Professor Gilly Salmon: Conference Keynote

Gilly Salmon is Pro Vice-Chancellor (Education Innovation), at the University of Western Australia (UWA). Her research and practice are in creating viable and desired futures in higher education and the exploitation of new technologies of all kinds in the service of learning. She is internationally renowned for her significant contributions to education futures, including action research, innovation and the invention and development of the Carpe Diem learning design methodology, as well as her books *E-moderating* and *E-tivities*. She leads the Centre for Education Futures and the Futures Observatory at UWA.

The Realm of Learning Innovation: A Map for Emanators

As I write, at the beginning of 2016, I am seriously concerned that the pace of digital change, in which education is immersed, may continue to outstrip our universities' capability and capacity to respond with effectiveness, clarity, humility, wisdom and respect in the service of learning.

So as you read this paper, which was first developed as a keynote for the *Emerging Technologies and Authentic Learning in Higher Vocational Education* conference in Cape Town in 2015, I'd like each of you to consider adopting some form of responsibility, for your university and/or for your learners to *create your preferred, desirable and achievable* futures.

I lay before you a challenge that every innovator faces… to envision and then reach for the future before it happens. I invite you to explore, grasp, adapt and create futures prospects. You will require the development of some foresight – the illumination of opportunities – but also the courage and ability to take action towards achievements.

We do know that anyone who tries to actually predict the future – in any field – sooner or later looks a bit silly (THE, 2015). But raising issues about important trends and then working with them in flexible and creative ways as they emerge is an alternative and more effective approach. Of course there are risks to developing aspirations about the future – but also big rewards – so if you're interested, please read on.

If you can work with the future as it emerges – you will become an Emanator; in other words, someone who creates and enables a flow of constructive and productive achievements. All great Emanators and futurists have the ability to make sense of rapidly changing worlds. I'm hoping this paper will give you a framework in which to orientate your own insights and choose constructive and powerful pathways for your context.

Our working context

We all know that the emergence and adoption of digital technologies has rapidly transformed most sectors, businesses and industries around the globe. Digital technology has been impactful, as it has enabled organisations to engage more effectively with customers and clients, tap into new sources of revenue and change their ways of thinking and working.

We also know that the bridges and processes to successful digital-driven transformations are unstable. Security concerns, technology adoption and integration, and resource constraints are frequently cited as impediments. There are always pros and cons, opportunities and problems, to be solved. In universities, some of the most powerful potential of emerging digital technologies also represent anathema to some members of academia. Consider, for example, the rising power of consumers, the removal of traditional barriers to entry and the ease of crossing cultural and geographical boundaries.

In higher education, we are moving slowly along. Most of our innovations and accomplishments have been achieved through brave experimentation, some through personal scholarship and a few through creative swiping from *other than* educational contexts. There have been many large and small initiatives that have failed to meet their objectives, but few of them have been openly reported and learnt from. However, we have seen some evolution in pedagogies and in organisational structures. We gradually understand what motivates innovators in our field. We can label some promising areas. Academia is waking up to realising that it needs to use digitalisation to achieve its business efficiency and effectiveness to reduce costs and improve services.

Many forces in the global environment can bring about large-scale changes in economies and societies. But since the Industrial Revolution of the late 18th and early 19th centuries, technology has had a unique role in powering growth and transforming economic value. Technology affords us new ways of doing things, and, once mastered, can enable lasting imaginative but sustainable change. We know digital technology is getting faster, cheaper, more efficient, more attractive to more people and more economically impactful. The parade of new technologies and scientific breakthroughs is relentless and unfolding on many fronts.

So, for me, technology is the best place to turn to support the acceleration of learning innovation. In universities, our most important capital and assets are in our university teachers, our knowledge of teaching and in our physical and digital campuses. Once technologies become embedded in these, ideas become innovations and our worlds start to move faster towards preferred futures, with visible and meaningful impact for our learners. The longer term aims need to be to generate benefits and achievements that our universities will not immediately 'unlearn' with the next inevitable change of leadership.

Of course I know that technology, as front and centre, is not "the answer" – or even "an" answer, to the future for learning. Universities have proven incredibly resistant to change – and have survived barely scathed by the introduction of books, TV, mobile phones and many more technological innovations. And, nearly all universities already use a huge array of "new technologies" to provide information or practice for learners, but as yet there's so little achieved associated with some key issues. Consider, for example, connecting with others, the ability to prepare students for the five careers that they may follow over their long lives, the development of wisdom and the realization of what seems impossible today. People's needs and expectations of learning are shifting. We must step up to leading as Emanators into futures as they emerge – this is where we can consider technology as a catalyst to prepare our students for the global scale problems that they will inherit.

A most interesting part of this for me is that some technologies have the potential to disrupt the status quo in education and lead to true innovation in the service of learning. Others do not. Educational Emanators can't wait until the modest evolution around learning technologies like Learning Management Systems (LMSs) catch up with our requirements to alter the way we develop our learning environments, teach our students, choose our curriculum, assess learners' achievements and abilities, instil new cultures to prepare students to live, work and achieve in multiple unknown times ahead. In practice we need to form, enable and produce entirely new products and services.

We cannot just "identify" technologies that will really matter for learning and teaching. The link between hype and the potential is unclear – and there are still surprises to come. But we can look at where technologies are rapidly advancing, if the potential for impact is broad, and for opportunities to change the status quo and the way things have been done for generations. In particular, to explore technologies that can help us to design for the future – to truly achieve what was previously considered "the impossible".

As educators we need to be in at the beginning of this process and have the foresight and resilience to recognise and work with constructive disruption. By this I mean being part of the imagining and prototyping of the technological applications for learning. The future is created like that. We need now to understand how we can experiment, take risks, pilot and prototype – in practice to learn from the future. We need to look to technology, not to do it for us, but instead to inspire us to invent new strategies and pedagogies and new roles for that technology*.*

There are two ways. The first is to envision futures for higher education with emerging technologies and construct bridges towards them. This kind of approach is one we are used to as scientists. We can create hypotheses for testing or disproving, observe, illuminate and provide pathways for others to follow, construct and build upon. Or we can build a bridge, start crossing it with our torches, reach out and build new spars as we cross. This approach is a bit different – it implies small-scale experiments and rapid feedback from the context, to allow futures to evolve and gradually emerge from the mist and uncertainty. Both approaches produce evidence; both can be game changing. There, I've gone and made a prediction!

So to summarize – some changes over the next ten or more years will be incremental, evolutionary – some transformative and radical. In my view, almost all will have a digital element embedded in them. As Educators we need get involved early in creating innovations and providing pathways to exploring and implementing them.

A framework for guidance for Emanators

Here I offer a framework that I have developed over many years. It first informed the *Beyond Distance Research Alliance* and the *Media Zoo*, at the University of Leicester in the UK, then the *Australian Digital Futures Institute* at the University of Southern Queensland, then Swinburne University of Technology's *Learning Transformations Unit* in Melbourne and most recently the *Futures Observatory* at the University of Western Australia. You can read more about its roots and applications (Salmon, 2014).

In this paper, I explore in more detail the nature of the application of the framework through a metaphor of a landscape – a whole realm of innovation – and a "rich picture" illustration (*see Figure 1*). I offer suggestions and discussion points for those wishing to exploit and emanate from this metaphor.

Figure 1

Figure 1: The Realm of Learning and Teaching Innovation for Digital Emanators

This is the realm of learning and teaching innovation. In this land lie the secrets, the resources and the opportunities for harnessing the future and changing forever the way we think and act in respect of our students and their preferences for learning.

We can add a couple of dimensional axes to the picture.

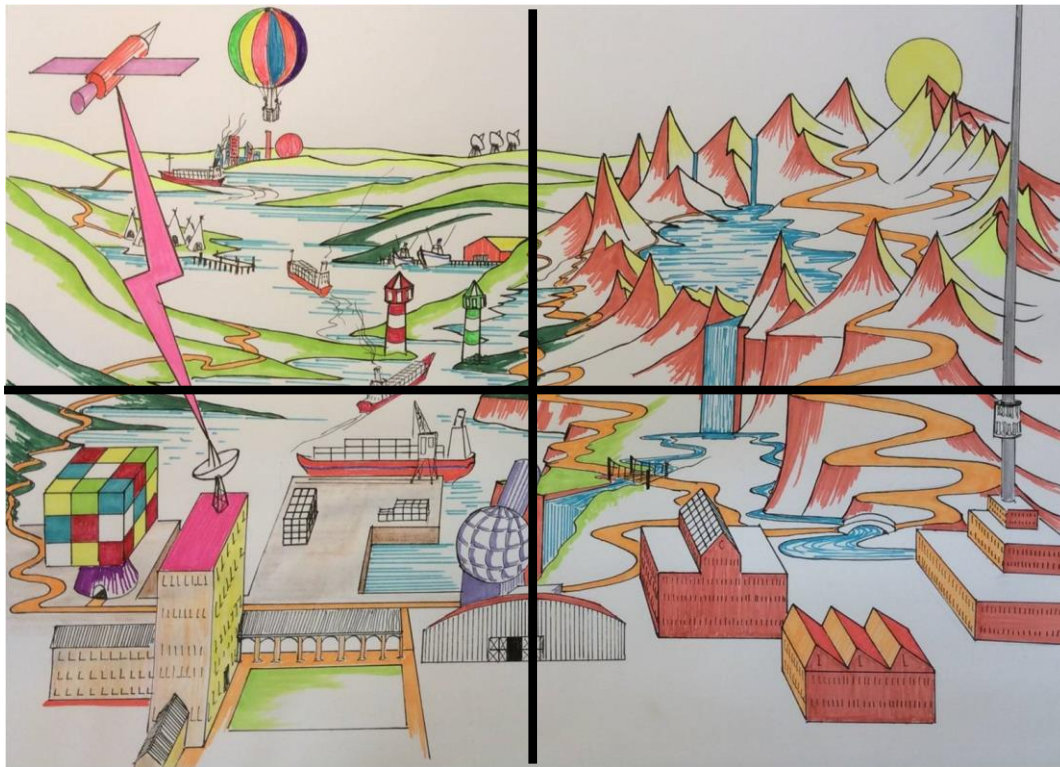**Figure 2: Realm with Now and Future axes**

Figure 2: 'Now' and 'Future' Axes in the Realm of Learning and Teaching Innovation

I hope that this will help you to start to see the range and scope of the realm and put some of its imagery into perspective.   We can now begin to interpret meaning from the picture and determine some inferences that help us shape the agenda for learning and teaching change. The two axes impart to the picture a temporal sense or implication – there are "Nows" and there are "Futures". Both the new missions and markets and the new technologies and pedagogies imply some future state, probability, possibility, or potentiality.

So, this picture becomes a "map to the future" – it gives us the opportunity and means to travel in time throughout the learning and teaching realm – and that lends to us some foresight and, I hope, inspires us to take action.

I want to encourage – no, actually I want strongly to urge – you all to harness and exploit all that is inferred within this realm of innovation and thus change the learning and teaching orientation, perspectives, values and behaviours of your institution. In that way – become an Emanator!

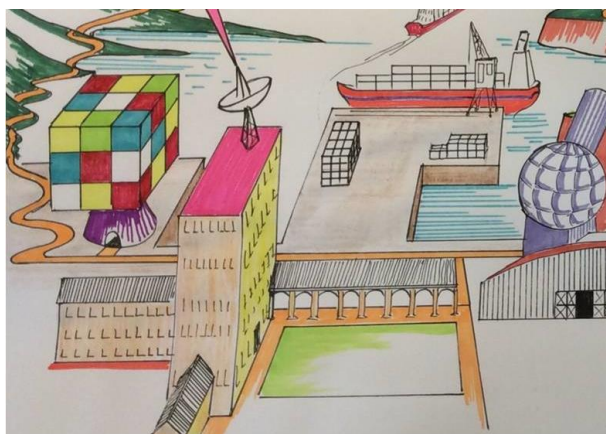**Figure 3: Quadrant 1 of the Realm**

Figure 3: Quadrant 1

Quadrant 1 examined

Let us have a look first at the left hand bottom side of the realm – I'll call it Quadrant 1 (Q1). Q1 is the "Here and Now" of learning and teaching. It reflects all that we have done to date and all that we have put in place. It describes our current capabilities in terms of the markets and approaches that most educational institutions have strategically chosen to operate in whilst simultaneously depicting the technologies we have embraced and the pedagogies we have adopted to bring learning to our students. In this quadrant, the technologies typically include learning technologies and IT infrastructures that the university has purchased through vendors (or more rarely developed for itself) including management information systems, student administration systems, IT systems and infrastructures, Learning Management Systems/Virtual Learning Environments (LMS/VLE), audio/visual technologies, classroom and lecture systems such as lecture capture and clickers, laboratories, online libraries and digitally enabled study spaces. The Q1 picture illustrates a physical campus with its usual elements and components but there is also a large data cube!

The university-owned technology becomes "out of date" frequently and causes much anguish as it never quite appears to meet what university lecturers really desire. Full adoption of the capabilities that are in place is patchy, students tend to be a little more pragmatic and either find ways round less than optimal learning technologies or revert to using those with which they are happy and familiar. Typically the university has chosen and paid for this vast array of systems, and often is still trying to build some form of meaningful and sustainable architecture for them, to put huge effort into integrating them, paying good money for purchasing and maintaining it all. All universities need and must try to embed these into learning and teaching processes, to maximise their Return on Investment (ROI) in the service of their core mission of educating the new generation.

So what's actually happening in your institution? There should not be too many surprises in Q1 – it should be what your institution has worked for. It may hold a few disappointments in terms of the legacy nature of some technologies and systems – and perhaps – practices such as the 1000 year old model of teaching – but that will be because there has not been enough deployment of disruptive technologies and pedagogies or because there are still struggles going on to productively and constructively modernise teaching for the benefit of 21st century students and their rather different views of the world.

So maybe there is some scope to emanate and innovate in the here and now – to make it more valuable for the learners of the near future, and at the same time get much better value out of the huge and hopeful investments that your institution has made. Even to keep pace in Q1, our technological environment needs to be flexible and adaptive – our pedagogies under constant review and revision because the needs of our chosen market constantly change with time as we recruit each next cohort of students. An aspiration for this quadrant could be to ensure that every student of a university, regardless of location or mode of learning, receives equivalent services and learning experiences. Another could be to transform assessment and feedback as much as learning and teaching. I'm sure you could add your own here.

Looking again at the map, our universities become both the focus and the gateway of opportunity – you'll see from the landscape, that I see them as the *Ports* of Learning. The Port of Learning recognises that universities that once were islands are now part of a much bigger world. Here we need to move to normalizing digital opportunities – to imagine, understand, exploit, harness and mature them. To work out how to combine a key part of our legacy – our campuses and our

traditions – but add digital technologies to the mix to ensure higher quality and the ability to respond to the students of the second and third decades of the 21st century... mobile and internet-enabled, information at your finger-swipe learners.

Emanators – your university should first identify and target those areas where there is potential for growth, rapid improvement in quality or efficiency gains. The aim can be to move more of its regular learning into the digital environment but in such a way that will enable it to pilot scalable processes. Personalization and choice based on learning needs is the first step away from the limitations inherent in printed texts and face-to-face lectures, and applies well as a mission for Quadrant 1. Here also lies the "flipped classroom" and opportunities to rethink physical spaces. The use of personal repositories, wikis, e-portfolios blogs etc. can be a system for managing and sharing both pedagogical and content knowledge, and can be driven from "add-on" (often called "building blocks") from the LMS/VLE – clearly making the most of the university's investment.

Be warned... these require *astute* planning of your organisational structures and very good learning design. Along with this we should push hard for proper partnerships (rather than one-sided "vending" relationships) with external agencies that provide our technology platforms. Our partners in turn must seek a much more sophisticated understanding of our new student needs, requirements and resources and respond in an agile way with their platforms.

Learning design should take priority. My own approach is to design or redesign every unit, module and course in multi-functional teams, exploiting the absolute best from using the university-invested systems (Salmon, 2013; Salmon & Wright, 2014; www.gillysalmon.com/carpe-diem).

Whilst these developments are valuable and directly impact on students' learning, achievement and experiences, they rarely reposition the university for innovation or future achievements or form a true differentiation from other institutions. An "issue" is that this quadrant is all-consuming and uses the major part of the institution's resources and such a focus has prevented more radical innovations.

Quadrant 1: Reality check

Universities need constantly to evolve. For example, even if you consider the flipping of classrooms to avoid mass lectures and a move towards personalised learning, or perhaps the dramatic decline in the purchase of text books to be a temporary phase – a kind of pedagogical fashion event – you simply cannot ignore the clamour by students for access everywhere and anywhere.

For Q1, I think we should focus on the science of learning, in making substantive progress on how people learn and most critically whether they can continue to learn when they have left university and also to provide a very rapid virtuous circle of feedback and constant adaptive use of technological opportunities.

The other quadrants that you have yet to read about in this paper – all hold some potential future states and opportunities. They are only relevant and pertinent, reachable and exploitable, if we can master the challenge of constantly reviewing and refreshing our "Here and Now" through capabilities and capacities for innovation.

Figure 4: Quadrant 2 of the Realm: Top left hand quadrant

Figure 4: Quadrant 2

Quadrant 2 examined

Quadrant Two (Q2) is about doing more with what you have … a great place to start for emanation and innovation! It is using your campus or physical space as the "Port" or "Brand" but sending all kinds of vehicles out to where your learners reside.

Technology offers us opportunities to undertake educational processes that are intrinsically**,** flexible, portable; learning need not be tied to a certain place or campus, so long as the community of learners and teachers can and do interact. We can provide the mobility and flexibility that every student craves – services, devices and places that transcend distance. So we have the university exporting learning – rather than insisting its customers come to its very own physical space. In this quadrant, we reach out with new missions, markets and opportunities. We expand on what our university is good at. Truly acknowledging that *context* not content is king. (Emanate that!)

Quadrant 2 is about utilising more fully the capacities and capabilities of your extant technologies and infrastructure to reach, teach and manage different types of students with new learning needs and desires. The dimensions of Q2 imply the penetration of new markets through new and additional missions to realise and capitalise on those markets – harnessing and utilising our existing technologies and pedagogies. This is what the marketeers call "market diversification" (Ansoff, 1957). One key area in this quadrant is the move to recognise that learning does not need to include a face-to-face element, or that if students attend a physical place, it is for a very specific purpose and is time limited. Courses that are entirely digital can exploit the best of network connectivity and the ultimate flexibility for learners.

The idea in Q2 is that your learning outcomes could be the same, your curriculum recognisable and it is likely that you will process, manage and administer the learning journey for these new and different clients through the available functions and processes within your existing information and student management systems. Wherever and whenever possible, you use existing learning and teaching delivery assets to support the education of these students.

The university can maintain its overall accountability, accreditation, quality and graduation responsibilities – the students remain the university's students. Once an institution has understood how to de-couple and de-construct all the functions that go to make up its educational provision – it is possible and often desirable to recruit partners with far greater capability, capacity and efficiency in some of these aspects. These might include identifying large untapped markets reachable by

digital learning, designing learning without campuses present, providing 24/7 services such as helpdesks, or supporting and developing tutoring or academic support and guidance.

The most successful examples of Q2 are in the areas of "exporting learning", rather than "importing students" to campus. Instead of constantly dipping into the dimishing pool of students able and willing to come to campus for several years at a stretch, you might consider digital learning that is taken out to students who would benefit and who, appropriately taught, are able to take part in your learning provision. Hence, in this quadrant we reach out to new missions, new markets, new opportunities, new modes of learning, new locations… key opportunities for expanding what our university is good at. Successful innovation processes suggest that you should start with the curricula and the technologies that you already have established but undertake innovative pedagogical design *and* provide appropriate online human support.

Entirely digital courses free the students and the university from physical infrastructures, and enable institutions to offer their best knowledge and research to market segments that would remain unattainable were campus attendance required. The markets and audiences for entirely digital courses are quite different from those of campus based courses – not better, not worse, but requiring a new approach. You could also consider the open educational resources and open entry movement – made popular recently by MOOCs, perhaps to provide universal access for everyone who seeks to learn.

Quadrant 2: Reality check

New students from different segments of the market, new countries, different needs mean that they will have different values, needs and expectations. It will simply not suffice to push them in at the top of your student-making machinery and hope that they will survive to emerge eventually like your more familiar students. How differently would you imagine these different market groups might need to be considered?

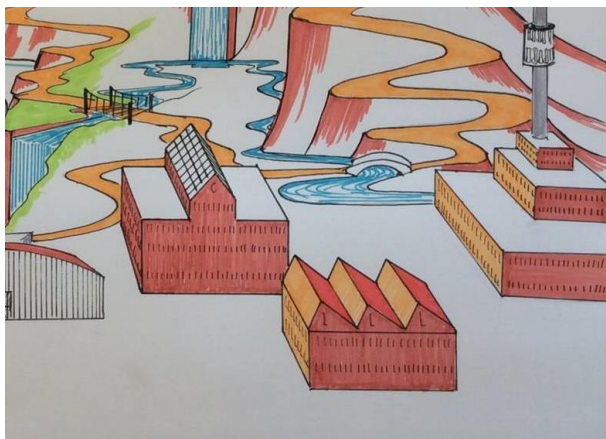***Figure 5: Quadrant 3 of the Realm: Bottom right hand quadrant***

Figure 5: Quadrant 3

Quadrant 3 examined

The territory of Q3 encompasses the discovery of, experimentation with, and the capture and transportation of technological potential and the imagination, development and adoption of new accommodating pedagogies. In this quadrant, you can work with your usual students as recruited but lead them to new modes of learning through discovery and interpretation of emerging technologies – that's what we are good at in universities!

Early along the axis, Q3 addresses the many new technologies available and known to us. Here are the opportunities to exploit widely used technologies from our social and working life – re-imagined for learning. These include mobile devices such as tablets, smart phones, GPS applications and their associated and attractive applications (apps). Here are the opportunities to address the pedagogical applications of less familiar or emerging consumer technologies – wearables, augmented reality, 3D printing, drones, robotics and virtual reality. Few of these have been developed specifically for learning, and need good understanding of potential teaching applications to be successful in new contexts. Then there is the uptake of social media of all kinds, many of which can be harnessed for learning purposes.

Typically, in this quadrant, we need to adopt, adapt and repurpose. The further right along the bottom axis of the landscape that you travel, the more you explore the less obvious, the more radical and the less clearly adaptive to your purpose the technologies become, and the more you have to innovate your pedagogies to accommodate these technologies. Bringing solutions from this quadrant into your "here and now" introduces disruptive technologies into the traditional, long-stableness of your institution.

In this quadrant, small-scale prototypes need to be undertaken that focus on the changing nature of learning, rather than developing more and more technological features. The university can be confident in offering small-scale pilots with existing students and research partners and clients, with a view to developing appropriate digitally-enhanced learning pedagogy through evaluation, feedback and research. Learning design, staff development and new systems and processes are necessary for scaling-up of any successful new approaches by prototyping, and in this way, risk and investments are reduced. The role of the Educational Emanator is then to bring these together into usable principles and understandings, along with appreciation of their transferability into teaching and innovation in the university.

Quadrant 3: Reality check

Adaptation is the key to unlocking and realising the benefits and potential of Q3. This zone will not permit the exploitation of disruptive and radical technologies whilst holding on to a 1000-year-old model of teaching. This is no place for stoic, dyed-in-the-wool, non-adaptive staff or executives. In Q3, we have the responsibility to enable all university staff to engage in imagining the future.

Investment risk is implied in any attempt to harness the benefits of Q3 and bring them into your here and now. New technologies are never cheap – and by the time they are – they are no longer new. However, just chasing the next technological fad is not going to work – it is neither adequate nor sustainable – and certainly isn't strategic. Instead, use pilot and prototyping methods to select and evaluate technologies worthy of the risk investment.

For this quadrant, questions that could be asked are whether you can promote changes in pedagogy to accompany you on your journey through Q3 and what structures might be needed in your institution to enable new tolerances and appetites for risk. Emanators might also consider whether you can prepare for failure, failing fast and hard but failing forward – then getting up and being prepared to fail again – and in doing so knocking the spectre of failure from its pedestal. At the far right of the quadrant, Arthur C. Clarke's notion of a tethered, geostationary orbital elevator is illustrated. It's just out of reach. What is your "just out of reach" learning wish?

Figure 6: Quadrant 4 of the Realm: Top right hand quadrant

Figure 6: Quadrant 4

Quadrant 4 examined

Just as you thought you were on safer ground, oh Emanators, there is another land just visible on the horizon. The higher right-hand box is the most challenging, risky quadrant, but also the one potentially offering the greatest rewards. Many of the world's big challenges of the 21st and 22nd Centuries will require responses from people educated differently – perhaps from processes emerging out of this quadrant.

New rich and bio-technically diverse lands, promised untapped markets, exciting missions and the exploration of new learning and teaching opportunities and cultures. In Q4, our thinking needs to change; our awareness of fresh wider contexts needs to develop. In Q4, we can truly create the future rather than merely respond to it. You must allow yourself to pursue the impossible – well it seems impossible until you make it happen. You may need new types of partners to give you knowledge, courage and share the risks and rewards. Hidden in these mountains are the newest emerging technologies, as yet unimagined breakthroughs in pedagogy, new ways of partnering for risks, exceptional ways to position your university at the forefront of educational innovation. As yet untold ways may emerge here of truly educating students to deal with uncertain and challenging futures for the world.

The university should allow new strategies to emerge to support an assessment of effective directions and the associated risks. I strongly suggest that your universities might create a "Futures Observatory" function, to scan our emerging technological environments, stimulate futures thinking and examine and work with faint signals (UWA Futures Observatory, 2016). Engagement with this quadrant will require the university to continually scan both the technology and marketing environment, and develop one or two innovative projects or seek several smaller ones. This is the quadrant in which to be a leader rather than a follower and it almost certainly requires true partnerships across sectors and industries.

Here is the land for the pioneer Emanators – the leaders, not the followers nor the faint-hearted! It's tough to get into this unchartered land. There are inaccessible terrains, difficult routes and few maps but in there lie the most exciting and powerful opportunities to make and create the future for learning. You could create your own pathways that become education's silk roads and trade routes. If you stand on the shoulders of pedagogical giants - perhaps you'd get a way in? Could it be you? In terms of diversity, the parade of new technologies and scientific breakthroughs is relentless and unfolding on many fronts. One of them may be your breakthrough – a spark to start the process. Use your emanatory abilities… a sixth sense.

Q4 is the uncharted and rarely penetrated land of new technologies and pedagogies to acquire and exploit new markets from new missions. Here is the opportunity to break down those silos – to support interdisciplinary efforts – across learning, teaching, technology and future imaginings – the very least that is required to solve the "big issues" of the 21st Century. Very new approaches to learning are here.

The atmosphere of this territory reeks of "leading, bleeding edge" but the prizes that lie within this land are of the most extraordinary kind. It is unmapped and unruly – and there may even be Dragons there – but the exploration, and exploitation of this quadrant and its resources, can bring the most amazing benefits and returns. This is the place where education gets truly exciting, absolutely "avant-garde", full of promise and completely and utterly devoid of any pre-conceptions, prior rules or constraints. For many the journey will be too difficult to undertake – the destination never warranting the expenditure to get there. For others (the radical innovators) the pheromone-like lures and promises of the land will be irresistible attractants.

Territory such as this never voluntarily gives up its treasures to those who wait at its borders – but only to those who venture into its interior to plunder its resources. But – what does it offer? In truth, none of us can answer that if we have not ventured there, but exploring the best ways of educating new generations and sharing our research, studying the unknown and the uncertain, pushing back the boundaries of knowledge and wisdom, generating new ways to look at old problems and creating a store of new evidence and practice. Maybe this is where many educators really aspire to be?

Quadrant 4: Reality check

Let's consider the future through a child born in 2016. She will never know a world without the many versions and applications of the internet and technologies as yet un-imagined. She may live to be 120 and will have multiple careers and life needs and experiences. How will you educate her if she arrives at your portal of entry? She will certainly need and expect learning and teaching experience derived from your explorations of quadrants 3 and 4 – brought into her here and now. How can we prepare to move the glimmer of successes from Q3 and Q4 to Q1 and Q2 to assure enterprise-wide learning benefits?

Summary of the Realm of Innovation

Quadrant 1 represents the deployment of a university's existing core capabilities and capacity through incremental innovation. Quadrant 1 suggests deploying the understanding of technologies already in place in the institution to solve problems and increase the quality of learning. Improved learning design, professional development and staff support are needed, but despite this investment, it is reasonably low risk. The timescale is ongoing and continuous.

Quadrant 2 suggests a different approach to incremental innovation, taking the core strengths and incremental development from Quadrant 1 into new missions and markets – more organisational development is needed. Some risk is present in where to put investments and choices of partners. The timescale to implementation is typically a year or more.

Quadrant 3 suggests deployment of a university's key strengths in learning and teaching but with adjustments to new technologies, as many of them cannot be owned by the university. These involve some risk since more imagination and prototyping are involved. Timescale to implement is 1-2 years.

Quadrant 4 represents a more radical view of change using new technologies, products and markets and missions. This is higher risk, but higher value for those that succeed. It is unlikely to happen without specific investment by the university in learning innovation and in cross sector partnerships. The timescale is 2-4 years.

Quadrants 3 and 4 are what academics and inquiry-based teachers do best: chart the path, blaze the trail, experiment, adapt. This is research and innovation for teaching and learning. Let them loose on innovation in learning – they know how to build collaborative teams, work across disciplines, share findings and advance knowledge.

Organisational development is critically important. Investment needs to be made in replicating success and investing in the institutionalisation of initiatives, projects and pilots that are proving worthwhile and being smart enough to identify and to let go of those – irrespective of good intentions – that are not.

Create your own future

From the *Education Futures Initiative* at the University of Western Australia, I have found that doing things somewhat differently helps everyone to create new constructive and preferred futures. A little bit of disruption in our day-to-day working has gone a long way. We focus on "stand up visualisation" of all our projects and rapid development and fast feedback from our context, especially our students. We are experimenting with new models too, exploring alternative funding, and new types of partners for learning. Probably the tolerance for risk is the hardest to achieve in a situation of scarce resources but what helps is providing more information around innovations that fail to scale, and the ways of sustaining and building on those that hold wider promise. We tell ourselves daily – not just our students – to pursue the seemingly impossible. To be clear, it is not just about big budgets but more about space and time, serious opportunities to collaborate and engage with new types of partners, to take courage from others. Sometimes working under the radar can be a good thing. Critically, it starts with determining what needs to stop to make space for innovation

At UWA, in the future we plan to undertake projects that are time limited in nature and designed to reach specific objectives. We will place less emphasis on programs with indefinite lifespans. There are few silver bullets or quick fixes, but what we do know is that we do this in internal and external partnerships, in practical ways and with the sense of shared knowledge. This is how we emanate and secure preferred and viable education futures through digital technologies. It should be us – the educators – who make sense of this complexity and challenge.

Have courage, my colleagues, and be an Emanator. You must do it together. It's only impossible until it becomes possible. Tick tock!

References
Ansoff, H. I. (1957) Strategies for diversification. *Harvard Business Review*, 35(5): 113-124.
Salmon, G. (2014). Learning innovation: A framework for transformation. *European Journal of Open, Distance and E-learning*, *17*(2), 220-236. Retrieved 9 June 2016: http://www.eurodl.org/?p=current&article=665
Salmon, G. and Wright, P. (2014) Transforming future teaching through 'Carpe Diem' learning design. *Education Sciences*, 4(1), 52-63.
Maxwell, J. C. (2007). *Failing forward*. New York: Harper Collins.
THE (2015) Future Perfect: what will universities look like in 2030? Times Higher Education article by various contributors, December 24th 2015 Edition, retrieved 9 June 2016:
https://www.timeshighereducation.com/features/what-will-universities-look-like-in-2030-future-perfect
UWA Futures Observatory (2016) The University of Western Australia. Retrieved 9 June 2016:
http://www.worldclasseducation.uwa.edu.au/education-futures/futures-observatory