

# Education for the new age

For people working in this brave new world, the only certainty is that a commitment to lifelong learning is not only required, but inevitable

**D**oes the traditional postgrad degree still hold up in the digital age? It used to be far simpler. Go to uni, get a good degree, find a job and work hard. It's not enough anymore, however, to believe a single degree will set you up for life.

Instead, we are entering a new era increasingly referred to as the fourth industrial revolution (or 'Industry 4.0')—a nod to revolutions of the past; think steam, electricity, and computers—that's transforming the way we live and work.

It might be overly dramatic to say the robots are coming but Industry 4.0 is, in many ways, exactly that. The Internet of Things, real-time access to data, artificial intelligence and machine learning are rapidly increasing the stream of information between the digital and physical worlds.

Suffice to say, we're living in a smarter, more connected world where new roles are being created—and therefore new skills demanded—faster than ever before.

We don't yet know how it's all going to play out. And while it's enough to get the fearmongers out, one thing's for sure: for those working in this brave new world, the only certainty is that a commitment to lifelong learning is not only required, but inevitable.

As Deloitte's chief operating officer David Hill puts it: "Today, more than ever before, knowledge is a very powerful and critical thing. It's almost trite to say that we live in a knowledge economy but the half-life of our chosen skills and knowledge is getting shorter and shorter with disruption."

But what skills and what knowledge should individuals be cultivating, and how?

For Ephraim Patrick, a partner at global consultancy Mercer, the future is diverging into two roads: 'hyperspecialisation', and that of 'cross-skilling' or developing multiple areas of expertise.

"Hyperspecialisation is about people with deep expertise. If you're in cybersecurity for example, you don't do other things, you spend many many

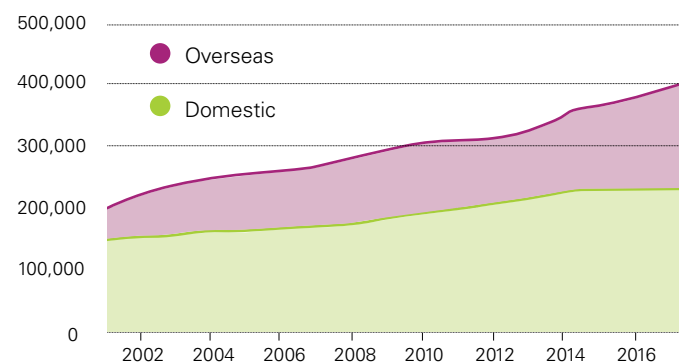
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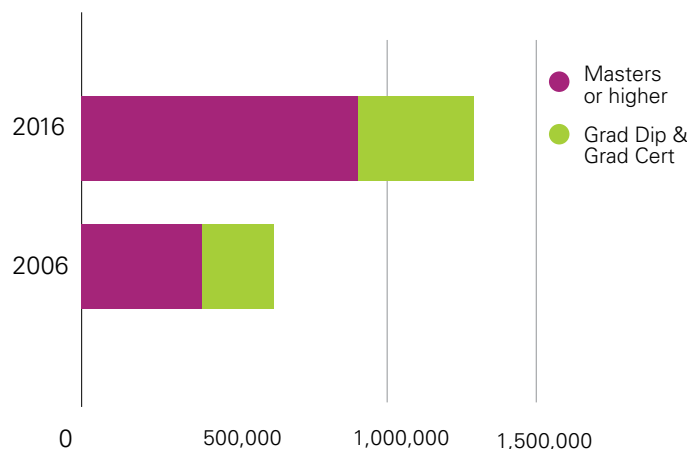
Right now over 400,000 people are studying post-graduate degrees in Australia (both domestic and international students).

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How student numbers have grown

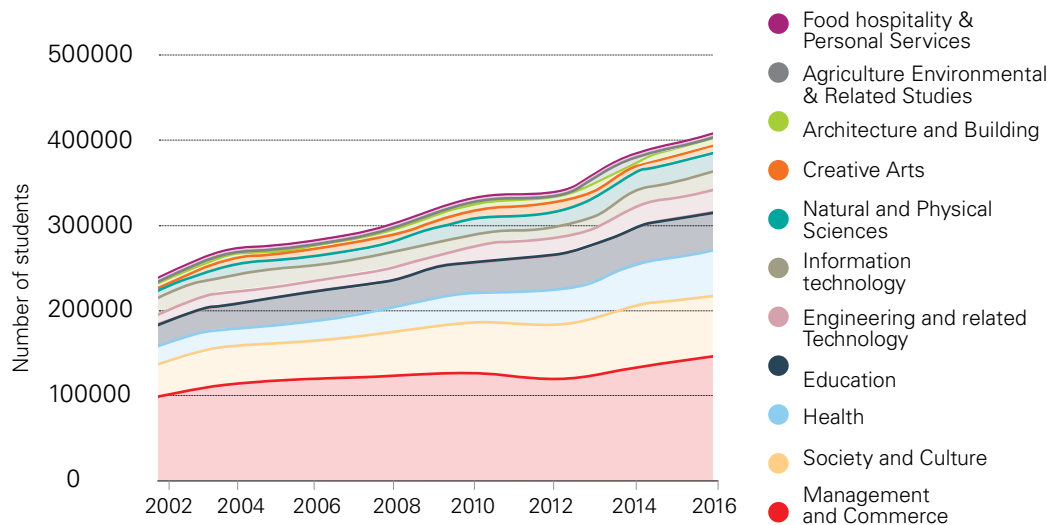


Masters degrees or higher and Grad Dip & Grad Cert



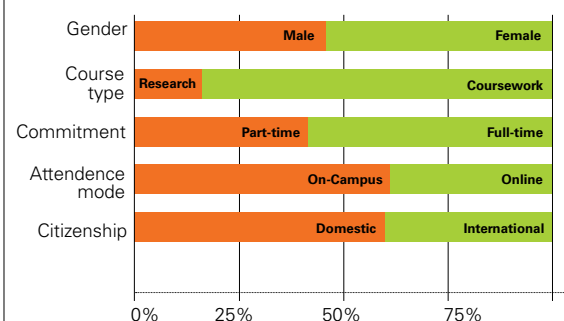
More than 1.3 million people have a postgraduate qualification (a graduate certificate, graduate diploma or higher), over double the number of ten years ago.

## And this is what they are studying

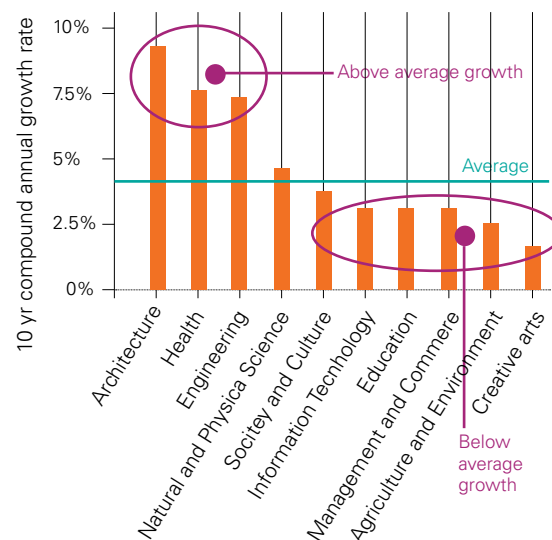


Postgraduate enrolments have grown at an average of 4.1% per annum for the last ten years.

## Here's what today's postgraduate students look like.



Some areas of study are growing faster compared to others



years to be really good at just that. Being M-shaped, however, is when you have multiple areas of expertise. Organisations are moving more to agile workforce models, which means people are employed on a project basis...what you do might shift depending on the need and the more cross-disciplinary and cross-functional expertise you can bring, the easier it is for an organisation to deploy you," Patrick says.

It's a theme echoed by other employers who are increasingly on the lookout for both those with deep technical know-how, and those with an intersection of skills, experiences and qualifications...meaning that the notion of individuals studying only in the early part of their career is becoming obsolete.

In other words, the learning never stops. With the pace and scale of change happening so rapidly in the world, there is healthy scepticism from industry and students about whether universities are up to the challenge of providing the learning needed, or if instead they are lagging behind.

In the face of rising competition from private education providers, enterprise-level training, as well as online content available for just about everything at the touch of a finger, universities can no longer rest on their laurels, confident they will always be the primary 'go-to' for further education.

It's not clear yet what the 'university of the future' will look like but while this is yet to be defined, change in the sector is already underway.

Universities are recalibrating their course offerings to cover topics that didn't even exist not too long ago. Master degrees in data science, innovation and cybersecurity for example are just some of the new course offerings available.

It's a reflection of what's happening in the non-academic realms of business, industry and science. There is more data available than ever before, and the best organisations are using technology to process data into meaningful insights from which decisions can be made.

For Professor Bernd Meyer from Monash University, "data science is arguably the most important trend in the tech industry." Indeed, the university was one of the first to offer a dedicated data science degree at both the graduate diploma

and master's level back in 2015 and 2016 respectively.

The university also has the largest data science research group in the southern hemisphere and is planning to introduce dedicated master's degrees in cybersecurity and artificial intelligence.

"The knowledge and skill profile of a data scientist is quite different from that of a traditional IT specialist. It overlaps with computer science, machine learning, statistics, and requires modelling skills that traditionally are the domain of physicists, so it really requires dedicated training. Such courses have only become available in the last few years," Professor Meyer said.

Not only are universities offering new specialisations but they are also encouraging stronger ties between faculties. Business schools are working with the IT and science faculties, and vice versa, to offer students the opportunity to learn and develop cross-disciplinary skills.

For universities, it's also time to rethink how to deliver content itself.

After all, the days of traditional lectures—one person presenting a powerpoint to a roomful of students—are fast disappearing. Students are increasingly encouraged to learn coursework online in their own time, leaving class-time (typically on-campus and in-person) focused on 'higher-order' learning activities such as teamwork, problem solving, communication and negotiation—the application of knowledge instead of its acquisition.

Associate professor Christine Burton is the associate dean of education at The University of Technology Sydney (UTS). She says that the traditional view of universities as the "fount of all knowledge" must change: "We are asking students to be 50/50 partners in acquiring that knowledge themselves...we are moving things that they need to know online. They do it on their own terms and in their own time, and come to class prepared...this is where the enriched learning occurs."

Ultimately however, the mix of online or face to face learning depends largely on the students. Postgraduates are far more likely to be juggling other commitments such as full-time work and family than their undergraduate counterparts. The need for a flexible learning environment is real.



Universities are recalibrating their courses to cover topics that didn't exist not long ago

As Burton explains, "We are really very conscious that most of our postgrad students are extremely time poor—the knowledge that they need has to be relevant and used tomorrow ... what we are trying to do is reduce the time that people spend on postgraduate education but not reduce the rigour or depth of what they learn."

In 2019 UTS will run its one-year Advanced MBA for the first time, a course designed to reflect the university's shifting approach.

Students will undertake three 'studios'—larger block subjects with more credit points than usual—where they will work on specific projects. Moreover, the studio curriculum is not locked in, which means instructors can customise content according to the cohort as they need.

It's a bet that the university is willing to make about how they believe students will want to study, and what industry is looking for.

After all, Burton stresses the university is keen to embrace digital disruption ("the dial has been turned. It's not going back") unlike other business schools, particularly those in the US and UK: "There's a certain complacency especially in some of the larger institutions—if we are a big business school and rank highly, then what's to change?"

For the university sector overall however, there is still more change to come with increasingly shorter programs, stackable units or 'micro-credentials', and greater collaboration with industry.

Despite all of this, whether universities are actually hitting the mark is still up for debate.

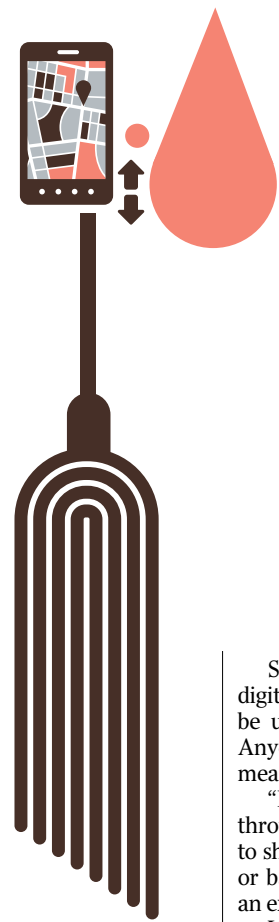
Deva Grant is the regional director of professional development of McKinsey and in her opinion, she's confident that universities are mostly getting the job done.

"From our point of view, we have a pretty intense induction...making sure that they [grads] understand McKinsey and how things get done around here. I don't see anything that I think gosh, universities should have taught you that. To be frank, we find the talent that we are looking for, so they must be doing something right."

Whether this will continue, however, remains to be seen.

# Universities break new ground

Universities don't just want to be educators. Now some are looking to be a trusted adviser to students, helping them put together a bespoke education package to suit their career goals.



Imagine you decide to go back to university but instead of selecting a degree from a list of established courses on offer, you're ushered in to speak with the university's academic concierge who helps you create your own unique education portfolio.

"Universities might become like education consultants, offering students advice – 'If you would like to strengthen your prospects in a particular area, then

this is the process we suggest' ... we [universities] have the expertise to suggest how courses align together and what happens with accreditation," says Dr Natalia Nikolova, who is from the University of Technology Sydney and director of its latest offering, the Advanced MBA.

Ephraim Patrick, a partner at global consultancy Mercer, likens this process to being at a 'gym': "You might say this uni is my gig because they have certain offerings that will help me build up my employment fitness, so I sign up to that 'gym' and go through their micro-credentialing program."

The concept is a radical departure from what we all know as university education but it's a world that's not too far away.

Universities are already modularising their content and offering it to students as 'micro-credentials', albeit primarily online.

Micro-credentials, known also as digital badging, emerged more than five years ago with the rise of Massive Open Online Courses (MOOCs).

MOOCs offered by the likes of Coursera, UdeMY and edX further democratised education, allowing users from all over the world, regardless of background, to study content from prestigious university partners such as Harvard and Stanford.

It was a move that some Australian universities

watched nervously but have now embraced to leverage students into their own programs.

In many ways, micro-credentials are simply a marketing tool, another channel to funnel students from a short course or 'teaser' to the university's higher qualifications.

Moreover, the partnerships between universities enabled through online platforms such as edX and Coursera mean that students can complete a micro-credential with one university but have it transferred and recognised as credit with another.

As Curtin University vice chancellor professor Deborah Terry AO explains: "You can envision someone who might be working at a big corporate and decides in their job that they need better understanding of digital marketing, so they start doing our micromasters in marketing, which is made up of five edX courses.

Once they complete the five courses, they have something to go to their employer with...but what's even more attractive is that I can get credit for these if I go back to Curtin and say I want to complete the full masters degree or with one of our partners."

The "cashing in" of micro-credentials towards master's programs means these can be completed in an accelerated mode and at a reduced cost.

Melbourne-based university RMIT launched a separate online business, RMIT Online, more than 18 months ago. Jack Hyland, who heads up strategy and product at the university's new company believes micro-credentials offer a more cost and time-effective means of study, and one that is more aligned with the digital world.

In March this year for example, RMIT Online launched an eight-week online course on blockchain technology, costing \$1,500 and developed in conjunction with fintech hub Stone and Chalk and consulting firm Accenture.

Students who completed the course received a digital credential from RMIT, a 'badge' that can be uploaded to their CV and LinkedIn accounts. Anyone can click on the credential to learn what it means and the capabilities it represents.

"People will be increasingly applying for jobs through digital means such as LinkedIn and will be able to show a digital portfolio of different qualifications or badges. The university brand in this space adds an extra layer of rigour and credibility," Hyland said.

While universities are playing with the concept of mixing and matching micro-credentials with other partners, they are still primarily used to funnel students into the university's more traditional programs.

The University of New England, however, is taking it one step further with the launch of its Bespoke Courses, which consist of 2, 3 or 4 units from UNE's postgraduate degrees. In its 'Mix and Match' Bespoke Course, students can combine units from any field or discipline into one certified package of learning.

Students also have access to a specialist academic adviser, who helps them to put together units that will meet their specific needs.

"We recognise that most of our students already know quite a lot about what they're learning. They've done previous study of some kind, professional development in their own line of work, learnt on the job, worked in the industry," pro vice chancellor of academic innovation, Professor Jonathan Powles explains.

"The concierge asks, 'Where do you want to be in five years? What is changing in your job? What skill set do you need to get there?' We then map out a series of learning opportunities to get the student that precise skill set."

However, employers have yet to jump on board with understanding—and appreciating—customised learning of this nature. The traditionally standardised degree helps employers benchmark students, which means bespoke learning will need some thoughtful consideration from employers about what they're actually looking for and how to identify the right person for the job.

It's not an insurmountable challenge, however, and as the demand for new skills and knowledge continues to grow, bespoke education may be just the thing to help individuals maintain a competitive edge.

# The new educators

There are more options than ever before for those who want to become lifelong learners. Some of them you probably haven't heard of.

**S**tudents looking for a bigger, and quicker, bang for their buck are beginning to look beyond universities, the traditional holders of postgraduate education. One such private provider is General Assembly, a US-based startup with 20 campuses globally and more than 40,000 graduates to date. Operational in Australia since 2012, General Assembly markets itself as an education provider for the 'modern economy,' offering full-time immersive programs in three disciplines: web development, user experience design, and data science, alongside other part-time courses and workshops.

It sees itself as direct competition to universities by offering shorter courses and a faster return on investment.

"For far too long, universities and colleges haven't been held to the high standards that they hold students to ... their expenses have increased but the relevancy of the skills they are teaching haven't," General Assembly's APAC senior regional director, S. Ryan Meyer says. General Assembly takes the employment outcomes of its students seriously, with all courses designed to provide a return on investment within 18 months. Each year, the organisation publishes its outcome data, which last year was audited by KPMG.

"We take a fiduciary responsibility for the time and money that a student spends with us, which is unique in the world of education. Last year 94 per cent of our immersive graduates that were seeking a job found a job within 180 days," Meyer said.

All courses are taught within a three-month time frame and by those with industry experience: "We try to avoid the 'ivory tower' syndrome. All our

instructors are industry practitioners, who often do a rotation with General Assembly and then go back to working in the field.

If you're talking about web development for example, the modern coding and open source languages change so quickly that studying them won't give you the same mastery as actually building in those languages and becoming proficient."

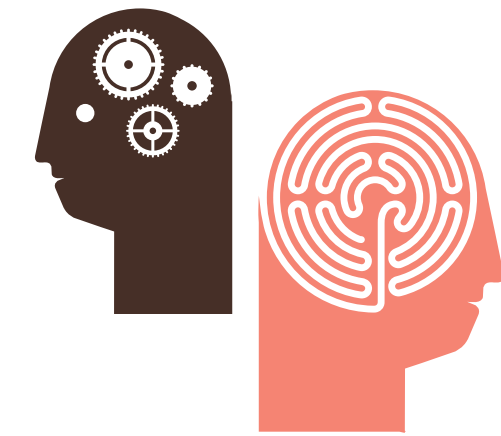
Nick Wailes, who heads up the Australian Graduate School of Management, believes that while individuals benefit from more choices with private educators, there is however a "fundamental difference" between the short courses offered by the likes of General Assembly and traditional degrees.

"What you learn at university is how to learn, how to take new information and critically analyse it. The technical information comes and goes, and today turns over more quickly. They [private educators] teach a skill for immediate application so that you can go work for example in SEO and slot in to a low value role in an organisation ... those short courses are valuable but they are not enough in itself," Wailes says.

It's a sentiment echoed by most universities who see private education providers at the postgraduate level offering immediate technical skill rather than preparing students for higher level leadership roles.

As University of Queensland's MBA director Tim Kastle says: "People often mistake education for acquiring information. It's not access to knowledge that you get when you go through education, it's building that ability to apply the knowledge. If I'm trying to judge, 'have we been effective as educators?', the answer is not do they [students] know more, it's are they more effective in their roles? I think that's a really important distinction."

Nonetheless, the impact of General Assembly is undeniable, so much so that it is now working directly with the likes of Walt Disney, Booz Allen, Capital One, BNP Paribas Cardiff and the



governments of both Singapore and Saudi Arabia to help plug the tech skills gap internally.

Called General Assembly digital academies, the organisation helps to train up employees by putting them through immersive programs such as web development. The organisation says it is currently in talks with Australian companies to do the same.

While training up your employees is nothing new, Big Four accounting firm EY is taking it one step further. In 2017, the organisation launched EY Badges, a program designed to upskill its workforce in 'future-focused' areas such as data visualisation, artificial intelligence, and information strategy.

Primarily delivered online, a digital badge is awarded upon completion of a course. The badges are hosted by a third-party digital platform, allowing employees to display their badges on social media channels. Information about the badge is accessible to all those that choose to click on it.

Badges are earned based on the same standards around the world, a nod to the increasing global mobility of the EY workforce and the need for a consistent and 'portable' benchmarking of skills. The upside is employees are more easily matched to projects internally based on verified skills.

EY claims its program is the first of its kind in the professional services world. And while it may not yet take the place of a postgraduate degree, it is interesting to see industry players step more closely into the role of educator.

For Deanna Raineri, it's a trend that's likely to continue. As the chief academic strategist at online education platform Coursera, Raineri is seeing more "proprietary" content being developed by 30 industry partners, alongside its more traditional offerings from its 150 partner universities.

Raineri says the content being developed by industry partners is "not what our university partners teach for the most part. They [industry] are providing content that we couldn't get otherwise but is very important for learners in the workplace."

She believes content can become outdated very quickly: "It is usually difficult for universities to stay on top of that—essentially they have to rewrite or redo their content every six months ... it is very difficult for them to meet that very rapid update cycle."

Whether it's industry players, private educators or universities offering further education, one thing's for certain—there are more options than ever before for those seeking to be lifelong learners.