

Listening to student voices through scenario design: Aligning learning.futures

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Abstract

This paper explores the preferred learning futures of students at the University of Technology Sydney and the alignments of students' preferred futures with policy changes. The aim of the paper is to describe a different approach to listening to students' voices and illuminate some possible ways in which the student voice can influence the implementation of higher education learning policies, with the aim of ultimately improving student learning experiences into the future.

Students' preferred futures were explored through a methodology of rapidly formulated collaborative scenario design, then coded thematically using open coding. Broad themes related to the changing context, learning environments, and independent learning, with students seeing ideal learning in higher education being a combination of personal, social and connected experiences. In order to offer a student perspective that is of use to policymakers, we discuss these preferred futures in relation to the University of Technology Sydney's 'learning.futures' approach, which focuses on changing the way that learning happens in the university.

Keywords: higher education; futures; scenario design; student perspectives

In the rapidly changing context of university learning and teaching, it is important to enable students to have a voice in their future learning environments. Many higher education institutions throughout the world are trying to accommodate new ways of learning, while at the same time meeting students' shifting aspirations and expectations (Romenska et al., 2011) by investing in innovative on-campus learning spaces and by diversifying courses. However, in Australia, students themselves have not been widely consulted in planning for the future of higher education (Romenska et al., 2011) despite the fact that an understanding of the preferred learning futures of students—what Andrews and Tynan (2012) refer to as 'investigating the human voice' (p. 565)—is key to planning for the integration of new technologies into higher education learning and teaching.

Student views about the use of technologies for learning have been sought via surveys such as the ECAR¹ study of students and information technologies in the United States (Dahlstrom & Bichsel, 2014) and others in Australia (Russell, Malfroy, Gosper & McKenzie, 2014). What emerges is that students express an ongoing desire for face-to-face experiences combined with increasing use of digital technologies, access to materials and information in a variety of ways, and greater availability and flexibility of different learning technologies and face-to-face experiences (Russell et al., 2014).

While these surveys provide valuable current perspectives, different research approaches can draw productively on students' views about possible futures for university learning. One such approach is scenario design. Widely used by businesses and government to inform strategy and policy development, scenario design is increasingly being employed by the higher education sector to help plan for the future. The scale at which scenarios are used varies, as does the extent. Examples from the UK include 'Living and Learning in 2034' (Unite and University Alliance 2014) which looks at how the student experience might change over the next twenty years, and Creating Academic Learning Futures (CALF) at the University College Falmouth and the University of Leicester in the UK², on which the current study builds. In our study, scenarios have been used first as a way of gathering the views of students, and second as a method to develop internal thinking within the research team and the university.

This paper is based on data from the project *Valuing Student Voices When Exploring, Creating and Planning for the Future of Australian Higher Education* (see Buzwell & Williams, 2014),

¹ ECAR (EDUCAUSE Center For Analysis and Research) is a subscription-based organization that provides research and analysis about information technology in higher education for IT professionals and higher education leaders.
<http://www.educause.edu/ecar/about-ecar>

² The CALF project [2008–2011], funded by the Higher Education Academy.

hereafter referred to as Student Voices.³ The project aimed to engage students in generating ideas for possible and preferred higher education futures. This paper discusses a particular study within Student Voices that focuses on undergraduate students at the University of Technology Sydney and their learning futures through the use of scenarios that describe possible, preferable or avoidable futures (Jonas, 2001). We discuss the ways that futures articulated by students align with the learning futures articulated by the university, namely via the learning.futures strategy.

This is a learning-focused strategy aimed at ‘inspiring graduate success’ with ‘the best of online and face-to-face teaching’. Further, the strategy aims to make ‘use of the new spaces on campus that have been designed to accommodate approaches such as flipped and collaborative learning.’⁴ There is increased emphasis on: student learning goals; flipped learning designs in which students use resources to engage with new content before class then collaborate on making sense of the content, inquiring further, problem solving or creative activities in class; more authentic, practice-oriented assessment and feedback⁵; and student reflection on learning. The strategy was in its early stages at the time of this project, with three new campus buildings still under construction.

The paper is structured in three parts, beginning with a brief explanation of the methods developed for the study, and moving through a discussion of the results in relation to the learning.futures approach recently adopted by UTS. Finally we make a series of recommendations about the way the five-stage scenario design can be used to check the alignment of university policy with student views.

Method

The project is inspired by the work conducted in the United Kingdom in the CALF project. The CALF project engaged student voices (Romenska et. al., 2011) through a set of innovative research methods, which produced a grounded model named the Learning Futures Foresight Model. One of the desired outcomes for application of the model is a shared commitment between students, educators and policy makers to creating the preferred future for Higher Education Institutions. As part of the Student Voices project, this model has been modified for an Australian context in a series of studies over 2013 and 2014. Students were involved in an evolving series of collaborative

workshop activities designed to draw on both their analytical and creative skills to envisage the future of learning in Higher Education. Activities included world café style discussions where student groups were asked to brainstorm responses to key open questions, combined with futuring practices (Inayatullah, 2008) and imaginative collaborative scenario design, described in more detail below.

An extended iteration of the method was developed at UTS as a five-stage process of collaborative scenario design described in the diagram below.

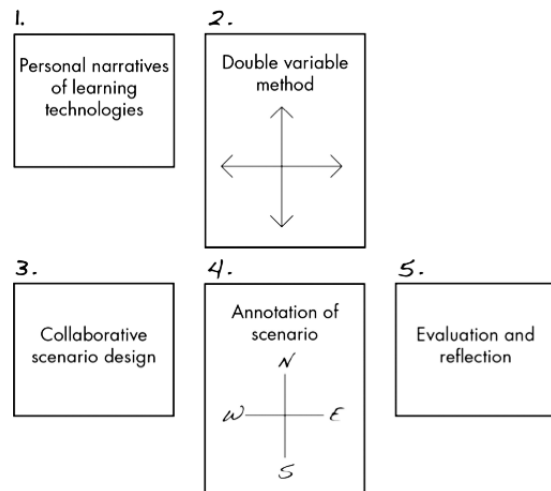


Figure 1: Five stages of collaborative scenario design.

All stages of the process involved students working in small collaborative groups in a workshop environment where the facilitator posed open and provocative questions. The first stage invited students to start thinking about learning in terms of a past-present-future trajectory by inviting them to draw and write on butchers’ paper about their experiences of learning technologies in primary school, high school and university now. Students then used the double-variable method, based on Galtung (1998), to identify sets of major uncertainties in the current higher education environment, position these on crossed axes then explore the possibilities raised in the resulting four quadrants (for example students might come up with axes representing high vs. low graduate employment contexts and high vs. low fees). Student groups were then invited to build on the outcomes of these first stages, working collaboratively to design a scenario for a preferred future for higher education and represent this as a creative sculpture using materials such as modeling clay, coloured paper, pipe cleaners et cetera. The annotation and evaluation and reflection stages asked students to analyse their scenarios, reflect on what was emerging, disappearing and challenging about the scenarios and what it would take to thrive in them, then present this to the other groups in the

³ This project has been funded through the Office for Teaching and Learning and is led by Swinburne University of Technology.

⁴ <http://www.uts.edu.au/research-and-teaching/teaching-and-learning/learningfutures/overview>

⁵ See Heywood (2000).

workshop. There was no prompting at any stage for aspects related to the learning.futures strategy.

Data were collected in the workshops through: observations by the workshop facilitator; audio recording of group discussions; and photographing and collecting models, drawings and reflective notes generated by students during the workshops. The data was then analysed thematically, using a grounded approach of comparing and contrasting statements made about the future of learning in higher education in relation to the students' scenarios and annotations, then manually coding and grouping them under common themes.

Participants

Six workshops were run using the collaborative scenario design processes, including four with Design students and two with groups of students from mixed disciplines including Communications, Law, Design and Creative Intelligence and Innovation. As we sought creative insights to complement findings from previous student surveys (e.g. Russell et al., 2014), student workshop participants were volunteers sought using direct or email invitations from the researchers or their colleagues, rather than a representative sample. To provide further insights, data were also gained from written evaluations from students following the workshop, course evaluations, student interviews and regular conversations at a weekly free breakfast organized by the representative Student Association at UTS. These methods also used open questioning. While these participants had more disciplinary diversity than those in the workshops, and were opportunistically sampled, it was noticeable that their responses

confirmed the themes raised in the longer workshops. Overall, around 120 undergraduate students participated in these processes.

Results

In the following section, the common themes are described and illustrated with quotes from student groups, provided either verbally or in writing. The themes are then compared with themes reflected in the UTS learning.futures strategic direction, to highlight areas of consonance and dissonance. Analysis of the learning.futures approach is based on explicit statements about the direction and participant-observation by both of the writers, who are academics at UTS and therefore professionally involved.

Listening to student voices. Emerging themes from the scenarios related to students' perceptions of the future contexts in which higher education will be situated as well as the perceived features of the learning environment. After coding, students' comments were organised into three general themes, about the 'social', 'personal' and 'connected' aspects of learning, as shown in Figure 2. These comments and themes have been used in this paper to connect to three ways that the future of learning is articulated by the university: changing contexts, learning environments, and independent and personal learning, which we will discuss in separate sections.

1. *Changing contexts.* Students were concerned about broad global issues, such as climate change and an ageing population, which they perceived might affect what is taught, as well as the learning experience. Comments included: 'If there is significant global warming - there will be education

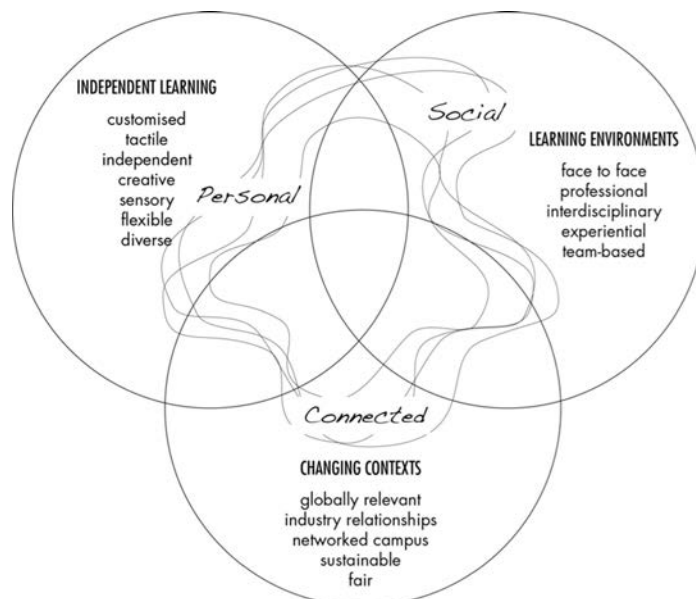


Figure 2: Themes of students' preferred learning futures. (This diagram references the educational model of thematic 'living labs' in Hummel 2011, p.166)

focused on the environment.’ Many of the scenarios generated pointed to learning having more focus on local community needs. One group proposed an ‘eco campus’ as part of their preferred future, with no lecture halls, only community learning spaces. They wrote that ‘climate change will mean that the focus of all education will change’. In this scenario, students from a range of disciplines would work with agriculture professionals to grow their own food and learn how to support their community. Communities would select students according to their needs and would be globally connected to best practice design and have ‘access to experts in every field’ and learn practical ‘down to earth’ skills that suit ‘tactile learners’. While this model may seem far-fetched, it resonated with many other groups, who wanted ‘more focus on community’ and learning environments where ‘more senses are used.’

Students were concerned about increasing urbanisation and questioned the need for cities to be student bases. Using their own experiences of travelling long distances to get to university, many pointed to the financial pressures on families, the limits of transport infrastructure and the ‘brain drain’ of rural and suburban areas as concerns in the planning of city-based campuses. One group suggested: ‘Improving the accessibility of higher education by offering online courses for rural, long-distance and part-time students to enrol in.’ In some scenarios the university would become a set of ‘learning hubs’ that consisted of a ‘main hub and then little hubs. So you don’t commute every day, but you could come in for specific purposes. And there is staff there. It is the place of connection.’

Personally, students were concerned about their own futures, particularly in the context of employment. While there was great variety in the verbal and visual language they used to describe their scenarios, almost all groups talked about education being useful to their future lives in terms of employability. Industry links and engagement with professionals were seen as key features of the higher education learning experience. A preferred future scenario ‘would be beneficial in its focus on industry experience and skills, a cross between an internship and apprenticeship.’ All groups talked about skill-based study and some distinguished between ‘marketable skills’ or ‘sellable skills’ and more general learning skills such as critical thinking. For the researchers, this raised the questions of whether universities are obligated to help students be employed—a responsibility that is clearly high in the expectations of governments and ratings agencies.

However, many student scenarios imagined a future that required far more than skills determined by the job market. Students’ view of desired capabilities of graduates included ways of thinking, attitudes and values that were perceived to be

desirable in a future world. ‘We are not learning just for technical skills. We are being molded and shaped for a particular way of thinking.’ Elaborations of such comments expressed the responsibility of graduates to become ‘well rounded, passionate’ citizens, and to ‘show the ability to care about the things that they have come across, a more empathetic human.’

According to students, in order to develop these ‘well-rounded’ graduates, ideal university courses would become broader and more flexible, enabling greater choice. ‘Our scenario involved more flexibility in university courses – more unstructured course program which results in graduates who are ... less specialised.’

2. Learning environments: social and connected. A number of key themes related to learning environments. In their scenarios, most students talked about the social aspect of learning, whether face-to-face or online. Interestingly many identified social connectedness as a motivator as well as a support mechanism. ‘Learning from home is one idea. But I like to come into uni. I need to see other people. We are social beings. And we are competitive.’

Students talked about the design of classrooms, lab rooms and studios as being specific to their chosen field: ‘Class rooms will stay in some form, a common space, there has always been a social space for learning.’ Most scenarios saw the disappearance of lecture theatres, but courses still including ‘lectures from experts in their field... using technologies’. Students didn’t want the feeling of being one in five hundred and stated: ‘It’s different being part of large audience online’. They preferred a future with ‘class rooms but no lectures.’ Others insisted that ‘tutorials will remain an essential part in interactive learning’, and that although ‘there wouldn’t be lecture halls, there would be lectures online.’ However, for some, learning was considered much more broadly and ‘everything becomes a learning environment.’ These students thought that if higher education was truly integrated into society, custom learning spaces were not necessary.

Students concurred that working in groups was very important to their preferred learning futures. Some commented that they did the best learning in ‘group discussions’, ‘learning together’ and when they were ‘teaching one another’. Interdisciplinary groups and ‘connecting with people from other faculties’ were favoured along with ‘access to experts in every field’, and the need for education that involved more industry engagement as well as ‘more focus on community.’ One group commented that ‘higher education in twenty years time will be online communities of students and professionals supporting, encouraging and challenging each other.’

Another aspect of learning environments that students valued was that they are globally connected. They talked a great deal about the necessity of considering group work on a global scale, 'I want to learn directly from people all over the world.' Students saw this as a way university could be more equitable as well as provide opportunities for them as individuals: 'All students will have the access to the same information around the world.'

Connectedness through technology was assumed. Students drew from specific experiences during which they had felt connected through technology and discussed how these experiences were different from disconnected learning experiences. One group of design students talked about participating in a gallery tour with tablets during which a curator was present live via VoIP-based videotelephony explaining artworks one by one. They explained that this learning required seeing the artworks in 'the flesh' but not the curator, who could remain remote. The type of interaction they needed from her was absolutely fine as a mediated experience. 'We can have a sense of community through Internet, so why can't interaction happen with learning. ... it's possible.' While generally supporting the idea of active and collaborative learning spaces (a strong feature of the UTS campus buildings under construction at the time), students raised concerns about practices that required 'disappearing' technologies such as filmmaking, woodworking and analogue printing. They stressed the importance of learning spaces that suited tactile learners. Many students, particularly those enrolled in design and communications degrees, were concerned that the focus on digital and online learning spaces in the future would mean a loss for them of sensory experience, which was important to their creative practices. They emphasised the need for physical workshops to encourage material experimentation on campus, creative collaboration, and serendipitous learning. They referred to the challenge of working and living in Sydney, a city with highly priced real estate, which generally limited their access to studio and exhibition spaces outside campus.

3. Independent and personal learning. Student futurists at UTS also had a great deal to say about how they wanted to learn personally in the future. They want choices for how they complete a degree with a range of 'options, so you choose your path. Lessons are based on what kind of learner you are. You can mix and match.'

They also recognised that their desired futures would require them to be particular kinds of students: 'The ideal student has to be mature, independent and motivated.' In these discussions, they seemed to accept their own responsibility in

shaping a learning future that was led by them. 'Students need to be able to seek out opportunities themselves and shape their own education. Uni should be encouraging independent learning rather than training us.' In contrast with the views of collaborative learning described above, other groups noted: 'It's all going to be on your own. Independent study'. They identified different learning styles within the workshop groups and discussed futures that could accommodate diversity: 'Personalised learning streams according to the way you learn and what you do.' They were concerned with 'traditional' ways that learning is assessed, raising negative high school experiences of stressful cramming for exams: 'It's not just one kind of learning, it is visual and experiential.' One group preferred learning that involved 'curiosity with a new perspective on things. More emphasis on own interpretation based on facts and experience.'

Most groups presented a future in which rote learning was extinct along with 'pens, paper and books, which become all digital in the future'. They saw no place for closed book exams in their preferred learning future and raised the necessity of authentic assessment that was more 'real-world' and closer to what would be expected of them in professional contexts.

They talked about the possibility of valuing sensory experience through emerging technologies. For instance if students don't have to sit in a chair for a lecture, they can learn by using their whole bodies. 'It will suit tactile learners.' This appealed to many groups who discussed a future in which learning technologies were not 'through your laptop.' 'There is practice connected to theory, and more senses are used.' In activating their senses, they wanted 'real world situations' in which teachers gave them 'simulations of real world problems in teams'. But they also raised the need for university learning to work outside of reality. They talked about the value of working with 'fantasy' and 'made-up scenarios'. One student said 'real world scenarios might be really boring' and pointed to the need for 'play' to do the best learning.

Discussion

Since the range of collaborative future scenarios is impossible to represent in this paper, we have presented student responses within the themes of changing contexts, learning environments and independent and personal learning. Students' preferred future learning environments all have elements of the personal, social and connected. Students seek personal learning experiences that are customised, immersive, diverse, sensory and independent, but also seek social engagement face-to-face on campus, in teams, networks and with the community. Connectedness is important, with

students seeking global, interdisciplinary and experiential connections, along with connections with industry, the professions and the community. Consistent with the findings of student surveys (Russell et al., 2014; Dahlstrom & Bichsel, 2014) technology is central to students' views of the future, used by choice and complementing, not replacing, physical and face-to-face learning environments.

Within these discussions, students generally included the university experience at the centre of their preferred learning future, although it was by no means a requirement of their scenario: 'We need the university for deadlines. Otherwise achieving would take a very long time.' Some described the role of the university as a place of transition between their adolescent and professional lives, others as their opportunity to make global connection to like-minded learners. While the future role of universities was articulated in many different ways within these scenarios, one thing is clear: if the future of universities is understood to be shared by students, staff and society more generally, the findings from this study can inform strategic decision making.

Currently, the approach to learning and teaching at UTS, comprised of a suite of projects, is articulated as the 'learning.futures' approach, and outlined earlier. The themes identified in the students' preferred learning futures for the most part align very closely with learning.futures. For instance the 'new spaces' promoted by learning.futures resonate with the characteristics of future campuses described in the scenarios:

Off campus, students access digital resources and undertake tasks at a time and place that suits you ...

Instead of traditional large lecture halls, and tutorial rooms with chairs and desks in neat rows, the learning spaces in the new buildings maximise opportunities for engaging, active learning experiences for students.⁶

And perhaps this is not at all surprising. After all, learning.futures, like many of the approaches currently being rolled out at Australian universities, is part of a well researched strategy to which many of the students who participated in the scenario workshops have already been exposed through some of their coursework.

However while the student scenarios and learning.futures may look as though they largely align in principle, there is much work to be done to ensure that students and staff do in fact share a preferred learning future. While there were

common themes in this study, we know from earlier surveys (Dahlstrom & Bichsel, 2014; Russell et al., 2014) that there are differences in individual student preferences, for example for the mix of face-to-face vs. online learning opportunities.

Also, as discussed elsewhere (Russell et al., 2014) one of the challenges of making an approach such as learning.futures successful is working out how to engage and support staff in making the significant changes to teaching and learning required. At UTS, academics can engage with the changes through a range of resources, for instance a website presenting videos explaining the links between learning spaces and learning design, there are case studies of academics engaged in interesting work, and a Pinterest site containing links to interesting work in areas such as flipped learning, inquiry-based learning and so on.⁷ The university also provides forums and workshops to help with the ongoing change.

Alongside these staff resources our research suggests that there is another potentially powerful resource to help academics with these changes: the students. In this small study, students helped explain the implications of these changes to their learning futures through their scenario designs. Through analysis, the researchers were then able to translate these scenarios into a student voice that could inform staff of preferred futures in a way that was meaningful as they transition to learning.futures, the future preferred and proposed by the university.

To test this idea, we conducted research with staff members using similar collaborative scenario methods to those described above. Staff from a range of student support, information technology, human resources, academic development and faculty areas articulated their preferred futures in workshops focusing on emerging learning technologies and graduate attributes. While there are some differences that emerged in scenarios developed by staff and students, the commonalities are far more significant, with staff also picturing a social campus, technologies that enabled more flexible and independent learning and broader connectedness across disciplinary silos, globally and with industry and the professions.

While running combined workshops with staff and students has been beyond the scope of the Student Voices project, we recognise that this could be a valuable way to work towards a common preferred future and implement approaches like learning.futures in collaborative and participatory ways. A creative student-staff workshop series to explore the possibilities offered by digital badges confirmed the value of this type of collaborative exploration of possible futures.

⁶ University of Technology Sydney Learning.futures <http://www.uts.edu.au/research-and-teaching/teaching-and-learning/learning-futures/new-spaces>

⁷ <https://www.pinterest.com/Learning2014/>

By exploring the case of one university, this study has built on previous work that demonstrates the value of including the student voice in developing and applying universities' learning technology policies and practices across a range of diverse faculties and learning environments. This analysis provides evidence that we need to do much more than just improve the technological tools and facilities at an institutional level. It indicates the need for discipline, program and faculty specific applications of university policy and serves as a way to remind staff what students prefer in their learning environment.

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Research Profiles

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Jo McKenzie is Director of the Institute for Interactive Media and Learning at the University of Technology, Sydney. She has more than 25 years experience in learning and teaching in higher education. Her research focuses on change in learning and teaching in higher education, including learners' and teachers' experiences, dissemination of learning innovations, and approaches to innovation projects, using a diversity of quantitative qualitative approaches. She been a team leader or participant on nine projects funded by the Office for Learning and Teaching and its predecessors.