



AUSTRALIAN MAJOR PERFORMING ARTS GROUP

**Inquiry into innovation and creativity: workforce for the new
economy**

House of Representatives Standing Committee on
Employment, Education and Training

Inquiry into matters that ensure Australia's tertiary education system—including universities and public and private providers of vocational education and training—can meet the needs of a future labour force focused on innovation and creativity.

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January 2017

WHO WE ARE

The Australian Major Performing Arts Group, or AMPAG, is the umbrella group for Australia's major performing arts companies (MPAs) who inspire millions through theatre, circus, contemporary dance, classical ballet, classical music, opera, musicals and comedy. See Appendix 1 for the full list of member companies.

The MPAs are Australia's iconic cultural institutions for performance who:

- deliver creative inspiration, nurturing and empowering communities, art forms and artists
- drive R&D with diversity of content and commissioning of major new works
- expand our nation's reputation across the performing arts
- provide substantial and stable employment across artistic and creative disciplines.

Attendance: In 2015, 4.1 million Australians attended a performance, school activity or workshop by an MPA company.

Employment: The MPAs employed more than 10,900 people in 2015—including 6,800 artists and creatives. This represents around 25 per cent of performing arts employment in Australia.

Income: In 2015 MPA companies had a turnover of \$504 million, of which 66 per cent was from non-government sources.

Introduction

While it is an undisputable fact that the arts attract the country's most creative people to develop works that inspire, challenge and expand our understanding of ourselves, the arts have been siloed from the country's innovation and creativity framework. This means Australia is not reaping the full benefits of a workforce that is both highly creative and inventive.

There is a fundamental intuitive connection between the need for Australia's labour force to be focused on innovation and creativity and the fact that the arts' raw resource is creativity and innovation. But, strangely, this obvious correlation has been missing at government policy levels.

Successfully transitioning to an innovation economy requires a shift in Australia's policy settings to centralise the role and impact of the arts in developing creative, innovative, connected and flexible individuals that together form our workforce.

We know the arts are a source of creativity, that its workforce is passionate, generous and driven, and that artists' work practices are demanding and disciplined. What a workforce trained in creativity brings to a workplace (whether artistic or in traditional employment sectors) is a unique, exploratory perspective, practised in testing ideas and finding solutions. The value and prestige of arts and humanities courses within the tertiary sector is falling, and the government leadership and public discourse on the arts—and the social and economic value and potential of the broader creative industries—is missing. Without that leadership, the value of an arts education will continue to be undermined, ultimately leading to a more conservative and less innovative workforce.

Ian Narev, Chief Executive of Commonwealth Bank of Australia, in a recent interview warned Australians 'against being entranced by the siren song of technology at the expense of human-centred strengths, like creativity and imagination as true drivers of innovation'.

In fact I worry, if anything, that too much has focused on the need to develop more people who can code. They are a critical resource but let's not kid ourselves, we are still human beings and we're still broader than just the skills that we need to code.

Because actually, as an employer and as a member of the community, the skill we most need to foster is creativity.¹

This submission considers various issues that dominate the debate and the extent to which they can fuel or impede future workforce creative and innovative practices:

1. It examines the skills required by both individual workers and organisations to generate success for creative and innovative workplaces.
2. It considers both the artistic skills learnt through collaboration with the arts as well as arts-trained students' capacity to offer new ways of generating creativity and innovation in the broader economy.
3. It proposes ways in which closer engagement in arts practice, cross pollination of student skills and collaboration can build a more creative and innovative workforce.
4. The quality of secondary students entering tertiary institutions affects tertiary outcomes. In this submission we look at the long-established knowledge that learning through the arts at school can lift student results. The siloing of arts in Australia compared to its competitors who are adopting a STEAM (science, technology, engineering, arts and mathematics, as opposed to STEM) approach to education and innovative frameworks is limiting our potential.
5. We believe the value of the arts to generate secondary economic activity and contribute to communities' wellbeing should inform, and confirm, the value of arts-based tertiary education. The impact arts engagement has on an individual, the community and our international standing is significant.
6. We touch on how other nations are seeking to build pathways to stimulate innovation and creativity in their own workforces. Therefore, countries that are also able to position their workforce as highly creative and innovative will be better placed to attract capital investment, business partnerships and country-to-country cooperation and collaboration. Cultural diplomacy and Australia's

¹ Ian Narev, Chief Executive Commonwealth Bank of Australia and Chair of Sydney Theatre Company
<http://www.australianbankingfinance.com/technology/narev-calls-for-creatives-and-not-just-coders/>

international creative brand will influence the extent that such opportunities can be leveraged.

Recommendations

In considering how we best ensure the 21st century workforce's creativity and capacity to innovate is maximised and the barriers or road blocks are addressed, we make the following recommendations:

1. The Australian Government's Innovation agenda should move from a STEM approach to STEAM (A for Arts) recognising that siloing of arts and creativity limits the crossover of artists' skill sets and innovative approaches across academic learning and into traditional employment sectors and industries.
2. The Australian Government should play a leadership role in encouraging the community to value and engage with the arts in education at all levels. Encouraging active participation and exposure to new ideas and insights thought the arts can also challenge and inspire new thinking in our workforce.
3. The primary and high school curriculum should move to a STEAM-based approach to optimise academic results and higher order thinking, collaborative work practices and social skills.
4. School teachers should be empowered to deliver the Arts Curriculum through affordable ongoing professional learning in the arts accompanied by professional recognition of the value of superior arts-based teaching skills.
5. Pre-service teachers need adequate training to ensure they can effectively implement a world class Arts Curriculum and use a successful STEAM approach to whole-of-curriculum delivery.
6. A STEAM approach to tertiary education should build cross-disciplinary networks and opportunities on campus and through work placements during study.
7. Governments around the country should encourage greater diversity in skill sets in incubators including building opportunities for arts students and workers to develop capacity to work and contribute in these environments.

8. Recognising that artists are highly trained, yet often have portfolio careers, also means they are underutilized. In partnership with tertiary incubators or other programs with industry links, governments should develop pathways to connect artists to businesses seeking to increase their creative and innovative capacity.
9. The arts is a sector that employs professional creative individuals and relies on tertiary training to develop creative skills sets. Without clear policy on the value and role of the arts, access to tertiary arts courses can be precarious, as seen in the recent announcement of regulations for the VET Student loans to exclude all performing arts performing courses. This can be addressed in part through government development of a STEAM agenda.
10. Government support of vocational training through VET student loan scheme should reinstate performing arts performance courses onto the eligibility list, recognising the performing arts industry needs highly developed craft skills.
11. In addition government should fully consider requests from performing arts performance vocational course providers with strong industry connections to lift the loan caps, given the relatively niche area these training courses address, characterised by small class sizes and high levels of face-to-face teaching.
12. Government should consider how the role of the Chief Scientist could be complemented with the creation of Chief Social Scientist to ensure a holistic STEAM ecosystem in which public policy is developed.

An international perspective on innovation

Countries such as China, Wales, France, South Korea and the United States of America all recognise the importance of creativity and innovation, and that it is these skills that will help their citizens become competitive in a global market. According to US consultant and arts philanthropist Harvey P. White, the United States, Korea and China have begun producing STEAM curricula (White, 2010).

The future of the US economy rests on its ability to be a leader in the innovation that will be essential in creating the new industries and jobs that will be the heart of our new economy. Where the US has historically ranked 1st in innovation it now ranks between 3rd and 8th depending on the survey. We have taken steps to reverse this slide by embracing and funding the much needed improvements in STEM (Science, Technology, Engineering and Math) education.

STEM is based on skills generally using the left half of the brain and thus is logic driven. Much research and data shows that activities like Arts, which uses the right side of the brain supports and fosters creativity, which is essential to innovation.

Clearly the combination of superior STEM education combined with Arts education (STEAM) should provide us with the education system that offers us the best chance for regaining the innovation leadership essential to the new economy.

The competitors for that leadership, such as China and many other countries in Asia and Europe, include vigorous Arts curriculum as a national priority in their public school systems and we must do the same.

... Arts are not just a “nice” thing to have in the education systems—but rather they are an essential national priority to the future of the US in this rapidly changing global economy. Without that priority the US will slide farther down the list of economies.

STEM education is necessary but it is not sufficient—we must have STEAM education—our future is at risk otherwise.²

A recent UK report for NESTA found compelling evidence to suggest that firms combining arts and science skills are more likely to grow in the future, are more productive, and are more likely to produce radical innovations. This supports the hypothesis that the impact of arts skills in the UK economy extends beyond the creative industries.³

firms combining arts and science skills, other things being equal, outperform those firms that utilise only arts skills or science skills:

² <http://steam-notstem.com/about/>

³ THE FUSION EFFECT: The economic returns to combining arts and science skills. A report for NESTA. Dr Josh Siepel, (SPRU, University of Sussex), Dr Roberto Camerani (SPRU, University of Sussex), Dr Gabriele Pellegrino (SPRU, University of Sussex), Dr Monica Masucci (Dept of Business and Management, University of Sussex)

- They show 6 per cent higher employment growth and 8 per cent higher sales growth than other firms.
- They are 3 per cent more likely to bring radical innovations to market.
- They are 10 per cent more productive than the average firm. These positive effects hold across the entire economy, and are particularly strong for smaller firms.
- There is evidence that the broader the set of skills a firm uses, the higher its level of innovative performance and future growth.'

A randomised controlled trial in Denmark in 2013⁴ investigated creativity training for business students to determine if such training could build divergent thinking. The study was based on neurological measures and provided evidence that creative training was not only possible but also effective. Following the logic of this one example, if creative training is effective in the workplace, then harnessing the creative capital of arts makers and producers presents obvious investment opportunities.

In 2013 an Italian report on fostering innovation through collaboration between cultural and creative industries (CCI) and traditional business sectors highlighted opportunities for greater economic success.⁵

People working in cultural, artistic, creative industries tend to have a well-developed understanding of the importance of signs, symbols, emotions and aesthetic features. They are familiar and directly engaged in shaping and managing experiences, emotions and energy. Thus they can be a great source of inspiration for businesses interested in deploying and exploiting such soft value drivers.⁶

The report goes on to say CCIs can represent a source and resource of critical and creative thinking as well as a set of processes to be deployed in order to foster and support innovation. In this view, the collaboration between CCI and traditional businesses can represent a strategic and operational approach to develop cross-innovations, enhancing organizational value creation capacity.

It is more and more important to consider non-conventional collaborations, methods, approaches and initiatives to release and apply creativity in order to facilitate and develop organisational innovation capacity.

⁴ Onarheim, Balder & Friis-Olivarius, Morten, 'Applying the neuroscience of creativity to creativity training', *Frontiers in Human Neuroscience*, October 2013.

⁵ Fostering innovation through collaboration between cultural and creative industries and traditional business sectors- Report for the project Creative capital Conference 2013 Giovanni Schiuma and Antonio Lerro p6 <http://creative2c.info/wp-content/uploads/2014/02/Schiuma-and-Lerro-2013.-Fostering-innovation-through-collaboration-between-CCI-and-traditional-business-sectors1.pdf>

⁶ Fostering innovation through collaboration between cultural and creative industries and traditional business sectors- Report for the project Creative capital Conference p7

Australia's approach to innovation

The Australian Government's approach to innovation is problematic. While the Global Innovation index 2015 reveals Australia is in 10th position in regards to inputs (research, business sophistication, human capital, infrastructure), it is ranked 24th in output (knowledge and technology creativity) which highlights the significant inadequacies in our current approach.

Need demands a change in Australia's approach

It is simply not innovative enough to pursue the collaboration pathways between, for example, science and mathematics research and industry to prepare ourselves for tomorrow. The National Innovation and Science Agenda focuses on science, research and innovation as a key long-term driver of economic prosperity and growth for our nation.⁷ But more is needed in the longer term—future innovation requires mixed skills.

The Australian Council of Learned Academies (ACOLA) report released in June this year warns⁸

Innovation is not just based on research, science or technology, or even on entrepreneurial skills. Managerial and marketing skills, organisational, social, economic and administrative knowledge, and intellectual and creative capacity are also required to successfully translate new opportunities, ideas and discoveries into innovation.

The report studies how capabilities based on STEM and HASS (humanities, arts and social sciences) interact in high performing Australian enterprises in the context of the innovation challenges.

The report concludes:

- Australia's focus on science and technology skill inputs is not sufficient to address Australia's shortcomings in innovation.
- Success in an Australian context has been found in organisations, both profit and not-for-profit, that employ a mixed skills set.
- Future teams tackling innovation challenges should adopt an holistic approach to innovation.

⁷ <https://www.industry.gov.au/Innovation-and-Science-Australia/Pages/default.aspx>

⁸ 'Skills and capabilities for Australian enterprise innovation', ACOLA June 2016, p4

So too the Australian Government's policy development must adapt to draw on this widespread and repeated advice and help coordinate the take-up of this approach nationally if it is to maximise future jobs and growth through innovation.

We understand the first iteration of the Coalition's innovation agenda primarily addressed science and technology innovation. The Australian Government's *Securing Australia's Future* has set a course of research and analysis to help shape a prosperous future for Australia's economy and related workforce. Its aim is to develop a creative, innovative, adaptable workforce that values the pursuit of knowledge across all domains. However, the discourse and the research initiatives supported to date have focused most heavily on STEM skills and enterprise incubators with a complete deficit in social sciences and consideration of the arts.

The current STEM innovation framework, which also guides tertiary study priorities, not only creates a hierarchical value of attained skills (which inhibits innovative thinking), but is an inadequate response to the role and value of our current and future creative cohort. The current STEM policy position silos people who enter tertiary studies to pursue creativity in the form of arts and social sciences and in doing so undermines creative and innovative skills and networks in our future workforce.

As Live Performance Australia has stated in its letter to the inquiry:

The 'STEM to STEAM' movement is advancing globally as educators and business leaders are becoming increasingly aware that creative thinking leads to innovation. Recent studies⁹ show education in the arts stimulates innovative creative thinking which is crucial to creating a 21st century skilled workforce that will drive a thriving economy in future.

At an arts education conference earlier this year, the Minister for the Arts himself advocated for supporting a creative education and innovation agenda, stating that:

If we want to have a real culture of innovation then we need to have creativity at the heart of that agenda and what we need to do is to put an A into STEM. We need to

⁹ For example, refer to Deasy, R. (2002). *Critical Links: Learning in the Arts and Student Academic and Social Development*. <<http://www.gpo.gov/fdsys/pkg/ERIC-ED466413/pdf/ERIC-ED466413.pdf>>; Fiske, E. (1999). *Champions of Change, the Impact of the Arts on Learning*. <<http://artsedge.kennedy-center.org/champions/pdfs/ChampsReport.pdf>>; Ewing, R. (2010). The Arts and Australian Education: Realising Potential. *Australian Education Review*; no.58. Australian Council for Educational Research. <<http://research.acer.edu.au/cgi/viewcontent.cgi?article=1020&context=aer>>; LaMore, R et al. (23 Oct 2013). A young Picasso or Beethoven could be the next Edison. *MSU Today*. Michigan State University: Michigan. <<http://msutoday.msu.edu/news/2013/a-young-picasso-or-beethoven-could-be-the-next-edison/>>.

start talking about STEAM. Science, Technology, Education [sic], the Arts and Mathematics. Because if we want to have a culture of innovation, a culture of creativity feeds directly into that.¹⁰

In considering the tertiary settings and barriers to equip our future workforce, a linear mapping of study to occupation that deems arts and cultural studies as purely personal endeavour or increasingly separate to the economic and STEM agenda will not serve either the individual or our workforce well.

Successful innovation into the future depends on core components of the Australian Innovation system, business, and education and government policy to look beyond a STEM approach. Additional skills, outside these disciplines are needed.¹¹

The role of the arts in building creative communities and labour force

There is strong evidence that participation and engagement in the arts is good for the social cohesiveness of a community and the general wellbeing of people.

The Australia Council's *Arts in Daily Life* tells us that people care about the arts:

- 85 per cent of people agree that the arts make for a richer and more meaningful life
- 90 per cent agree that 'people can enjoy both the arts and sport' and that 'artists make an important contribution to Australian society'
- 89 per cent agree that the arts should be an important part of the education of every Australian.

New measurements in wellbeing show that the arts may be worth \$66 billion to Australia's wellbeing.¹² This is on top of their economic value.

Arts helps activate and build vibrancy in communities and can stimulate opportunities for growing tourism and associated economic activity.

A 2013 report from the UK's Local Government Association identified five key ways that arts and culture can boost local economies:¹³

- attracting visitors
- creating jobs and developing skills
- attracting and retaining businesses

¹⁰ http://www.minister.communications.gov.au/mitch_fifield/speeches/opening_address_to_the_national_visual_art_education_conference_national_gallery_of_australia,_canberra#.WIVTiBt95PY

¹¹ Skills and capabilities for Australian enterprise innovation ACOLA June 2016, p8

¹² Australia Council's 2013 *Arts Participation Survey*, Daniel Fujiwara and Rachel Smithies

¹³ UK Local Government Association, *Driving growth through local government investment in the arts*, March 2013

- revitalising places
- developing talent.

A study published in October 2015 by the European Commission on the spillover effects of the arts, culture and creative industries evaluated surveys, analyses, case studies, literature reviews etc.¹⁴ These findings are relevant to all areas of cultural activity.

Knowledge spillovers	Industry spillovers	Network spillovers
Stimulating creativity and encouraging potential	Improved business culture and boosting entrepreneurship	Building social cohesion, community development and integration
Increasing visibility, tolerance and exchange between communities	Impacts on residential and commercial property markets	Improving health and wellbeing
Changing attitudes in participation and openness to the arts	Stimulating private and foreign investment	Creating and attractive ecosystem and creative milieu, city branding and place making
Increase in employability and skills development in society	Improving productivity, profitability and competitiveness	Stimulating urban development, regeneration and infrastructure
Strengthening cross-border and cross-sector collaborations	Boosting innovation and digital technology	Boosting economic impact or clusters
Testing new forms of organisation and new management structures		
Facilitating knowledge exchange and culture-led innovation		

The arts build value from ideas and human capital, nurture prized skills in people engagement, promote problem solving, work with ambiguity and uncertainty and encourage collaboration to approach problems differently.

The impact of a siloed arts sector

The role of arts engagement and practice should not be marginalised as an optional extra once the hard work has been done. The arts, learning through the arts and valuing artistic processes and practices are essential in the pursuit of creativity and innovation advantage in our 21st century workforce.

¹⁴ Tom Fleming Creative Consultancy, *Cultural and creative spillovers in Europe: Report on a preliminary evidence review*, October 2015

Factors that relegate the arts to a position as a marginal or inconsequential player in the creative labour force include:

- the lack of public policy direction and recognition of the role of arts
- the lack of recognition of the valuable skills learnt in arts training (*) and
- the discounting of the professional skills and capacity of the arts sector.

*(*An example of this devaluing is clearly evident in the high school final assessments: state education approaches scale marks in advanced science and maths up while students gaining high marks in performing arts including drama and music are systematically scaled down.)*

This discourages closer partnerships between industry and arts workers who by their nature are often independent or part of relatively small and medium-sized organisations. Leadership is needed to change attitudes and structures.

The next step is to support, in real terms (both fiscal and policy), the generation of creative economic opportunities and risk taking, underpinned by the innovation framework 'version 2' that incorporates the arts and is backed by the innovation committee and senior elected government leadership.

Diversity in its various forms including skills diversity is critical in all innovative organisations. The need for skills diversity is the realisation that much innovation happens at the intersection of different disciplines and ways of thinking about a problem.¹⁵

The arts and cultural sector—industries for the 21st century

- The national cultural sector contributes \$50 billion to Australia's GDP, a similar share of GDP to the USA and Canada, with over \$4.2 billion coming from the arts.¹⁶
- The cultural and creative industries employed 531,000 people.¹⁷
- In 2014 the ABS published its first experimental measures of the economic contribution of the cultural and creative industries and found it contributed \$86 billion (6.9%) to Australia Gross Domestic Product on the national accounts 2008–09 and 5.6% to Australia's Gross Value added with almost 1 million people employed.

¹⁵ Skills and capabilities for Australian enterprise innovation, ACOLA, June 2016, p7

¹⁶ Arts Nation—An Overview of Australian Arts, Australia Council for the Arts, March 2015

¹⁷ Arts Nation—An Overview of Australian Arts, Australia Council for the Arts, March 2015

- It represented 5.3 per cent of the national workforce in 2011.¹⁸ Employment in these industries grew at 2.8 per cent a year from 2006 to 2011, 40 per cent faster than the economy as a whole.
- NSW Creative Industries *Industry Action Plan*¹⁹ identifies the growth potential of performing arts services to China.
- IBISWorld's Industry Report, 'Music and Theatre Productions in Australia', describes the sector as growing in terms of revenue, attendance, ticketing prices and employment. It notes steady ticket sales and stable demand.
- Live Performance Australia's 2014 Ticket Attendance and Revenue Survey shows sector revenue of \$1.51 billion, up 2% on 2013 (\$1.48 billion).

Arts companies embrace the very characteristics sought in a 21st century economy. They are agile and innovative, operating in a very competitive and changeable environment. Training to work in the arts fosters very similar characteristics.

The creative sector is a major player in the economy—it generates secondary economic activity, it provides employment, and the skills developed in this sector have the capacity to influence the creative innovative culture of other business.

Arts sector training

The sector relies on tertiary training and an ongoing replenishment of the workforce talent pool. Graduate and vocational training courses in the performing arts will not lead to the total cohort of graduating students becoming elite performers, just as not all science graduates become research scientists. These courses also attract and nurture students with creative aptitude, some of whom will then progress into aligned jobs in the creative industries and creative jobs in the broader sector.

The VET Student Loans eligibility list of courses in its current form (19 December 2016) is too narrow and utilitarian. Legitimate, valuable arts-based programs are no longer accessible to talented students who have no private means to

¹⁸ ARC Centre of Excellence for Creative Industries and Innovation, 2013, Australian Creative Economy Report Card 2013, <http://www.cci.edu.au>, (accessed 10.07.2013). See Chapter 2 for differing definitions of the scope of these industries.

¹⁹ http://www.industry.nsw.gov.au/__data/assets/pdf_file/0019/55234/iap_nsw_creative_industries.pdf

pay for the course upfront. This penalises the development of artistic talent in Australia and is likely to reduce the cultural diversity of students graduating and seeking work in the sector.

Government support of vocational training through the VET student loan scheme should reinstate performing arts courses, recognising the performing arts industry's need for highly developed professional skills.

In addition, given the relatively niche area of vocational performing arts training courses with strong industry connections, characterised by small class sizes and high levels of face-to-face teaching, the loan caps should be lifted.

This is a matter relating to laws and regulations that act as a barrier to education providers being able to offer qualifications that meet the needs of the arts sector.

The arts will continue to be a force in the new economy. Not only is arts training critical in and of itself as essential for a vibrant arts industry, but also in stimulating creative ideas and engagement across our community.

Incorporating creative and innovation skills in a 21st century workforce

Queensland University of Technology Distinguished Professor Stuart Cunningham, Australia's leading media industry academic, said in August 2016:

Economics strategist Andrew Charlton²⁰ from AlphaBeta has been collecting online statistics and was recently quoted on his analysis of 4.2 million job advertisements in the past three years. He found a 212 per cent increase in jobs demanding digital literacy, a 158 per cent rise in jobs demanding critical thinking and a 65 per cent rise in jobs demanding creativity. Many unskilled and repetitive jobs are under threat, as are some in the engineering, accountancy and science disciplines. However jobs that require the human touch – creative and emotional intelligence – are much less vulnerable. Being so resilient in the face of automation they will be the jobs that will grow over the next 20-plus years.²¹

A 2013 Oxford University study by Frey and Osborne, *The Future of Employment: How susceptible are jobs to computerisation?*, examined 702 occupations and found that 47 per cent of employment is at risk. They conclude by stating that

²⁰ Director Alpha Beta Advisors, Masters and Doctorate in Economics from Oxford University, Rhodes Scholar.

²¹ <https://www.qut.edu.au/creative-industries/about/news/news?news-id=108517>

... as technology races ahead, low-skill workers will reallocate to tasks that are non-susceptible to computerisation—i.e., tasks requiring creative and social intelligence. For workers to win the race, however, they will have to acquire creative and social skills (2013, p. 45).²²

A UK research report on how innovation is driven in an economy, prepared for the National Endowment for Science, Technology and the Arts (NESTA)²³, concluded that there are three main ways in which artistic labour is linked into innovation:

1. They have attitudes and skills that are conducive to innovation:
 - Many fine arts graduates describe themselves as brokers across disciplines.
 - They demonstrate the traits of lifelong learners, including frequent use of informal and formal training throughout their working lives.
2. Artistic labour impacts on innovation in the way that it is organised—project work and portfolio working are the norm:
 - There are very high rates of multi-jobbing in cultural and non-cultural sectors.
 - Crossover takes place throughout artists' working lives, and policies to support the wider innovation benefits of the fine arts must recognise the complex mechanisms by which crossover takes place.
3. Artistic labour impacts on innovation through the widespread 'culturalisation' of activities:
 - Instead of focusing on 'work in the rest of the economy' as being the way in which fine arts graduates are linked into innovation.

The report recommends that policies to support the benefits that artists bring to innovation in the wider economy need to recognise these different understandings of culture and creativity, the multi-dimensional nature of crossover and the distinct mechanisms through which artists contribute to innovation.

This input is not measured as a recognised skills pathway in post-graduate employment studies and can lead to policy positions that ignore how these skills, developed through arts and social sciences, contribute to the workforce capabilities.

Tertiary graduates across disciplines

²² http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

²³ The art of innovation -How fine arts graduates contribute to innovation, NESTA, 2008

The analysis of two international databases of tertiary education professionals (Reflex and Hegesco) by Avvisati, Jacotin and Vincent-Lancrin (2013) shows that arts graduates are among the most likely to have a highly innovative job five years after graduation.

Fifty-four per cent of arts graduates have a highly innovative job dealing with some type of innovation. They rank second for product innovation, and they come fifth and seventh for innovation of technology and innovation of knowledge.²⁴

This study also suggested that study in the arts 'develop a bundle of skills that matter for innovation'.²⁵

This inquiry is considering the skills required to equip the 21st century workforce by ensuring members within it are both innovative and creative. In the future, regardless of the academic stream studied, success will require the core skills of innovative and creative thinking and practice. The capacity to work across other sectors and organisations is a move to an ecology of innovation.

The arts sector understands itself as an ecology. It relies on a pool of creative workers who often live 'portfolio' careers which from traditional analysis may be seen as 'under employment', yet the sector relies on this large pool of talent and expertise to mix and match the combination of skills as initiatives require. These creative skills could well represent a new resource for further collaboration and exploration outside direct arts practice but within the broader innovation creative agenda. It is the cognitive efforts that underpin the processes of creating new artwork that offer possibilities for other sectors to utilise and collaborate.

In a Senate Inquiry into the VET-student loan scheme, Mrs Sandra Ball, General Manager of The Australian Ballet School, has stated that its alumni are studying or working in fields such as physiotherapy, Pilates, education, exercise science, arts management, psychology, information technology, design, communications, human resources and recruitment, aviation and, of course, the dance industry. 'The courses we deliver ... improve the skills, employability and work readiness of Australians and should be reinstated onto the list for VET student loans delivered by quality providers.'

²⁴ *Art for Art's Sake? The Impact of Arts Education*, Winner Ellen, Goldstein Thalia R, Vincent-Lancrin Stéphan 2013, p17

²⁵ Winner 2013, p18

Defining the pathways: developing ways for arts skills to cross over into other industries

While there is capacity for trained artists' creative skills to transfer and actively contribute value into other industries, the pathways are not well defined.

Major performing arts dance companies, as a part of their employer duty of care, are developing individual transition programs for their dancers but there is more work to be done. The strategic synergies that can exist between the broader economy's workforce to address a drive for greater innovation and creativity and arts workers are yet to be fully explored. Building relationships across sectors and challenging siloed thinking should be encouraged in this area.

There is also a need for students enrolled in creative courses to be better equipped to understand the precariousness of employment, particularly in the early stages of career. Bridgstock & Cunningham 2016 argue that

the contemporary nature, scope and growth potential of 'creative careers' should be integrated into school and university curricula, and that education and curriculum to bring arts, design, technology and computer science together to better prepare the creative workforce for future careers which thoroughly mix and match these disciplinary knowledges.²⁶

This is not to replace the vital time and effort required to develop arts-focused craft skills and specialist knowledge. Specialisation is vital for the elite performers, writers and directors as well as arts workers who seek to offer their specialised skills in a collaborative environment.

Bangarra has stated it needs access to the best and most relevant skills available, 'either through recruitment of graduates or re-investing in the capabilities of current employees will be needed to support the sustainability and forward strategy of our work'.

Re-focussing current education and training to reflect future workplace is part of addressing that need, however just as critical is re-investment of already gained knowledge and valuable professional experience, especially where there is a focus on engagement with and for Aboriginal and Torres Strait Islanders.

²⁶ Creative labour and graduate outcomes: implications for higher education and cultural policy Ruth Bridgstock & Stuart Cunningham (2016) International Journal of Cultural Policy 22;1 10-26

Optimising tertiary graduates' creative and innovative skills requires optimising creativity within schools

The major performing art companies reach over half a million school children each year through their arts education programs and are increasingly involved in developing school teacher arts education skills. The majority of this work is funded through other sources of income including philanthropy.

It is widely documented in the US, Canada, the UK, Europe and Australia, that students whose learning is embedded in the arts achieve better grades and overall test scores, are less likely to leave school early, rarely report boredom, and have a more positive self-concept than students who are deprived of arts experiences. (*The Arts and Australian Education: Realising potential*, Robyn Ewing). These benefits have been known for a long time.

If we want to truly foster breakthrough innovation and creativity we must value and foster it in all stages of education.

A new Australian study²⁷ based on 643 elementary and high school students from 15 schools conducted over two academic years showed school predictors of academic and non-academic outcomes were arts engagement and in-school arts participation. It was one of the largest studies into the role of the arts on student outcomes ever conducted.

Historically the arts have been pushed to the side in education when other things crowd in—that is, when literacy and numeracy agendas become more important. But what this research shows, according to Associate Professor Michael Anderson from the University of Sydney, is that the arts

should be at the centre of the curriculum because it has benefits across all areas of learning ... My advice to schools would be to consider putting arts at the centre of the school experience and not at the periphery—and to think about how the arts can be strengthened in schools using what's available through the Australian Curriculum.

The arts offers skills development through study itself and as a vehicle to maximise high level engagement in children to study other disciplines as well as to contextualise and apply these learning in new ways.

²⁷ 1 The role of arts participation in students' academic and non-academic outcomes: A longitudinal study of school, home, and community factors. Martin, Andrew J.; Mansour, Marianne; Anderson, Michael; Gibson, Robyn; Liem, Gregory A. D.; Sudmalis, David,

A 2002 study, *Critical Links: Learning in the Arts and Student Academic and Social Achievement* (Richard Deasy), analysed 62 earlier research studies that explored the relationship between the cognitive capacities developed through learning and communicating in dance, drama, music and the visual arts, and students' academic and social skills. Its major findings on the positive effects derived by those involved in arts-rich education programs included:

- positive achievements in reading, language and mathematics development
- evidence of increased higher order thinking skills and capacities
- evidence of increased motivation to learn
- improvements in effective social behaviours.

In 2016 Professor Michael Anderson made a case for STEAM in his keynote address at the Australian Curriculum Studies Association symposium, stating:

1. The arts provide context, depth, matter and method when integrated within STEM learning.
2. The arts and STEM are not indistinct. Skills core to the arts such as design, discipline, creativity, improvisation, innovation are all necessary in STEM.
3. The arts are critical to the development of the 4Cs which underscore all 21st Century learning being Creativity, Communication, Critical Reflection and Collaboration.

While STEAM research is relatively new, Peter Taylor (Professor of STEAM Education and Director of the Transformative Education Research Centre (TERC) in the School of Education at Murdoch University) asserts that

... early research studies on ground-breaking STEAM curricula in the US have demonstrated that learning activities integrating science, technology and the arts successfully engage minority and disadvantaged students, resulting in improved literacy and numeracy competencies (Clark, 2014; Stoelinga, Silk, Reddy & Rahman, 2015).

Primary and secondary education should be delivered through a STEAM approach with engagement in the arts recognised for the social and cognitive skills it provides, the foundation provided for the acquisition of tertiary learning skills and the relevance for the future workforce.

Tertiary teacher training—creative upskilling

It would be an understatement to say that the content of current tertiary teaching in education degrees does not place a priority on arts practice. Currently Australian tertiary institutions spend anything from 0 to 54 hours (average of 17 hours in total) in arts training over the course of the degree—and even less for post-graduate courses with an average of 10 hours of music education. This is in stark contrast to Finland which builds 270 hours of music education into its teaching degrees and Korea with 160 hours. Both countries surpassed Australia on the OECD's Program for International Student Assessment rankings.

Some MPAs are doing it for themselves: for example, the Sydney Symphony Orchestra's TunED-Up! was launched in 2014 to address a crisis in music education, with music not taught in 60 per cent of primary schools in NSW despite being a mandatory subject. The aim of the program is to address the unmet need for primary school teachers to teach music with confidence and consistency, aligned with the national curriculum. According to the SSO:

A recent evaluation of TunED-Up! found there is a higher rate of Indigenous student enrolments at the participating schools than at NSW schools in general (11% vs 9%).

Participants are overwhelmingly positive about the program, rating its impact on their professional skills as 4.4 out of 5, and its impact on their professional development as 4.5 out of 5.

Some universities are building STEAM learning opportunities for optional pre-professional teachers and for professional development through their careers but a significant gap remains.

Mapping arts interconnections and impact across the economy

The arts are fundamental to our society. They play a valuable role in diplomacy and trade, tourism, education, health and business. They are a vital part of Australia's economy though remain often under-recognised and inappropriately seen as simply 'entertainment' or a lifestyle choice. Yet it is clear we need to value them across industry divides to ensure our workforce in all disciplines works better, strategically and with ongoing innovative approaches. For example:

Tourism

Tourism—an industry in which the arts take centre stage—is one of the fastest growing sectors. It grew three times faster than the Australian economy over

the year to June 2016, according to the August edition of the Deloitte Tourism and Hotel Market Outlook.

This performance has prompted Deloitte Access Economics to further upgrade its forecast for international tourism, with arrivals forecast to grow at 6.2 per cent per annum (up from 5.4 per cent in February) on average over the next three years.

The Tourism Research Report tell us that international tourism in 2016 attracted increased expenditure in a range of activities including holiday visitors up 16 per cent, nights up 12 per cent and spend up 21 per cent with their spending generated through visits to festivals and cultural events increasing by 16 per cent.²⁸

Foreign investment

Australia is undergoing profound challenges to social cohesion both in relationships here and internationally. It is in Australia's best interests to optimise our workforce, making it and the organisations it supports stable, dynamic and attractive to foreign investment and collaboration.

Cultural diplomacy

The ongoing work to strengthen cultural diplomacy and international artistic exchange through closer engagement with, and between, the Ministry for the Arts, the Department of Foreign Affairs and Trade and cultural organisations is vital—although still significantly under resourced compared to our western and eastern counterparts. Ambitious strategies that seek to enhance arts and cultural tourism as well as realising further synergies that might exist between our trade missions and our own international cultural engagement will support our ongoing global position and our capacity to collaborate with countries to help secure economic and social outcomes.

Of course, the extent to which arts and cultural engagement, exchange and, in turn, diplomacy can build people-to-people relationships, the Australian 'brand' trust and understanding is limited by available funding.

Health

In April 2016 the NSW Government announced the formation of a Taskforce on Health and the Arts to lead the development of a Framework to support the integration of the arts across the whole of the NSW Health system. The

²⁸ http://www.tra.gov.au/documents/ivs/IVS_one_pager_March2016_V2.pdf

taskforce saw it as an exercise in providing health services through the arts rather than a matter of simply providing art in a health environment.

It also reflects the vital importance of arts-based health interventions which take place outside the hospital or institutional setting. It is a key strategy for NSW Health to keep people out of hospitals and this means working with the Commonwealth and NGOs on primary or preventative health interventions through creative use of the arts.²⁹

The UK is well advanced in identifying synergies between arts and health, having launched in 2012 the National Alliance for Arts, Health & Wellbeing and its *Arts in Healthcare* portal.

Conclusion

For Australia to be a truly innovative country it must embrace and nurture the creativity and social cohesion that is achieved through Australians' active engagement in the arts. This includes a commitment to ensuring all school age children have access to quality arts education and exposure to excellence in the arts, without social or economic barriers. It also includes a commitment to ensuring the full range of our national arts experience—from the community sector to our cities' mainstages—are properly supported.

AMPAG calls on the committee to commit to recognising that the arts sector and creative industries and the skill sets they foster are vital to a creative, innovative and resilient society and economy. Policies to advance our innovative capacity must adopt a STEAM (science, technology, engineering, arts and mathematics) and not just a STEM approach in primary and secondary schooling but also in the study and development of how this translates to the tertiary level and its intersection with incubators and business.

AMPAG does not believe Australia's innovation potential can be fully realised if the government's National Innovation and Science Agenda fails to incorporate the arts. We have made recommendations to progress discussion and recommend the establishment of a strategic arts working group to evaluate the most effective way arts and a STEAM agenda can progress policies to support an outcomes-focused creative and innovative 21st century workforce.

²⁹ <http://www.health.nsw.gov.au/arts/Documents/the-path-forward-report.pdf>

Appendix 1: **AMPAG** list of member companies

Adelaide Symphony Orchestra
Australian Brandenburg Orchestra
Australian Chamber Orchestra
Bangarra Dance Theatre
Bell Shakespeare
Belvoir
Black Swan State Theatre Company
Circus Oz
Malthouse Theatre
Melbourne Symphony Orchestra
Melbourne Theatre Company
Musica Viva
Opera Australia
Opera Queensland
Orchestra Victoria
Queensland Ballet
Queensland Symphony Orchestra
Queensland Theatre
State Opera of South Australia
State Theatre Company of South Australia
Sydney Dance Company
Sydney Symphony Orchestra
Sydney Theatre Company
Tasmanian Symphony Orchestra
The Australian Ballet
West Australian Ballet
West Australian Opera
West Australian Symphony Orchestra