A framework for program wide curriculum transformation

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Designing and delivering higher education programs in a global climate of constant change, technological advances and uncertain futures leads to the need for curriculum transformation practices that are innovative and responsive. This paper describes a university-wide approach to developing a framework for program level transformation that is strengths-based, data-informed and design-led. A strengths-based approach builds on good practice, creating a space that is positive and forward looking. Data-informed practice and the inclusion of data wranglers on the project allowed for conversations about the known, unknowns and desirable directions to take place and inform directions. Design-led practices introduced design thinking principles such a building empathy and co-design with students, alumni and industry. The emergent framework has three key stages: vision, design and build. The vision stage focuses on the program team, its students, industry and desired direction for transformation. The design stage focuses on defining challenges, ideating, co-designing and creating a plan for development. The build stage uses a rapid prototyping and iterative approach to development that incorporates user testing early in the stage. The project has delivered a framework for program level transformation and innovation and has shown that a strengths-based approach that is data informed and engages with students as co-designers has the capacity to unite teams, inform program visions and allow for innovative practices to emerge. Taking a learner experience approach to design also highlighted the value in engaging students and industry in curriculum design from the start of the process rather than simply as end users.

Introduction

Technological advances, globalisation of education, policy changes and increased pressures on the higher education institutions to be more competitive and responsive to user demands are fundamentally changing the learning and teaching landscape (Craig, 2015; Evans-Greenwood, O'Leary & Williams, 2015). As well as challenges, change brings with it opportunities and in this context, the opportunity to enhance the learning and teaching of programs emerges as pivotal to the success of any university. Rethinking the curriculum design is not new (King, 1993; Raban, 2007) but what is emerging is the practice of thinking more broadly about the influences and approaches used when designing curriculum. As will be shown in this paper, program design needs to be a team activity, as shown by Dempster, Benfield & Francis (2012) that goes beyond the academics and accrediting bodies but incorporates ideas from areas such as learning analytics, design thinking, appreciative enquiry and user experience design (Hokanson & Gibbons, 2014). In order for this change to have broad, sustainable and transformational impact, it needs to occur at the institutional level (Beetham, 2012).

A key question that emerges from this need is, *how can we engage in program level innovation that addresses these demands?*

To being with, we need to unpack what we mean by program level innovation so we can determine the main elements that need to be considered. To innovate as a program is to go beyond 'business as usual' and look at the program from a perspective that will potentially enhance its design and delivery - having already established the need for change.

As a starting point to this work, a project team was established from across a dual-sector Australian university, made up of learning designers, academics, support services and student representatives. Added to this, an external consultant with expertise in learner experience (LX) design was engaged. The project was termed the Learning and Teaching Innovation (LTi) initiative. In order to create an opportunity for university wide impact and change, it was important that from the onset groups from across the university were included. Collaboration and a team based approach is not only a design thinking principle (Burdick & Wills, 2011) but

one that is valued in many organisations including higher education. A report resulting from a five-year study on university transformation by the UK Joint Information Systems Committee, JISC (2008) recommends that enhanced collaboration and engagement, including within-team collaboration, engagement with industry and sharing of design practice, was important in achieving transformative practice.

Project approach

Strengths-based

As a way to foster collaboration, a strengths-based approach was taken. It involves working from participants' pre-existing strengths in their capacities as individuals and focusing on this rather than using a deficit model of identifying weaknesses. Such an approach is more likely to build trust, empathy and enhance the capacity to engage and collaborate (Linley, 2008). This approach was important to the project, as we wanted to create an environment of positivity with a willingness to contribute and engage with the ideas being presented through this project.

Data-informed

Program data provided a starting point from which to discuss the program. This included student demographics and cohort data, student feedback, academic performance, graduate outcomes, mode of delivery, and LMS activity. To do this, data wranglers (Clow, 2014) were used to present that data in an aggregated and visual way, so that it could be used as part of the conversation. It is important to make the distinction between data-led and data-informed, as data available in higher education is often only part of the story and open to much speculation and interpretation. To help facilitate the engagement with the data, concerns about data reliability and student response rates were addressed by the data wranglers. The data presented to the teams was used to identify strengths, trends and raise questions as well as provide some evidence to support directions that may be taken by the program team (Schwartz & Gurung, 2012).

During the data gathering stage, students form each program were interviewed and a set of student 'profiles' created for each program. The interviews were conducted and the profiles were created by user experience (UX) designers who were independent from the program teams (Garrett, 2010). The interview data was used to generate profiles that were an aggregate from the interviewees and 'personas' given to these. This way it felt like the program team could talk about 'real' students and how program design could impact their personal learning journeys.

Having current student profiles added to the mix of data and information about the program and were used throughout the planning stages. Again, these profiles

were a way to build a picture and allow independent starting points for conversations to be had about learning and teaching practices without having to identify individual staff or students.

Design-led

Taking a design-led approach enabled program teams to being to think about their program from a challenge or question identification starting point. This is not a traditional way of looking at program development, the starting point often resides with content and learning outcomes, such as is demonstrated by Moon (2002). The challenge here was to take a different lens, one that is non-linear making trial and error a key part of the process (Cassim, 2013; Fischer, 2011).

Identifying challenges and agreeing on ones to address was part of the process. Taking these challenges and addressing them in a cyclical, iterative process then allowed the design to drive the process rather than waiting until everything was finished before we could determine if the solution was appropriate. This process allowed the program team and the students supporting them to engage in design thinking and develop these skills, an approach illustrated by Razzou and Shute (2012). Figure 1, demonstrates this design thinking approach through the double diamond model (Design Council, 2005). The first diamond is all about discovery, in this case the data and profiles as well as the interpretation of these by the program team, and the second diamond opens up possibilities to each challenge identified with design-led approach to building rather than a more traditional one solution per challenge approach to learning design.
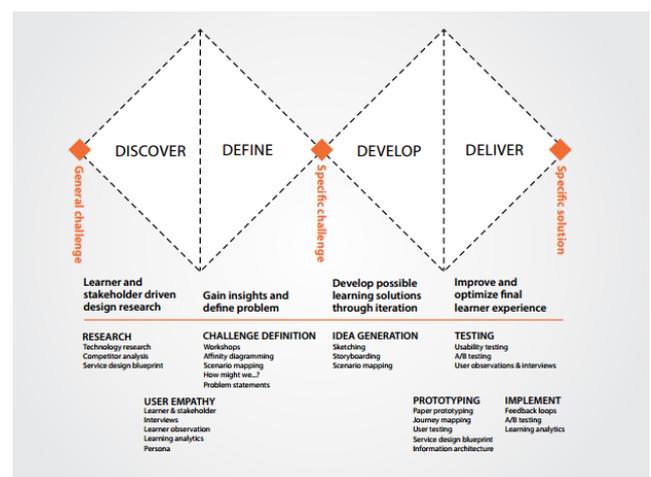
Figure 1: Double diamond design model

Learner experience (LX) design

Design thinking provided the backbone for the approach, but getting into the detail of ultimately enhancing the learning experience called for more targeted work. This came in the form of learner experience (LX) design. An emergent field, LX design borrows from the fields of user experience design (Law, Roto, Hassenzahl, Vermeeren &

Kort, 2009) and service design (Stickdorn, Schneider, Andrews & Lawrence, 2011) merging them with learning design to create a powerful way of designing learning experiences. In brief, user experience design focuses on users' perceptions and responses to their interaction with a product, and service design focuses on the design of organisational services. On their own these design methods do not address the complexity of higher education, but combined and with the addition of learning design, we see the case for the development of the LX design branch. The student profiles created early in the project were an essential part of the LX design approach as was the iterative process for building solutions.

The project participants

The LTi project was a pilot for the university and had a six-month time frame. During this time, the project was scoped, volunteer program teams from across the main disciples of the university spanning both the higher education and Vocational Education sectors (the university is dual sector) were identified. In total, nine programs took part in this pilot.

The framework

A framework capturing the above approach was generated early in the project to show how all the pieces of the puzzle came together and to be used as a basic map for program teams to navigate the terrain we were presenting to them. Ownership and understanding of this framework was central to the success, and in order to achieve this, the framework emerged from an initial two-day retreat involving the program leaders, learning designers and support staff. Through a series of design thinking activities led by an external consultant, a framework emerged showing the stages of the project as well as the activities demonstrating the desired innovative approach to program enhancement and development. Figure 2, demonstrates the framework, outlining the three key phases of vision, design and build.

Figure 2: The three-phase LTi framework

Vision phase

The vision phase of the framework was all about getting the program team and stakeholders together, to build a narrative for the program during a one-day 'vision workshop'. This was achieved by exploring the questions: what it is that makes this program great and what do we know about the program (from the data and student profiles). This formed a basis for the identification of challenges facing the program. To ensure there were no surprises with the data presentation, data wranglers met with each program manager before sharing this with the wider team. This also ensured that any interpretations made by the wranglers were appropriate and relevant.

The workshop was for the program team (including sessional teaching staff) industry representatives, student and alumni representatives, learning designers and support staff. The external facilitator engaged everyone in activities designed to build empathy within the group, elicit input from all stakeholders and arrive at a number of challenges facing the program. As shown in Figure 1, these are the Discover and Define stages of the first diamond, highlighting the importance of the vision workshops in setting the agenda for each program team.

The most rewarding part of the workshops was the interaction between students, industry and academics. For one discipline, the students took the opportunity to make connections with the industry representatives, an opportunity that they otherwise may not have had. In terms of the input these groups provided to the program team as one participant out it:

When industry came for the [Program Vision] Workshop, they really provided direct input, and that was a good thing, and students provided direct feedback, very open, and the way the program is structured, we looked at a lot of positive things. (Academic/Teacher)

This was not necessarily the case for all nine programs, with some not achieving such positive outcomes due to difficulty and at times reluctance, to invite and engage with external stakeholders. For some there was fear of exposing their vulnerabilities to industry with potential negative consequences. A fear that by the end of the six months may have slowly began to dissipate. This project as well as working to enhance programs from a learning and teaching perspective, also worked to improve the culture of participation and collaboration.

Design phase

In many ways, the design phase was probably the most challenging. This is where the identified challenges were prioritised with the program team and then entered the process of ideation and solution generation. The work was facilitated by learning designers assigned to each program, who themselves may have been grappling with design thinking and LX design processes. Added to this,
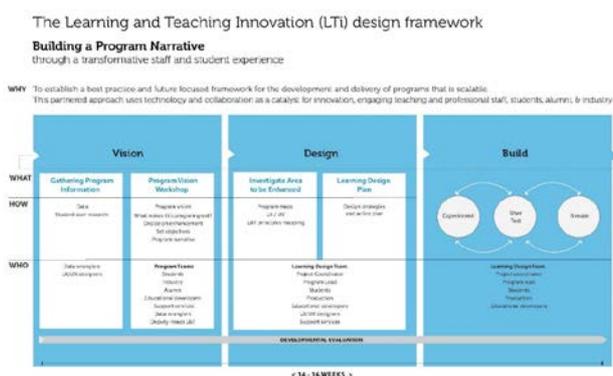
using students as co-designers was a key part of the process.

Most program team members and learning designers when working with challenges would quickly arrive at a solution and wish to proceed with this, rather than unpacking the challenge further, seeking student input and testing possible scenarios. An example of this was when a program team identified the challenge of first year students not understanding key concepts for application in later years of the degree program. A solution of creating videos about these key concepts was quickly reached by the academics without further examination of the problem. Was this a matter of content? What did the students think? Are videos useful and do they have to be created or can they be curated? These any many more questions needed to be applied to the challenge before a final solution could be reached. In this case the learning designer and the LX facilitator worked with the program team to engage students and seek alternative solutions before a final one was implemented - not videos!

Students as co-designers (Goodyear, 2015) rather than just end user feedback providers was a refreshing way of engaging with the program teams. As Watson (2003) notes, it is important that students be informed about changes made as a result of feedback in order for them to engage more fully with the process. As one academic commented:

> I think [Student Co-Design] is the most innovative part of the project, that idea about hey, why don't we ask students some questions. It's a no-brainer but it's not something that we typically do, particularly at a program level. (Academic/Teacher)

Though the input from the students was valuable and appreciated, the challenge of engaging a broader range of students still exists, and like our challenge with engaging some staff, this is part of the culture change:

> I guess we could have done a better job in reaching a broader student population, because we also have people who will not show up, people who will not do interviews. But we still… I don't think we captured the whole thing. We handpicked the people for the interviews, and the people we invited, or the people who accepted the invites, were a certain type of student, mostly, really good students. So, we might have missed the people who were already happy, compared to the rest, about the program. (Academic/Teacher)

Build phase

The build phase, aligning with the Deliver stage of the double diamond (Fig 2) used a rapid prototyping approach (Chookittikul, Kourik & Maher, 2011) so as to ensure the user feedback could be incorporated during the build. A team of graphic designers, video producers and web developers, together with the other support services of the university were available to support the needs of the program teams during this stage. The LTi project manager and the learning designers had a key role in ensuring timelines were met and appropriate resources were made available to support the various projects.

Community of Practice

Mention has been made of the team of learning designers (or academic developers) who worked with the program teams during the project, but ordinarily worked in different areas of the university (such as Business, Design or Engineering). To facilitate and support this group, a Community of Practice (CoP) was created that brought together the group almost weekly to discuss the project, share experiences, get to know each other as well as engage in professional development. The CoP contributed to the development of resources for the project, discussed strategies to ensure timelines were met and most importantly engaged with colleagues who they otherwise may not have worked with, even though their work was similar. The external LX consultant engaged by the project, also conducted workshops for the CoP to help them engage with often unfamiliar practices of design thinking and LX design.

Evaluation

A developmental evaluation (Patton, 2011) approach was used for the overall evaluation of the project. As argued by (Leonard, Fitzgerald & Riordan, 2016) this approach is well suited to the multi-faceted nature of higher education environments as well as aligning well with design thinking principles. By focusing the evaluation on the process rather than just the end product, we were able to keep adapting the process over the life of the project. As Patton (2011) demonstrates this is not so much a methodology as it is a set of activities that are used to question what is occurring in order to provide direction. So we don't have an evaluation that gives a final verdict on the project but instead one that informs decisions while the project is occurring.

This approach was especially useful for the learning designers and through the CoP they were able to use what was emerging from the evaluation to inform their practice. An example of this was through the development of a service blueprint (Shostack, 1982) for the project. Service blueprints are a visual representation of the service process, in this case all processes that occurred during the project represented in categories of

roles and functions as well as being mapped over time. This is represented in Figure 3.
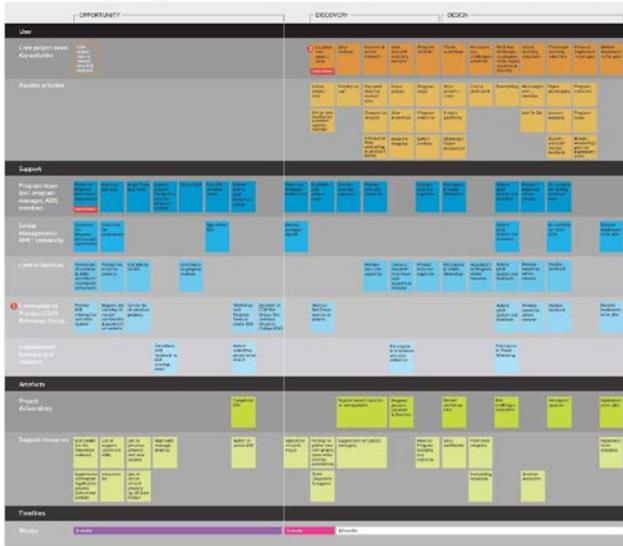
Figure 3: Service Blueprint for the LTi project

As Radnor, Osborne, Kinder & Mutton (2014, p. 410) state:

> Its [blueprint] prime purpose is both to evaluate the position of the service user in the service delivery process managers and to promote user integration and impact at the centre of these processes.

The development of the service blueprint for the LTi project evolved over the duration of the project and was used as way for the project team and the learning designers to evaluate and iterate over time. The outcome here was having a final blueprint as well as applying developmental evaluation to the process.

Conclusion

The LTi project delivered a framework for program level transformation and innovation and has shown that a strengths-based approach that is data informed and engages with students as co-designers has the capacity to unite teams, inform program visions and allow for innovative practices to emerge. The service blueprint produced can be taken as a map for this process to be applied and adapted by future teams.

A process of selecting program teams to engage has been developed and endorsed by the university, as 'readiness' to engage in this process is a key requirement for a program team to engage and transform. As one academic noted:

> I would recommend it [participation in the LTi Project]. The condition that I would put on is that, if you're going to put in for it, you have to

be willing to have input and assistance from other people. (Academic/Teacher)

The CoP of learning designers formed during the project, continues to grow and engage with other projects that are university wide. The need for support and development of learning designers as they navigate and support the changing higher education landscape was highlighted by this project. Providing this support enhanced the outcomes and ensured that was learned from this project will continue to be used and embedded in the various discipline groups of the university.

Acknowledgements

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