

It's Elemental: Technology Enhanced Learning (TEL) as scalable and sustainable student-centered practice in context

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Many educational institutions are facing the challenge of how to implement Technology Enhanced Learning (TEL) in a meaningful, scalable and sustainable manner. This implementation is not a transition from change project to business as usual, but a fluid and continual narrative embraced by all that must be personalized for the diverse cohort it impacts. RMIT's ongoing and evolving solution involves a combination of approaches that touch on strategic initiatives that operationalize standards (Elements) for consistency of student-centered teaching, capability building and training, resource development, technology implementations and organizational structures. This solution allows meaningful collaboration between professional and academic staff that values the interplay between learning design and discipline specific teaching practice. To operationalize this TEL solution with a focus on student-centred teaching, agile approaches have been used at RMIT. These approaches assist in placing value on people and the holistic relationship and interdependencies between the context of teaching and learning activities, and the methodologies used to enable change in practice.

Keywords: TEL, pedagogy, practice, agile, student-focused, student-centered, capability, teaching strategies, organizational change, framework, elements, standards

Introduction

Many educational institutions are facing the challenge of organizational change and how we can implement Technology Enhanced Learning (TEL) in a meaningful, scalable and sustainable manner (Marshall, 2018). Furthermore, evidence suggests that higher education teacher engagement with TEL is a complex relationship. The efficacy of TEL use is interdependent on conceptual approaches to higher education being student-centered, with clear distinctions between novice and experienced teaching staff in their ability to adjust conceptually in practice (Englund, Oloffsson & Price, 2017). The TEL challenge is not simply one of technology implementation and integration, but also of process, faculty (both professional and academic staff), pedagogical training, resourcing, and of organizational structure to facilitate the evolution of working within an industry whose students are part of changing social, cultural and political structures. Thus, the challenge of implementation is not that of a transition from a change project to business as usual, with clean change management between organizational states; implementing TEL is a fluid and continual narrative for all that must be personalized for the diverse cohort it impacts.

The narrative conveyed in this paper, and more broadly as a chapter in RMIT University's ongoing implementation of TEL, explicitly emerged in 2017 with the introduction of our new LMS – Canvas. The proposed solution, ongoing in its evolution, involves a combination of approaches that touch on strategic initiatives driven by RMIT leadership, endorsed and operationalized benchmarking and standards, capability building and training, resource development, technology implementations, and the facilitation of organizational structures to allow meaningful collaboration that capitalizes on existing institutional expertise. It describes one institution's change journey and exemplifies RMIT's response to the challenges faced by all.

At the core of TEL solutions is the need to place a focus on the holistic relationship and interdependencies between the context of teaching and learning activities (students, faculty, department, institution, technological and societal) and the criteria for effective teaching practice (Devlin & Samarawickrema, 2010). It has been well established that effective teaching in outcomes-based higher education is successful when constructive alignment and student-centered approaches are employed that promote deep learning (Biggs & Tang, 2011). Student-centered approaches to teaching that incorporate digitally-enabled learning are scalable and sustainable when we utilize a complementary implementation to build capability and engagement. Teaching staff must be encouraged to personally reconstruct their conceptual knowledge and application of teaching practice against a set framework with robust organizational support that scaffolds achievement of the intended outcomes.

Background

In 2017 RMIT University transitioned from its existing LMS to Canvas. As part of this transition the opportunity arose to strategically define and support a clear engagement with TEL; therefore, every course previously offered in Blackboard, or wishing to be newly offered using Canvas, was “lifted” to meet a new set of required standards. RMIT had established a *Digital Learning and Teaching Framework* through consultancy with key stakeholders across the University to meet strategic and legislative requirements, and consequently defined a set of six guiding principles: connected, clear, aligned, inclusive, dynamic and consistent. To operationalize the framework and principles the *14 Elements for Canvas Success* were authored and used as a clear set of specific in-situ criteria required to be evidenced in each Canvas course prior to it being made available to students. These Elements helped shape template design for courses in Canvas, provided the backbone for initial staff training in using Canvas and building courses as part of delivery, and formed a quality assurance (QA) process for our digital learning and teaching content. As well as being informed by student feedback, the Elements themselves are grounded in the literature and broader sector benchmarking, including rubrics such as *Quality Matters*.

The official 14 Elements document is a set of foundational standards provided as a resource consisting of: a name for the Element (descriptive), a rationale for why it is applied, essential requirements that need to be present in a course for passing a QA review, guidance advice on how to implement, and resources to support implementation. The Elements themselves cover the requirements for an introductory module structure with specified content for every course, details of teaching team (contact, bio) and how to use the course, course schedule with key activities, requirements for assessment information, menu structure for consistent navigation, and accessibility and style considerations. Various resources are available to staff on the RMIT *Teaching with Canvas* website including the 14 Elements, explanatory videos, online training sessions and drop-ins for at-elbow support, customized requests for training and support, information on Canvas features or integration and process updates that affect the implementation of the Elements.

The Elements are not a rubric for online course design, since they apply to both online-only and face-to-face courses. Instead, the Elements are an explicit intent to translate student course experience feedback into specified requirements that enable effective LMS usage. The 14 Elements therefore ensured that the RMIT student cohort had a TEL experience that was consistent across the institution - regardless of College, School, discipline or program of study. The Elements are also not static and undergo review and refinement on a regular basis referencing staff and student feedback, policy changes, and process changes. While this is still an evolving process, a commitment to continual improvement ensures that the Elements remain relevant and the approach by which quality assurance and support is provided can also evolve.

Strategic initiatives

By establishing a *Digital Learning and Teaching Framework* and operationalizing this into specific standards as QA criteria to establish a foundation, RMIT began to use technology in a targeted manner as an enabler of pedagogy and student-centered practices. While there is always work occurring in this area across the various structures of the institution, the key was to facilitate and drive TEL at scale – creating a clear roadmap aligned to strategic priorities that united core areas of the university to this goal (ITS, HR, professional and academic staff, vocational teaching staff). In 2018, this was tackled by authoring aspirations for digital pedagogy as a set of additional and complementary Elements to those that formed the foundation – titled *Canvas Uplift*. *Canvas Uplift* was authored based on research into student-centered teaching practices in higher education, as well as reference to established and validated learning design approaches, and then contextualized to have institutional resonance and meaning within RMIT.

The *Canvas Uplift* document contains similar components to that of the 14 Elements, specifically a name for the Element (descriptive), a rationale for why it should be applied, essential requirements that need to be fulfilled to qualify it as being implemented (aspirational), guidance advice on how to implement, and resources to support implementation. The *Canvas Uplift* Elements also include an estimated ‘Level of Effort’ to aid staff in planning their implementation. Additionally, various resources and details are also provided via a staff website with ongoing iterative development and review. A high-level overview of the Elements and their rationale is included for reference in Table 1.

Table 1: Canvas Uplift

Element & Name	Rationale
Element 15 Course Material: Accessibility	This element is designed to ensure all students have access to inclusive and accessible types of learning materials to support their learning. Designing your learning content with this in mind from the beginning means all students can benefit.
Element 16 Course Material: Student study	Students should be encouraged to manage their approach to learning. To enable this, they should be able to identify the difference between materials which a) support their learning and assessment completion and b) provides further details or exploration if the subject/topic is of particular interest (thus supporting consideration of future studies or professional growth). To enable student success, the volume of required materials should be suitable for both its format and intended purpose and be calculated in relation to other activities occurring in the course.
Element 17 Embedding language and readings support	Students have clear and direct access to content, readings, and associated resources to support their learning. The use of RMIT tools and LTIs provides a consistent and reliable approach to achieve this across courses.
Element 18 Course Material: Structuring a consistent layout design	To facilitate student engagement through a consistent ‘layout’ with the chosen pedagogical approach or teaching strategy when accessing materials, activities, or assessment. To tie the structure of the course materials with the curriculum design and ensure complementary practice between physical (in-class) and digital (out-of-class) learning. This is particularly effective across programs and reduces cognitive load for learners.
Element 19 Course Assessment: Scaffolding student learning	This element is designed to assist students in preparing for their assessment tasks and providing opportunities for feedback. An activity is included in the weeks preceding assessment submission that prompts student preparation and sets them up for success. Students are provided with a video describing the task and what is required as a complimentary artefact to the assessment description. After submission of the assessment, providing an audio or video of whole of class feedback can benefit all learners in preparing for their next assessment tasks.
Element 20 Course Refresh: Uplift	This element is designed to provide the opportunity to review and refresh courses within a program that align to the Program Principles and capitalize on support by learning & teaching specialists through pilot initiatives, resources, and blended approaches.

The *Canvas Uplift* Elements drew upon existing and emerging RMIT technologies such as *Reading Lists* (Leganto) through the Library, *Ally* through the Accessibility Working Group, and tools developed in-house including a *Glossary*, and EMBLE for designing course page content. DVC Education, Professor Belinda Tynan stated upon their release

In my vision for our learning and teaching at RMIT I can see Canvas providing us with the support we need to develop what I might call the ‘digital spine’. Our initial efforts have started us on a journey that will take some time to mature. A truly remarkable, inspiring and relevant learning experience won’t happen without some real planning on all our behalf. So, the next 6 Elements are suggestions for how we can lift to the next level and create a digital spine on which to create truly remarkable learning experiences. I ask that you look at them carefully and consider your road-map for how you might achieve all of them. These are elements that are scalable and will make an impact on how your students learn and how you teach them (RMIT, 2019, p.3)

The *Canvas Uplift* Elements provide a road-map to drive digitally-enabled pedagogy and the prioritization of technologies (learning tools) that implicitly facilitate teaching approaches identified by Trigwell and Prosser (2004) as at minimum student-teacher interaction and ideally student-focused strategies. By utilizing the *Canvas Uplift* Elements as a framework for the current evolution of our TEL approach for programs, it also facilitates focused evaluations of technologies that can enable the student-centered approach aligned to the intent of each Element.

University wide initiatives at institutions the size of RMIT that intend to achieve transformation at scale in a sustainable manner, require a willingness to engage in innovative structures and collaborative approaches to facilitate the desired deliverables. Traditional approaches to professional development and course design, especially around initiatives that touch on pedagogical training of teaching staff, can have limited effect depending on the cohort for achieving student-centered practice (Ödalen, Brommesson, Erlingsson, Schaffer & Fogelgren, 2019). However, should this come as a surprise when these professional development approaches are not providing the equivalent of a student-centered learning strategy to the teacher? It must be remembered that higher education teachers and academics are often simultaneously trying to reconstruct their knowledge and skill for disciplinary teaching to both a student-centered approach and through TEL.

RMIT has an ‘Area of Focus’ framework for implementing institutional strategy that has also been beneficial in solving the professional development dilemma. This framework provides a structured approach to prioritization and project management – endorsed by senior leadership and operationalized collaboratively across the institution as a coordinated initiative. TEL curriculum transformation was embedded in the ‘Area of Focus’ approach – the 2019 *Student Area of Focus* centered on curriculum enhancement and contemporary learning experiences in the form of embedding *Canvas Uplift* Elements as a deliverable. In this manner, *Canvas Uplift* has become an initiative for selected programs across all discipline areas prompting valuable input from a diverse set of professional and academic staff. Figure 1 indicates the foundational and aspirational Elements that drive achievement of the *Digital Learning & Teaching Framework*, from which the ‘Area of Focus’ initiative incorporates *Canvas Uplift* as part of its digital uplift deliverable.



Figure 1: RMIT digital standards and institutional frameworks

For the *Student Areas of Focus*, organizational structures and collaborations are a key factor in ensuring all academic and professional staff can be included in the adoption and scaling of *Canvas Uplift* as a prioritized TEL solution. Although formal organizational structures remain, the ‘Area of Focus’ implementation recasts selected teams using agile principles, practices, and tools - whilst providing appropriate support to engage in a new way of working. As an approach, agile is particularly suited to such an initiative that is focused not only on transforming teaching practice but also prioritizing TEL as it focuses on the people doing the work (Agile Alliance, n.d.). The solution for sustainable and scalable change in teaching practice and TEL therefore capitalizes on providing a consistent language and set of prioritized technologies (*Canvas Uplift*) to unite the diverse expertise of professional and academic staff from various disciplinary areas in *holistically* creating student-centered experiences specific to their programs. The people drive the process with collaborative interactions enabled by a consistent narrative that uses the agile methodology to ensure a diversity of disciplinary skill and knowledge is present within the team.

This design solution allows stakeholders to be taken out of training and into ‘doing’. Support and resources are developed by a diverse set of institutional wide professional staff with knowledge of learning design and design-thinking approaches. This is far superior to training or resource development driven in isolation by process, and the agile practices and tools used mean that resource and support is continually refined, improved and fundamentally iterative in development. Best practice can be surfaced naturally and showcased easily, and discussion that is personalized around professional development specific to program delivery is meaningful. As stated by Alexander et al. in rethinking the practice of teaching:

The redesign of courses and programs to take advantage of digital tools enables instructors to evaluate their teaching practices and use student-centered approaches to facilitate learning. Professional development supporting the use of digital tools has evolved into collaborations with instructional design teams and other professionals in the learning science field, accelerating the application of new teaching practices. Without sufficient access to sustained support and the tools and resources essential in the design of a student-centered environment, instructors are challenged to create these experiences on their own. Managing the changing practice of teaching requires that institutions intentionally design faculty support that is not bound by location or time (2019, p. 19)

Thus, we can see the value in acknowledging the holistic relationship and interdependencies between the context of teaching and learning activities and the methodologies used to enable change in practice. It is only when all criteria for enabling TEL is addressed – frameworks, pedagogical training, support, resourcing, and organizational structure, that a transformation in practice can occur.

Conclusion

The introduction of a new LMS can be a useful trigger for improving engagement with TEL and establishing a foundation for positive student experience in the digital environment. Universities utilize different approaches to achieve what they often cast as ‘transformation’ – these range from highly templated approaches, just-in-time support or mandatory professional development for key stakeholders. At RMIT, the key challenges are scale (over 90,000 students), complexity (multiple campuses, vocational and higher education sectors), and culture (the usual challenges in academic institutions). The ‘elemental’ approach of articulated standards – with a foundational *14 Elements for Canvas Success*, subsequently amplified by the *Canvas Uplift*, provide strategic scaffolding towards student-centered teaching practice using TEL at RMIT. Combined with the ‘Area of Focus’ approach incorporating agile principles and methodology, these scaffolded standards drive TEL development and practice to underpin sustainable and meaningful implementation at scale. The value can be articulated with reference to the interplay between these combined strategies and their ability to capitalize and engage with the diversity of expertise and skill across both professional and academic staff. Standards such as *Canvas Uplift*, implemented through initiatives such as the ‘Areas of Focus’, operate in a complementary manner to prioritize practice led transformation undertaken by people that scaffolds sustainable and appropriate technology enhanced learning in RMIT courses and programs.

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