Knowledge Economy Market Development Mapping Study:
Understanding the value of design education programs in the knowledge economy

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Image from Living City Workshop Program 2013
mapping study

Commissioned by Queensland Government in 2012 in response to Design Strategy 2020 policy focus to “build design knowledge & learning” (Arts Queensland, 2009)

Identifies scope & value of design education/research programs from primary school to professional design sector in Queensland, Australia

Recommends future development & research opportunities

(Wright, Davis & Bucolo, 2013a)
mapping study

Willingness to capture evidence of growing public engagement in, and valuing of curriculum independent design education programs since the inception of the *Queensland Design Strategy 2020*

Image from *Designing Futures* Program 2011
mapping study

Supported by:
• Visual Arts & Craft Strategy, an initiative of the Australian, state and territory governments
• Arts Queensland in the Department of Science, Information Technology, Innovation & the Arts
• Creative Industries Faculty, School of Design Queensland University of Technology (QUT).

Endorsed by:
QUEENSLANDERSIGN™, an initiative of the Queensland Design Council

(Wright, Davis & Bucolo, 2013a)
mapping study

Conference paper: *The creative citizen: understanding the value of design education programs in the knowledge economy.*


In last 20 yrs societies have transitioned away from labour intensive ‘smoke stack’ industries towards a knowledge intensive & creative organisational focus.

For a “networked economy” (Selzer & Bentley, 1999) education needs to focus on the connections between schools and society, the challenges of adulthood, and exposure to a wide range of contexts, role models & experiences of genuine responsibility (Bentley, 1998)

Education in the Knowledge Economy – Preparing a flexible, networked & multi-skilled workforce
educational shift

A new “landscape of learning” (Bentley, 1998)
Understands business climate
Extends beyond the classroom
Promotes active citizenship
Develops employability
Tackles underachievement & social exclusion
“participatory” culture (Jenkins, 2006) learning through networked collectives
(Thomas & Brown, 2011)

Education in the Knowledge Economy –
Focus on innovation, creativity, critical thinking, problem solving, communication and collaboration (Partnership for 21st Century Skills, 2009)

Design is a form of knowledge-based capital that can be used to drive innovation and growth (OECD, 2012a)
international initiatives

Design skillsets provide extra visual language, framework for critical/creative thinking & develop optimism, motivation & agency (Design Commission, 2011)

Despite history of design education in schools, lack of research assessing impact of design on national innovation/education systems (McGimpsey, 2011; Miller, 2011)

Finland is ranked as one of the top-performing countries in terms of the quality of its educational system (OECD, 2012b) & has improved global competitiveness
international initiatives

United States is also viewed as a world leader in interdisciplinary design education initiatives in primary/secondary schools.

Singapore, South Korea & Hong Kong re-examining design education at all levels. Singapore children exposed to design in primary/secondary school.

Comparatively Australia’s activities are limited. World Bank KEI – Australia ranked second for education, 19 for innovation behind it Asia Pacific neighbours (The World Bank, 2012)
national initiatives

*Australia in the Asian Century White Paper* acknowledges Australia’s innovation capabilities

“using creativity and design-based thinking to solve complex problems is a distinctive Australian strength that can help meet the emerging challenges of this century”

(Commonwealth of Australia, 2012:8)
national initiatives

Australian National Cultural Policy recognises contribution of design to cultural & economic sectors

“If Australia is to position itself for the future, and be a beacon in the region & the world, there is a need to encourage activities that foster the cultural economy & build social and economic capital using creativity to generate new skills and jobs.” (Commonwealth of Australia, 2013:9)

Design not included as discipline in Australian National Curriculum
national initiatives

*Queensland Design Strategy 2020*
whole of government framework
(Arts Queensland, 2009)

Strengthen the Queensland economy
Foster a design culture
Build design knowledge and learning
Support public-sector innovation

Queensland Design Council
“The role of design thinking & practice in education is critical” to development, productivity, culture and quality of life.
(Queensland Design Council, 2011)
study background

- Initial phase to build momentum for future academic research
- Visualise/assess current activity, advocate & strategise
- Encourage other states to contribute academic support literature towards policy reform
- Inform the Arts & Cultural Investment Framework 2013-2014
study background

- Literature review of national & international design education programs
- Online Survey
- Focus groups & in-depth interviews
findings
findings

The education landscape

• 1,239 state schools service population of 4,585,776 (Queensland Government Treasury & Trade, 2012)
• 616 are rural/remote - Queensland has higher proportion of small regional primary schools (Queensland Government, 2010; McCollow, 2012)

Unique challenges to develop programs that can be shared/disseminated across schools/regions

*Smart Classrooms* (Queensland Government, 2012)
*Design Minds* (State Library of Queensland 2012)
findings

The education landscape

- 494 registered secondary schools (ABS, 2011)
- Of state schools, 15% secondary/74% primary – concern for knowledge economy
- Teachers operate within strict teaching frameworks of NAPLAN, National Curriculum, C2C & Queensland Professional Standards
- Qld Studies Authority (QSA) provides K-12 syllabuses

Limited design exists in Graphics, Visual Arts & Industrial Technology & Design
Teachers taking own initiatives in design
findings

The education landscape

• 9 universities – 8 (27 of 32 Campuses) offer design education across variety of levels; 2 offer distance education programs
• majority of regional UG programs - digital media/multimedia, games & graphic design
• International higher education largest export industry in Brisbane - 55,000 students Important offerings remain relevant to international markets (Study Brisbane, 2012).
• TAFEs & private colleges largely deliver programs in South East Queensland
findings

The education landscape

54 school/university curriculum independent programs (14 regional) conducted with industry, tertiary & government engagement

- strong secondary programs, more work to capture evidence of activity in primary sector
- more activity required in regional areas
- proactive peak bodies providing professional development programs
findings

Impacts of design education
Students

• New understandings of place, self & community
• Different way of seeing and being in the world
• Empowerment & motivation to be active, productive, confident & inclusive citizens
• Engaged curiosity towards lifelong learning
• Extra visual language for communication & collaboration
• Inspired career pathways & pursuit of tertiary qualifications
findings

Image from Second Skin Workshop Program 2012
findings

Impacts of design education
Educators, business & professional designers

• Professional development opportunities – inspiration & reinvigoration for practice
• Enquiry-based learning, teamwork in the classroom
• Purposeful community partnerships
• Rewriting of school wide curriculum/pedagogy
• Strengthening of communities through youth engagement & research positioning Qld globally
• Changed business strategy
findings
findings

design education and research activity

• Most programs focus on ‘process’ of design to empower & problem solve
• Passion & commitment exists for DE program participants
• Value and enjoyment for students emphasised, however 55% somewhat agree students understand value
• Funding & systemic government support are clear challenges
• “General misunderstanding of importance/value of design in education in rural areas” (Survey respondent P31)
• Resources, workload, teaching ratios, volunteer involvement, teacher uptake & National Curriculum points of concern
• Broad social, economic, community impact (94% strongly/somewhat agreed)
findings

perceptions about design in the knowledge economy

• Design education needs to urgently address systemic environmental challenges
• DE provides opportunity to challenge current educational models beyond ‘wrote’ learning
• Design needs to be intrinsic and cross-disciplinary
• Design leadership flagged as an emerging discipline
• Demonstrating economic value of design key challenge
• Use of the word ‘design’ & language describing design key challenge
findings

Planning for the future

• Reliance on government, but political terms limit capacity to implement & retain long term design & education policy
• Initiatives independent of government as primary funder required
• Requirement for evidence-based research communicating value of design towards national innovation
• Improved industry/tertiary sector engagement required
• Education & technology central to new growth industries
findings

Education and Curriculum Development

- Curriculum key driver of change in thinking especially in regional areas
- Academics need to develop curriculum with industry/community
- Autonomy for primary/secondary teachers to innovate curriculum within education structures
- School curriculum authorities need to engage with professional designers/industry
findings

Tertiary Sector Development

• Defining contribution of design education in the higher education sector & accounting for graduates key challenge
• Need to graduate better designers but also educate for future practice
• Tangible research for design practitioners required
• Reliance on tertiary sector for design program development, implementation & facilitation
recommendations

**Design Brief**

To design and create a community-based space that allows elderly people to be integrated and connected. To create a place where they can share their knowledge, wisdom, and skills. To create a place that promotes health and changes people's thinking about the elderly.

- Interconnected
- Sharing and Skills
- Learning
- Sustainability
- Wisdom
- Community
- Resources
- Opportunity

Image from *Unlimited: Generation Workshop Program 2010*
recommendations

value of design education/research in the knowledge economy
upskilling and training educators
learning beyond the classroom & challenging curriculum
responsibility and accountability
measuring impact and disseminating knowledge
recommendations

value of design education/research in the knowledge economy

- design thinking to **infuse all sectors of government**
- strategically align design to address emerging local challenges through formation of creative alliances building on triple helix mode of innovation
- ongoing government **investment in DE programs** to communicate value & mobilise community
- ongoing development & support for **regional programs**
- design must be conceived of as interdisciplinary & even meta-disciplinary & **embedded in all levels of education** (Cope and Kalantzis, 2010)
recommendations

upskilling and training educators

• educators to shift from “content delivery to capacity building, from supplying curriculum to co-creating “
• students to shift attention from individual performance to learning through networks (McWilliam & Haukka, 2008)
• omission of design from National Curriculum requires professional development programs in design pedagogy
• changes to tertiary pedagogies for primary/secondary teacher training need to include design
• new models of engagement between education sectors & between disciplines of business/education/creative industries, led by tertiary sector
recommendations

learning beyond the classroom & challenging curriculum

• new open learning model of coordinated networks needs to be constructed for innovation, through action research
• ongoing support for design immersion & design competitions to fill gap in curriculum & articulate pathways
• greater collaboration between Queensland Studies Authority & professional designers/educators to update curriculum to integrate design frameworks
• engagement with tertiary sector to develop research collection strategy
recommendations

responsibility and accountability

• Investigate new funding models to mobilise local involvement, collaboration & promotion
• Creative Education Trust utilising financial legacy from mining boom in regional hubs to tackle socioeconomic divide & geographical diversity
• Foundation to engage schools, universities, govt, business & design sectors to explore partnerships & Asia Pacific issues
• Universities must embrace interdisciplinary learning & consider new programs in ‘design leadership’
• Design Education & Research Taskforce reporting to Govt
recommendations

Measuring impact and disseminating knowledge

- **local funding & infrastructure** to be developed to allow ongoing prototyping and research, towards policy reform
- research on **impact of design education in regional areas** to build innovative, adaptive & resilient communities required
- maintain dialogue between tertiary sector & government to provide **future strategic plan for academic design education research**
summary

• Need to better integrate design across all levels of education to build creative capacity
• Need greater understanding of the role of designers in the new economy
• Upskilling & professional development of educators about processes of design & engagement for learning
• Tertiary sector will play important role in nurturing creative, innovative & adaptive culture fostering design education/research
• Urgent need to gather state-centric evidence of impact of design and role within the knowledge economy
The viability of programs over the long term depends on mutual interest, ongoing systemic support and funding by appropriate funding groups. The outcomes are usually of great educational benefit to individuals, help build social capital and are of great potential benefit to the economic and strategic futures of the wider community. Investment in innovative teaching and learning at secondary level will be critical in the development of a skilled, flexible and critically aware community. (Survey Respondent P20)
• PhD Research – Developing a framework for design integration across secondary education, *goDesign* regional case study

• Ongoing research collaboration with *Design Minds* measuring impact of digital platform for design education

• Research measuring value Qld tertiary design education to graduates & industry eg. *Designing our Future* Report (State of Victoria, 2009)

• Formation of Metadesign Educators Network (sec./tert. sector)

• Investigation of design’s role in higher education for developing generic capabilities


references


feedback welcome

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For Knowledge Economy Market Development Mapping Study
full report visit:
http://designonline.org.au/
http://designminds.org.au/

Image from Unlimited: Learning by Design Program 2010