies, primarily ‘flipped classroom’ models. Enabling strategies that promote successful integration of flipped classroom models recognise the changing landscape in technology, pedagogic practice, and policy. The rigorous and widely consultative process of policy creation and adoption can sometimes be at odds with the rapidly changing pedagogic and technology landscape, however learning and teaching policies should not only reflect change, they should lead change. In this paper a case study will be shared on a policy that was previously fit-for-purpose in 2013 was redundant a couple of years later. The ‘Lecture Recording Policy’ mandated automatic recording of lectures in lecture theatres with automatic uploading to the Learning Management System for student access. At the time, the policy was innovative and ensured student access to content if they could not attend and for review and revision. Students with English as a second language greatly benefitted from lecture capture. However, over time, watching habits of students of these recorded lectures showed they were tuning out and not watching the recordings in full or on repeat. Additionally, this policy was outdated for ‘flipped’ pedagogies. Reflecting the transition and focus on flipped learning models, a new ‘Producing and Using Multimedia Policy’ and associated good practice guidelines are being promulgated. This policy and its companion Learning Technologies Policy, which ensures international LMS standards, are described in sufficient detail, along with their instigation by the Learning and Teaching Technologies Advisory Group and subsequent consultative processes, to illustrate how policies promote whole-of-institution curriculum innovation.

Keywords: curriculum transformation, curriculum innovation, flipped classroom, policy.

1 INTRODUCTION

Western Sydney University (WSU) is a large, multi-campus institution serving the ‘Greater West’ of Sydney, which has one of the most culturally diverse and rapidly growing populations and economies in the Australia. Until quite recently in its thirty-year history, WSU was a traditional ‘bricks and mortar’, traditional delivery University. Although there were pockets of innovation and e-learning, a whole-of-institution strategy to ‘blend’ over 1,000 courses over three years was launched in 2013. To enhance students’ experience of blended learning to facilitate the transition, the University issued over 40,000 iPads to staff and commencing students during this period, accompanied by a range of staff development opportunities. This was the largest investment in student and staff capacity building in Australia [1].

The next iteration of change also represented a significant and sustained investment in upgrading teaching and learning spaces, including building bespoke vertical campuses centred in growth locations in Western Sydney. These new buildings, sans lecture theatres, added impetus to transition to flipped classroom designs. The University is building 21st Century teaching and learning spaces to accommodate its 21st Century curriculum ambitions. A parallel development in capacity and reach is in offering key programs online through a leading third-party provider of online education) [2]. These innovations reflect WSU’s responses to sector imperatives, including competition and the vagaries of sustainable funding.
The imperative for organisational change can be top-down or ‘bottom-up’ or somewhere in-between. An example often cited of ‘top-down’ change is via institutional policies. This is not necessarily the case, however, and this paper describes the dynamic, collegial process of policy development to both represent and drive change in learning technologies. Following a brief discussion of how policies drive organisational change, two related new policies will be described: ‘Producing and Using Multimedia’ and ‘Learning Technologies’.

2 POLICIES AND ORGANISATIONAL CHANGE

Moskal, Dziuban and Hartman [3 p15] stated that institutional context plays a vital role in the implementation of blended learning, including the “…characteristics of the student population, mission of the institution, the strategic planning processes, faculty responsiveness, student acceptance, community values, available resources, institution support mechanisms…”. Further, that effective policies for whole-of-institution change involve stakeholder consultations and student data.

Not all organisational change is policy-driven, however. Rankine-Venaruzzo, Macnamarra and Griffin [4] reported on a whole-of-institution strategy to ‘blend’ all undergraduate courses (approximately 1,000) over a three-year period. The strategy was successful because it understood ‘context’ and was the result of being well-resourced in allocating realistic academic workloads and providing proactive and just-in-time supports. While the strategy was imposed top-down, blended learning is now considered across the University as business as usual. Graham, Woodfield and Harrison [5], cite examples of universities not having a clear definition of blended learning or policies to promote and support its development, despite a large number of courses being taught in blended formats. Policy levers available to an institution are not only a way of instigating strategic change, but of pointing to the policy framework for change as part of internal and external quality assurance mechanisms (see [6], for example).

Policies are by nature ‘top-down’. They set the parameters and processes for action on various academic matters and establish an imperative for change. Good policy settings also respond to available evidence and are the result of a consultations with the range of stakeholders. Clearly, the purpose of policies on learning technologies is to drive institutional change.

de Freitas and Oliver [7 p82] asked the question: “Does e-learning policy drive organisational and pedagogic change in higher education institutions” (p. 82). They suggested a relationship between e-learning policy and organizational change and applied five organizational change theories to a case-study university. Broadly, organizational change can be achieved by top-down or bottom-up mechanisms. Top-down approaches are instigated by the institutional executive and are characterized by strategy and often concomitant policy. Bottom-up approaches, in contrast, may involve pilots and individual innovation that percolate upwards and may, eventually, influence organizational change and policy [7]. Both approaches have their inherent strengths and limitations, including that top-down initiatives may not be aware, or accommodate the impacts at the coalface; while bottom-up approaches may not, in fact, percolate upwards and may remain only local practices involving committed, innovative individuals. Singh and Hardaker [8] attempted to reconcile the top-down and bottom-up approaches and advocated a balance between structure (top-down) and agency (bottom-up); both are required for effective diffusion of e-learning in higher education. Conversely, “a disconnect between top-down and bottom-up culture can inhibit the growth of an innovation like online instruction or BL even when both the organization and individuals are in favor of the innovation” (Casanovas, 2011, as cited in Graham, Woodfield and Harrison [5 p5]).

The tension between the bottom and the top is partly due to different perspectives. In our experience, generally, academic staff understand that teaching innovations are part of the terrain and the executive understands the imperative to promote innovations though the levers at its disposal, including policy, to respond to sector-wide imperatives and the political climate that may inhibit or promote sustainability in an ever-increasing competitive environment. It may be too dramatic to assert that the ‘executive’ sometimes portrays an existential threat unless the organization changes, while those who most feel the burden of change may not be so convinced.

A rapprochement between top-down and bottom-up approaches can be seen in ‘evidence-based’ policy development [9]. Evidence can take several forms, depending on its purpose, and Beerkens [9] described a taxonomy of those forms. For the current purpose, the ‘interactive model’ has resonance in that “research and policy influence each other mutually via a policy community” [9 p282].

This paper describes evidence-based policy development via a policy community that consists of a sponsoring committee with representatives from all Departments and the rolling consultative process.
through the different levels of university governance to finally end up at the ‘top’ for a final sign-off. This process is in line with the WSU ‘Policy Framework Policy’, which includes definitions and principles, including consultation, feedback and review mechanisms.

3 FROM LECTURE RECORDING TO MULTIMEDIA PRODUCTION

The adoption and diffusion of lecture recording technologies at the University have their origins associated with a technology trigger. In 2012, funding was provided to equip teaching spaces with recording devices to capture lectures and save them within the Learning Management System. A working party developed an ‘opt-out’ model to transition the technology into operation and develop an associated policy to guide practice. Qualitative and quantitative research at the time confirmed that students wanted the lecture recordings for flexibility and revision [10], and pilot programs were established while guidelines and professional development activities were created. Studies at the time reported student demand for lecture capture did not adversely impact attendance in face-to-face lectures [11-16]. The resulting Lecture Recording Policy articulated the place of lecture capture technology as an “essential part of the blended learning model of course delivery and also has significant potential for enhancing access and inclusion for students with disabilities. Students with vision and hearing impairments, learning disabilities, physical impairments and a range of medical conditions are all potential beneficiaries.”

The Lecture Recording Policy was published in the Policy DDS (Policy Document Development System) at: http://policies.uws.edu.au/view.current.php?id=00298 in February 2014 and was scheduled for review by the Learning and Teaching Technologies Advisory Group (LaTTe) in October 2016. This governance group, with representation form all Departments, reports to Senate Education Committee and reviewed the policy and discussed its relevance at a time when many of the academic organisational units were no longer using formal lectures in their delivery model for units and there were questions raised about the pedagogic benefit to recording a lecture (let alone the value of lectures themselves). Members agreed that a wholesale re-write of this policy should be undertaken to ‘future proof’ it with five-year forward horizon. A sub-group of this Advisory Group consisting of academic practitioners, representatives from central teaching and learning units and Information Technology Services reviewed the existing policy, surveyed the policy landscape at other universities in the sector and drafted a policy that broke from lecture recording to more accurately reflect contemporary teaching and learning practice.

The articulated shift from lecture recording to multimedia production was signalled in policy in February 2017 with a new policy and an accompanying Good Practice Guide. The evolution to a policy focusing on producing educational video was deemed necessary because:

- Technology has advanced since the recording of lectures was introduced and this is no longer considered best practice.
- Quality issues regarding the recording of lectures, background noise and timing issues have persisted.
- Web videos are long, not interactive and it is difficult to engage students in this method.
- The new Policy introduces choices and is less prescriptive.
- Producing quality web videos is costly and resource intensive.
- Greater flexibility is needed to be able to adjust and make the resource relevant for longer.

The pedagogic driver for this shift in policy reflected the vital role multimedia can play in a student’s learning experience, provided it meets cognitive load principles and includes elements that enhance student engagement and features that promote active learning.

3.1 Multimedia production and active learning

The new policy defined multimedia as a combination of text, video, sound, graphics, and animation, and claimed it must be accessible, reusable, scalable and de-personalised (i.e. not locked into only one instructor’s persona). Further definitions are prescribed to guide how multimedia should be produced, including:

a) Engagement video – informal fast feedback broadcasts intended to provide feedback to, and build community with, students in single iterations of units. Typically produced by the instructor. Recommended length of production is 1-3 minutes.
b) *Instructional video* – typically showing detail or demonstrating a concept/task. Co-produced, at publisher-level quality, with University instructional design staff. Designed to be reusable over a period of multiple sessions, scalable to multiple iterations of the unit/course and (to a degree) instructor agnostic. Recommended length of production is 12 minutes.

c) *Lecture Synopsis* – condensed statement(s) / review of information presented during a lecture. Co-produced if resources can be scheduled, otherwise, self-generated by instructor. Recommended length of production is 12 minutes.

The underpinning principles of a policy focus on multimedia are that it should enhance and promote active learning. Instructors were encouraged to provide guiding questions for students to consider while accessing the resource to keep them focused on the content enabling the achievement of learning outcomes. To further aid the promotion of active learning through the production of multimedia, instructors were recommended to:

- Use a conversational style to encourage students to develop a sense of social partnership which leads to increased engagement [17];
- Speak relatively quickly and with enthusiasm as student engagement is dependent on the narrator’s speaking rate [18];
- Match modality: provide visual elements to promote student understanding and engagement [18];
- Online learners are more likely to be successful when lecture recordings are chunked into short segments [19,20];
- Provide a way for students to ask questions or post reflections after viewing the educational video to increase student engagement [20];
- Explain how to access the educational video and give your expectations about how they are to engage with it. Be explicit in your instructions to decrease learner frustration [21].

Student watching behaviours confirmed the shift from automatic recording of hour-long, or longer, lectures. Of the 7,977 lecture recordings made from December 2016 to June 2017 only 10% had a high level of viewing, 39% had a medium level and over half had a low level of viewing. Analysis of usage showed which teaching spaces were heavily used and which had minimal recordings being made. This information was useful to guide future technology decisions for recording software and systems.

3.2 Enabling change of practice through hassle free recording

Much of the criticism associated with top-down initiated change cite the lack of recognition of the “powerful opinion leaders who can persuade their colleagues to see the benefits of, and to utilize, innovations” [8 p745, 22]. A more consultative approach as described above has extended to include peer-support and professional development through the establishment of hassle-free recordings of multimedia pods. The Western One-Stop Studio concept provides a consistent, professional and easy to use production process which supports active learning pedagogies. Each campus of the University has a Western One-Stop Studio space in production or in development. This studio is a custom built, but scalable, narrated PowerPoint capture system with pre-set cameras, lighting and recording software. Voice prompts guide the instructor through the process and the resulting produced multimedia is high quality that is simple and easy to create. Qualitative feedback from instructors are positive and included:

- “Very professional and engaging for the students”
- “The feedback we are currently receiving indicates that these artefacts add significantly to enriching the online learning experience”
- “Yes definitely, it captured the experiment succinctly and beautifully, making it possible for people who were not present to learn about the research and the model it tested”
- “It provided a very professionally produced series of videos to enhance the learning experience of staff members.”
- “Yes, the video provides an elaborate 9-minute scenario which can be used by a number of disciplines for a problem-based learning approach”
3.3 Creating policy for continuously changing environments

Another example of supporting organisational change through policy, and the consultative, evidence-based process described above is the new Learning Technology Policy. Reflective of the continuously changing environment, the policy of two years ago is vastly different to the policy being implemented in 2019. The Policy that predated 2019 was focussed on the process, roles and responsibilities to introduce technologies into the curriculum, whereas the new policy positions learning technology as being essential to the student learning experience and the practice of academic instructors. Specifically, this new policy is developed to adapt to the ongoing advancement of digital technology innovation. The policy identifies the principles informing a pedagogically driven approach to the use of learning technologies that enhance the student learning experience and supports innovation in teaching. These principles are:

- The use of learning technology is driven by learning outcomes, effective pedagogical practice, and student engagement.
- The design of technology enabled learning environments are evidence-based and informed by a range of feedback tools.
- Learning technologies support an equivalency of learning experience and access, regardless of location and delivery mode.
- The adoption of learning technologies considers the different needs and circumstances of students.
- Learning technologies comply with usability principles and quality assurance standards for technology-enabled learning environments.
- Learning technologies adhere to University technology, architecture, security and privacy principals to ensure supportability and sustainability of the solution whilst managing risk.
- Learning technologies encourage a wide student participation across the student lifecycle.
- The University values innovation in the use of learning technologies and provides support and guidance to staff and students through relevant advisory committees.

These principles signal a shift away from the describing the processes involved in the review, decision-making, funding and implementation of learning technologies. The policy was dependent on a particular funding model available at the time, and the affordances realised by small scale pilots were not sustainable or scalable across the institution.

The Senate Education Committee working party of LaTTe has strengthened the relationship between providers of digital technology and pedagogy leaders. Robust discussions between academics, and service areas of IT, Digital Futures (e-learning technologies and support), Learning Transformations (curriculum innovation and support) and the Library, drive recommendations for new technology deployments, and the co-creation of policies and guidelines. LaTTe’s 2019 work plan and series of standing agenda items align to its approved Terms of Reference and ensure there is visibility, and genuine input, by the academic community into IT pipeline requests where learning technology is involved. Decisions reached by LaTTe have the student learning experience firmly in focus. There are separate processes in place, managed by service providers of technology and user support, to enable the piloting and implementation of learning technologies based on recommendations from LaTTe.

4 CONCLUSIONS

Universities are large, complex and dynamic organisations that need to stay abreast of advances in learning and teaching technologies. Policies represent the imperative for change, but must themselves be flexible and robust. It is often assumed that policies are ‘top-down’, and impose change and place the burden of responsibility on disenfranchised academics. This paper has described a framework and process for engaged, evidence-based policy development for organisational transition in e-learning technologies based on evidence that places student learning and stakeholder agency at the centre. The framework and processes mean that policies both represent and lead change. The two policies described here are fit-for-purpose, for now. The ongoing task is to make sure that policies continue to represent and drive institutional change and that the structures are in place to ensure continued relevance and a future-focus.
REFERENCES


