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**Matrix Analysis:
Comparing
architect
registration
systems**

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Architects Accreditation Council of Australia - June 2015

Overall standards

The partners benchmarked in this project (USA, Canada, NZ, Hong Kong, Singapore) all have architectural education and registration systems that are broadly comparable with Australia. In all jurisdictions the title 'architect' is reserved in statute to those registered with a professional registering body. In Canada, the USA and Singapore, the practice of architecture is also reserved. The overall standard for registration in all six jurisdictions benchmarked is also closely aligned at five years of accredited full time university study (or accepted alternative); between two and three years of professional experience; and sitting of a professional examination.

In Australia, the USA and Canada each federal territory maintains its own registering body, however the standards for registration and professional examination requirements are set on a national basis. Nonetheless, there are differences among the territories in all three cases that can be significant for

individual candidates (e.g. some US states require an accredited architectural degree for registration while others offer alternative pathways). Federal differences can also affect mutual recognition: the existing MRA between the USA and Canada is only accepted by 40 of the 54 American jurisdictions.

All the partners benchmarked specify professional standards required for architectural registration in a published document, however only Australia unifies the standards for university study, graduate development and professional examination in a single format called the National Competency Standard for Architects (also used by NZ in companion with legislated minimum standards). The USA and Canada specify standards for each stage in three documents that are not necessarily 'owned' by the same body. Singapore and Hong Kong each publish a document covering graduate development and professional examination, but only Hong Kong publishes education standards.

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University education

Australia/NZ, Canada, the USA, and Hong Kong publish a detailed procedure for the accrediting of university architecture programs based on review by a visiting expert panel. In Singapore, the one university architecture program is individually named in statute. A five year minimum period for study is standard but with some variations in the degree structure. For example, some jurisdictions accredit just the second stage masters qualification, some accredit bachelors and masters stages and in the USA the 5 year single stage Bachelor of Architecture remains common. Six year study programs (i.e. four year bachelor plus two year masters) are also an option in most jurisdictions.

The key components of architectural education (design, history/theory, building technology, communication, environment, professional practice, elective study) are comparable across all the jurisdictions, albeit with a degree of variation. For example, in Singapore, urban design and planning studies area

core part of architectural education in a way that is not typically the case in Australian or New Zealand degrees. Similarly, New Zealand degrees tend to include somewhat more technical studies than Australian degrees. The USA, Canada, Hong Kong and Singapore all require undergraduate degrees to have a general education and/or breadth component, so that architecture students have a grounding in humanities and science studies beyond their professional discipline. This 'liberal arts' philosophy has not historically been adopted by Australian universities but a number of institutions (e.g. Melbourne, UWA, UNSW) have begun to use this approach in recent years.

The Australian National Competency Standard for Architects (also used by NZ) currently specifies 23 performance criteria that must be covered in degree studies in architecture. These include all elements of the Design Unit of Competency, and selected elements of the Project Management and Practice Management Units of Competency. The content of the accredited Masters Degree and its pathway qualification – together with the teaching expertise and physical resources of the relevant architecture school – are assessed at least every five years by a National Visiting Panel under the Australia New Zealand Architecture Program Accreditation Procedure.

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This expert panel then makes a recommendation on accreditation to the relevant state or territory Architects Registration Board.

The Canadian Architectural Certification Board (CACB) identifies 31 performance criteria that must be met by degree graduates in Canada, organized into four categories of: Critical Thinking and Communication, Design and Technical Skills, Comprehensive Design, and Leadership and Practice. These have a significant amount of overlap with the Australian criteria, but also include nine general education criteria. The CACB's accreditation procedure requires a self-assessment by the institution, an evaluation of the self-assessment by the CACB, and a site visit conducted by a team representing the agency to confirm compliance with the CACB Conditions for Accreditation. These conditions include minimum standards for Public Information, Social Equity, Human Resource Development, Physical Resources, Information Resources, Financial Resources, Administrative Structure and Curriculum. The accreditation decision is made by the CACB Board of Directors.

The US system, overseen by the National Architectural Accrediting Board (NAAB), has 26 performance criteria,

including 8 general education criteria, divided into the categories of Critical Thinking and Representation, Building Practices/Technical Skills, Integrated Architectural Solutions, and Professional Practice. Compared with Australia, there are more criteria relating to professional practice, and with an additional focus on 'integrated design', requiring the ability to balance competing priorities in complex architectural briefs. The American and Canadian accreditation procedures are very similar, with the US model involving submission of an Architecture Program Report (self-assessment) by the institution, an evaluation of that report by the NAAB, and the completion of a Visiting Team Report that leads to an accreditation recommendation to the NAAB Board of Directors. The NAAB however provides a more detailed specification of the operating requirements for each school of architecture than is the case for Canada or Australia.

With the growth of the tertiary education system in Hong Kong, in 2011 the Hong Kong Architects Registration Board (HKARB) and the Hong Kong Institute of Architects (HKIA) adopted an accreditation system that is similar in the main respects to the approaches discussed above. This is to say, an institution prepares a self-evaluation report, which is then validated by

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a visiting board, which makes a recommendation to the HKIA/HKARB Accreditation Board. Schools must demonstrate how their graduates must meet 30 performance criteria divided into the categories Societal Knowledge, Technical Knowledge, Design, Practice and Skills. Schools are also assessed for their facilities, financial support, leadership, admission requirements, staff profile, research and engagement.

Although some differences have been noted in the architectural education, overall content and standards are comparable among the six jurisdictions. Indeed, qualifications are already mutually recognised among Australia, New Zealand, Singapore and Hong Kong, and between the USA and Canada (though not across those two groups). The “Canberra Accord” process (currently involving Australia, the USA, Canada, China, Korea, Mexico and the Commonwealth Association of Architects) is intended to lead to greater portability of Architectural qualifications across these jurisdictions in the future.

An area where there is variation between countries (and between jurisdictions in federal systems) concerns whether completing an accredited university program is required for registration or if alternative ‘second track’ pathways

exist. Canada is the only country in this study to offer a vocational diploma for people working in architectural practice as an alternative to degree study (a similar program also exists in the UK). Australia offers a National Program of Assessment, which offers eligibility to sit the Architectural Practice Exam based on completion of a complex ‘simulated’ architectural project, and is open to those with at least ten years’ work experience. A number of US states allow built work assessment and/or non-accredited qualifications to count towards eligibility for registration; these architects are then eligible to apply for national certification through the National Council of Architectural Registration Boards’ Broadly Experienced Architect program.

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Graduate experience

All jurisdictions benchmarked require between two and three years of professional experience (usually specified as minimum practice hours) some or all of which must be under the supervision of a registered architect. All jurisdictions require logging of practice hours as part of the application for registration, usually in the form of an electronic logbook signed off by the supervising architect. Australia, Singapore, the USA and Canada also specify a range of practice areas that must be included in the logged experience.

The USA provides the most detailed specification where 17 practice areas each have a minimum numbers of hours, so e.g. Planning and Zoning Regulations require 60 hours but Construction Documents require 1,200 hours (out of a total of 3740 minimum hours). The Canadian system is similar to the USA, specifying 3760 hours divided into 15 categories. Australia is less prescriptive, requiring 3,300 hours with a minimum of 40 hours in each of seven mandatory areas of competency. Singapore also

specifies competencies that must be addressed in the logbook process, but it doesn't place minimum requirements against each category. Hong Kong and New Zealand do not specify particular areas in which experience must be gained.

The USA, Canada, Hong Kong and Singapore all have elements of a structured internship intended to support graduates on the path to registration. The key characteristics are that graduates must enrol as a candidate with the relevant body and nominate a supervisor (the registered architect they work to) and usually also an advisor (an architect from outside their firm to take a broader interest in their development) to mentor them through to the examination process. In the USA and Canada there is also a requirement for regular online submission of certified experience against the nominated practice areas. In addition, some Canadian provinces require interns to undertake graduate seminars during the internship, a practice that is encouraged but not required elsewhere. Australia and NZ do not register graduates in this way but they must complete a logbook (Australia) or case study book (NZ) as a prerequisite for professional examination.

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There are strengths and weaknesses to the different approaches. For example, a simple logbook minimises cost and maximises flexibility for graduate architects, and avoids the potential criticism of internships that they unnecessarily lengthen the path to registration owing to the difficulty for some candidates of meeting their very specific requirements. On the other hand, it could be argued the logbook approach does not provide the same professional development as a well-designed structured internship. An additional benefit of the internship is that, by requiring enrolment, there is an established connection between the registering body and the graduate, which assists with communication about registration issues and also helps registering bodies understand the overall architectural workforce.

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Professional examination

All jurisdictions conduct a formal professional examination prior to registration. In Australia, Canada, Singapore and Hong Kong this is a two part process of a written followed by an oral exam. The primary purpose of including an oral examination by current registered architects is to confirm that candidates have a good understanding of the context of professional practice and are competent to offer services to the public effectively and safely. New Zealand does not require a written exam and instead utilises an extended oral assessment.

The USA does not have oral assessment except in a few states and relies on a 7 part written exam for registration. The Architect Registration Examination (ARE) is a series of computerised tests that can be taken at any Prometric testing centre across the USA and in a number of other countries. The exam is undertaken over seven sessions (divisions) that can be sat in any order and which include multiple-choice, check-all-that-apply and

fill-in-the-blank questions, and diagram exercises. The divisions of the ARE are: Site Planning & Design, Building Design & Construction Systems, Schematic Design; Structural Systems; Building Systems; and Construction Documents & Services. New exam divisions will be introduced in 2016, which will now be aligned with competencies required from the graduate experience period.

The Examination for Architects in Canada (ExAC) is only offered once a year through the Provincial Licensing Authorities and is in four parts undertaken over two consecutive days. ExAC is a traditional written book exam with a mixture of multiple choice, matching of components, placing steps/statements in order, fill in the blank, short answer and extended answer questions. The four parts cover the following twelve topics: Programming, Site and Environmental Analysis, Cost Management, Coordinating Engineering Systems, Schematic Design, Design Development, Final Project, Bidding and Contract Negotiations, Construction Phase – Office, Construction Phase – Site, Project Management and Code Research.

In Hong Kong, the Professional Assessment is run by the Institute of Architects and consists of seven written

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papers of each taken in two sessions during the year (papers 3/4/5 over two days early in the year and papers 1/2/6/7 over 4 days later in the year) plus the submission of a case study report. The papers contain a mix of multiple choice questions, essays and design exercises. The seven papers cover: Statutory Controls in Building Works, Building Contracts, Professional Practice, Professional Conduct, Conditions of Agreement & Scale of Charges, Building Structures, Building Services & Environmental Controls, Building Materials & Technology, Site Design and Building Design.

Singapore's Professional Practice Exam (PPE), has a detailed focus on legal and planning requirements for practice, whereas the exams in other jurisdictions tend to be broader assessments of architectural competencies. The material assessed includes the Architects Act, Singapore Statute, Planning Act, Building Control Act, Security of Payments Act, Standards/Codes/Regulations, professional conduct and ethics, standard contract terms, pre-contract issues, contract administration, post-contract issues, project management and office management. The exam is conducted annually in November and consists of two written papers on 'Law and the architect' and 'Professional practice'.

The Australian Architectural Practice Exam (APE) Part 2 is in the form of a single paper in which candidates are presented with seven or eight 'scenarios' and between thirty and forty possible statements about those scenarios, and are then required to identify the correct statements. Although shorter than the exams in other jurisdictions, the APE is nonetheless a challenging assessment which can cover any of four competency areas contained in the National Competency Standard for Architects: Design, Documentation, Practice Management and Project Management. The APE Part 2 is offered twice a year through the Architects Registration Boards in each state and territory

While all six jurisdictions studies have robust professional examination systems, an area of legitimate discussion in the mutual recognition context is the extent of domain specific detail required for architectural practice in a particular country, i.e. knowledge that might not have been captured in the examination process of the original jurisdiction. For example, in the USA and Australia, bushfire risk mitigation is an important area of knowledge, in NZ there is a particular concern with earthquake preparedness and in Hong Kong with the danger posed by typhoons. Similarly, there may be elements of the planning framework that differ

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from country to country, e.g. disability access requirements or environmental sustainability standards. The detail of planning and approval procedures can obviously also differ substantially between jurisdictions.

The approach taken by the APEC Architect program – and also in individual country programs such as the Broadly Experienced Foreign Architect program in the USA and Canada – is to require a supplementary assessment that specifically tests the ability of each foreign architect seeking recognition to work effectively and safely within the particular requirements of jurisdiction concerned. This is not intended to duplicate the examination process that architects seeking initial registration in the jurisdiction pass through. Australia is currently unusual in that does not have general program for streamlined registration of individual highly experienced architects from other jurisdictions (although it has concluded three mutual recognition arrangements under the APEC Architect program).

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Broader comparability

Beyond the jurisdictions considered in detail in this study, there are a number of other countries that follow the broad model of five years of accredited full time university study, approximately two years of professional experience and professional examination. These include particularly former 'Anglo-sphere' countries such as the UK, Ireland, South Africa and Malaysia. Further analysis would be needed to determine whether these would be potential candidates for architectural mutual recognition, as there may be other factors to take into account. For example, Malaysia restricts architectural registration to citizens and permanent residents, while Ireland only introduced title protection for architects in 2007 and there is ongoing controversy about the status of the significant number of self-taught architects practising at the time the new rules were introduced.

Outside the circle of countries with closely comparable professional registration arrangements, there are a number of countries (including most European countries) with well-established registration systems, but where there may be significant differences from the Australian system. For example, Germany (one of the largest source countries for migration of architects to Australia) only requires a minimum of four years study including a 6-month work placement, and does not have a professional exam. Registration is based on an experience record and portfolio assessed by a panel, which is nonetheless quite rigorous and requires 2-3 years' experience in nine practice areas (leistungsphasen). Italy and Greece, in contrast, have professional examinations, but do not specify a period of experience that must be gained between the required degree studies and the exam.

Another important example is Japan, where there are detailed examinations for professional practice, but where categories for registration do not necessarily align with the concept of 'architect' in Australia. Japan instead utilises a model of comprehensive building education and registration called the Kenchikushi system. The primary qualification is a four year degree that combines elements of

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architecture, engineering and construction management. It is recognised in Japan that this creates issues of professional equivalence with most other countries, and consideration is being given as to ways of recognising architecture as a career specialization. China, Korea and Taiwan also have registration systems based on professional examination that would need to be assessed in detail for points of equivalence and difference with the Australian architectural registration system.

Spain, most Latin American countries and numerous other countries (e.g. in the Middle East and South Asia) register architects on the basis of their qualification rather than requiring professional experience or examination. This obviously raises issues of equivalence with the kind of professional registration system in the six countries benchmarked in this project. Some significant economies – particularly in Scandinavia – do not have mandatory registration of architects at all, and so there is no comparable statutory basis on which mutual recognition could be assessed, although there may be other mechanisms (such as membership of a professional association with appropriate admission standards) that could be considered as an alternative. A few countries (e.g. Portugal, Peru) do not register architects but require them by law to be members of their professional association.

In relation to qualifications, the five year bachelors and masters pattern of university study is increasingly an international standard, but some countries retain a four year degree as the minimum standard. Outside of the countries considered in this study and other closely comparable countries, there can also be significant variation in the structure and content of courses. For example, some countries have more an engineering than a design focus, some include substantial general literacy and/or political education as part of degree studies, while others embed extended periods of professional placement. As a result, judgements would need to be made in each case about what constitutes an equivalent education. For countries within the Commonwealth of Nations, the Commonwealth Association of Architects provides a unique multi-lateral system that conducts qualification validations for nine countries including Nigeria, Kenya and Jamaica. This validation is accepted by a number of countries for the education component of registration (but not currently by Australia although this may change through the Canberra Accord Process).

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