CRC for
Water Sensitive Cities

Delivering Water Sensitive Cities professional learning

Understanding the learning needs and preferences of the Australian urban water sector

Australian Government
Department of Industry and Science

Business
Cooperative Research
Centres Programme

Delivering Water Sensitive Cities professional learning
Understanding the learning needs and preferences of the Australian urban water sector
Strengthening education programs to foster future water sensitive city leaders (Project D4.1)
D4.1-2-2015

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Executive summary

The Adoption Pathways Program of the Cooperative Research Centre for Water Sensitive Cities (CRCWSC) focuses on facilitating the adoption of innovations in the water sensitive cities space. This is done by developing the capacity of and providing tools to stakeholders in the Australian urban water sector, supporting them in the quest to achieve water sensitive cities outcomes. An essential part of this program is represented by the CRCWSC project on *Strengthening education programs to foster future water sensitive city leaders (*Project D4.1) which aims to develop and deliver 'structured professional learning' courses and programs to build urban water sector working professionals' capacity in water sensitive cities approaches. 'Structured professional learning' refers to education or training activities that (i) deliver particular learning outcomes, (ii) are targeted at developing skills and knowledge of individuals, and (iii) involve participants engaging in resources and tasks that are structured in a particular sequence.

To inform the development of these 'structured professional learning' products, the Project D4.1 team developed a market research survey to (i) evaluate the ways in which the CRCWSC currently seeks to build sector capacity to deliver WSC outcomes and, (ii) to understand which skills and knowledge need to be developed across the urban water sector in Australia to better deliver WSC outcomes, and preferences for how professional learning might be delivered to satisfy those skills and knowledge demands. This report focuses on the latter.

Results from the survey are summarised below:

- **Profile of respondents:** 122 people participated in the survey, mainly representing CRCWSC industry participants (37.7% of all respondents) and non-CRCWSC participants (41.8%). The state of Victoria had the highest representation (35.3%), then Western Australia (27.9%), New South Wales (14.8%) and Queensland (11.5%). Respondents come from a range of areas including planning, natural resource management, engineering, policy, natural sciences or urban design and architecture. The majority indicated that they have been working in their discipline for more than six years.

- **Skill and knowledge needs:** respondents have indicated that the most needed skills and knowledge are 'economic justification for WSC', 'strategic planning for WSC', 'policy and regulation for WSC' and 'management, maintenance and compliance of water sensitive urban design (WSUD) assets'.

- **Preferred kinds of structured learning activities:** there is strong preference for activities requiring up to one day of engagement (e.g. masterclasses, seminars, workshops and lectures). Results suggest that the longer the time required to undertake structured learning activities, the lower the level of interest respondents have in undertaking such activities.

- **Preferred features of the structured learning activity:** 53% of respondents have a strong preference for face-to-face interaction, followed by the use of case studies (47%) and engaging with respected water sector leaders (47%). Less than 15% of respondents have strong preference for purely online based features (both interactive and passive learning). Hybrid learning (combination of face-to-face and online learning) scored 34% as a strong preference.

- **Accreditation of structured learning activities:** Neither academic and industry accreditations were considered to be extremely important. However, there is preference for industry accreditation over academic accreditation.

- **Constraints to undertake structured learning activities:** Time availability was considered to be the highest constraint, followed by geographical location, money and support from employers. At least 86% of total respondents also indicated that they don't usually have a specific allocation of time and money for undertaking professional development activities.

- **Conditions for undertaking structured learning activities:** respondents will only engage in structured learning activities if the benefits from participating are immediate, relevant to their day-to-day activities and rapidly transferable to drive change in their organisations.

These findings provide valuable information to the D4.1 project team in order to:

a. Develop adequate structured professional learning products that satisfy both the needs and preferences of the urban water sector practitioners.

b. Identify what CRCWSC research outputs can be used to build the content for these products.

c. Identify gaps between industry's needs and the CRCWSC outputs, helping to inform future research.

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1. Introduction

Building capacity involves a range of interventions from building the skills and knowledge of individuals through developing organisational processes, systems and strategies to changing governance and regulatory arrangements, and building broader community water literacy. *Strengthening education programs to foster future water sensitive city leaders* (Project D4.1) is focussed on individual scale capacity by working with partners across the CRCWSC to develop and deliver structured professional learning courses and programs. These courses and programs will build the skills and knowledge of individuals to get innovative projects and programs up and running within and across organisations, to improve the success of such projects and programs, and to drive processes of transformation and change that will embed water sensitivity at city scale. The term 'structured professional learning' indicates education or training courses and programs which are structured, that is:

a. They are designed and structured to deliver particular learning outcomes.

b. They are targeted at developing skills and knowledge in working professionals.

c. Whilst they may employ a range of learning approaches (including self-directed learning, problem based learning and coaching), they fundamentally involve participants engaging in particular material and undertaking particular tasks often in a particular sequence in order to achieve stated learning outcomes.

Structured professional learning differs from providing access to resources in hard copy or online and then leaving people to engage with those resources as they see fit with no particular learning outcomes or syllabus structure. Instead, structured professional learning courses and programs are delivered in the form of part day, one day, multi-day or even multi-month or year courses in face-to-face, online or blended modes. They will have accompanying resources.

As part of Project D4.1, a market research survey was created and launched in late 2014 to (i) evaluate the ways in which the CRCWSC currently seeks to build sector capacity to deliver WSC outcomes (e.g. blueprint documents, webinars, industry partner forums, etc.) and, (ii) to understand which skills and knowledge need to be developed across the urban water sector in Australia to better deliver WSC outcomes, and preferences for how professional learning might be delivered through structured courses to satisfy those skills and knowledge demands. The survey was sent out via the CRCWSC newsflash with a total of 122 responses being received.

This document provides a characterisation and assessment of the survey results for the purpose of proposing ways of building the capacity of urban water professionals to deliver WSC outcomes through structured learning courses. Survey results concerned with evaluating the ways in which the CRCWSC currently seeks to build sector capacity to deliver WSC outcomes will not be considered in this report.

2. Survey results

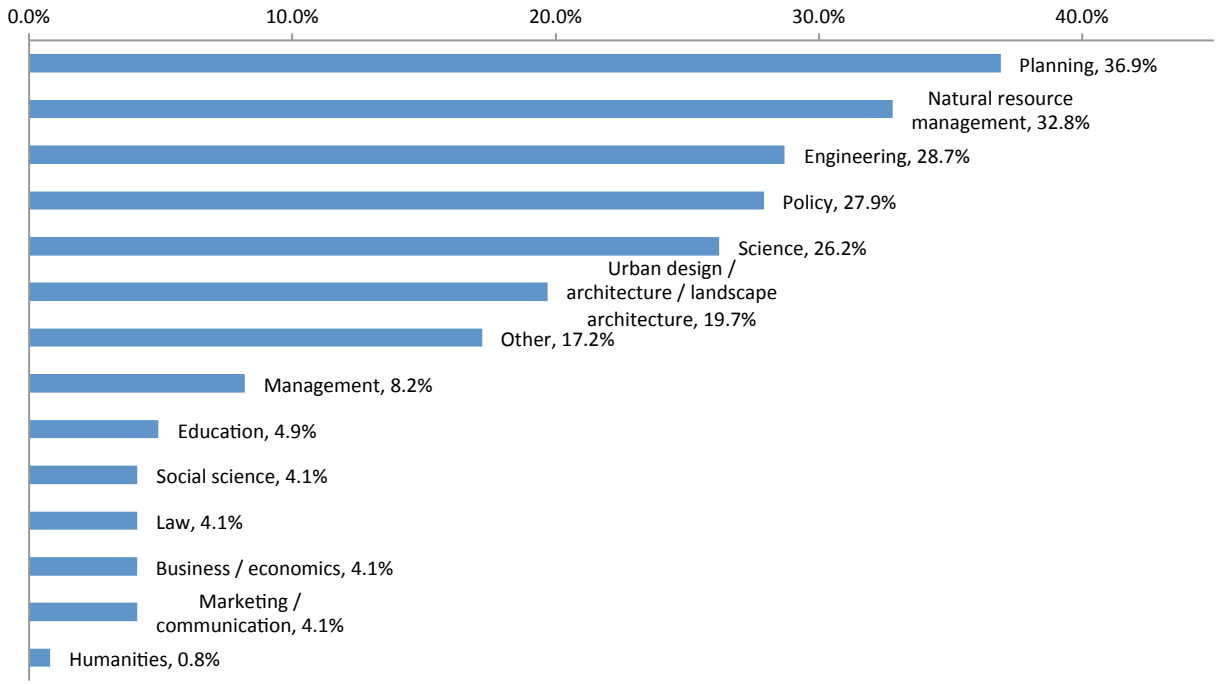
This section will provide a brief characterisation of the key results from the survey before offering options for the CRCWSC to respond by investing in developing and delivering structured professional learning courses.

2.1. Demographics – who completed the survey?

Of the 122 responses received, 37.7% were from CRCWSC industry participant organisations and 41.8% from non-CRCWSC participant organisations. Just 5.7% were from CRCWSC research participants, a positive result for the purposes of the survey which was designed to find out information from urban water professionals.

The majority of respondents identified themselves as working in planning (36.9%), natural resource management (32.8%), engineering (28.7%), policy (27.9%), (natural) science (26.2%) or urban design / architecture / landscape architecture (19.7%). Only a very few (around 4%-5%) identified themselves as working in social science, education, law, business / economics or marketing / communication. Hardly any identified themselves as working in the humanities (0.8%). A detailed breakdown of this information is provided below.

Figure 1. Percentage of respondents working in each discipline



Most had been working in their discipline for more than six years (73.8%), with 26.2% having worked in their discipline for more than 15 years, 13.1% for between 11 and 15 years, and 34.4% for between six and ten years. Respondents consequently mostly identified themselves as having mid-level (33.3%) and team level (37.5%) roles, with some reporting as senior managers (10.0%).

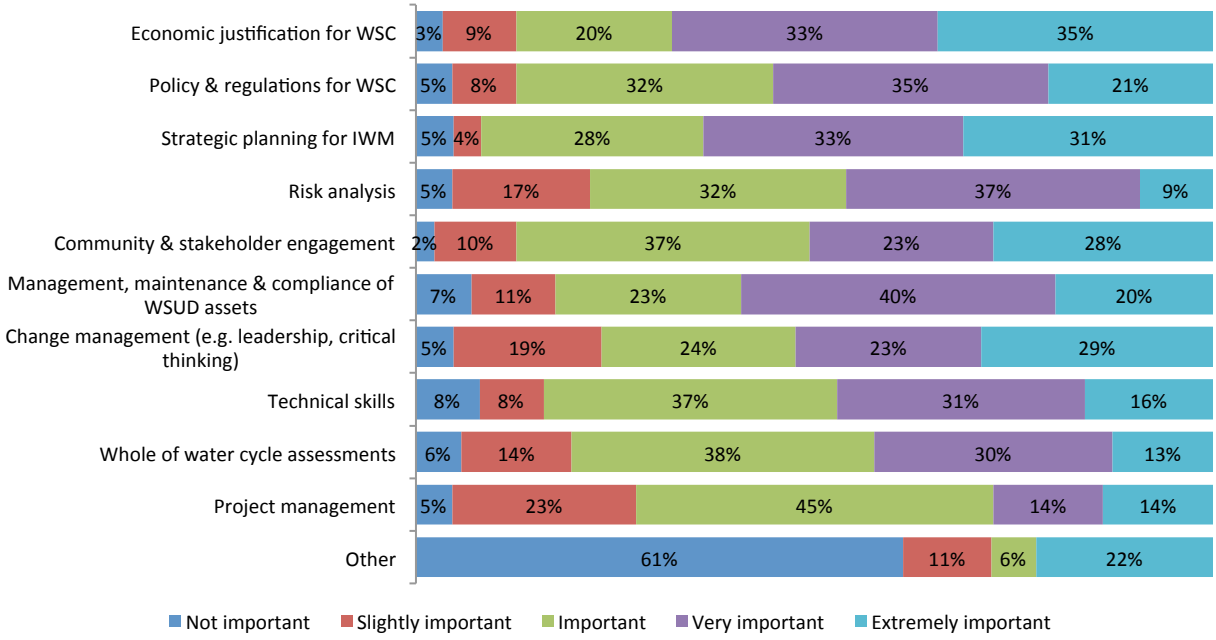
Geographically, the majority were from Victoria (35.3%), then Western Australia (27.9%) then New South Wales (14.8%) and Queensland (11.5%). 6.6% of the respondents identified themselves as internationally located.

2.2. What skills and knowledge are in demand?

The survey was developed to triangulate the results of interviews carried out by the research project team in 2014 with acknowledged WSC champions to identify key skills and knowledge involved for organisations to deliver WSC outcomes. (McIntosh *et al.* 201

Figure 2 shows the results with the skills and knowledge areas being those identified in the champions interviews.

Figure 1. Skills and knowledge which are important for respondents to develop to improve their ability to deliver WSC outcomes



Respondents were not provided with specific definitions for the various skills and knowledge areas – the idea of the survey was to provide a quick triangulation of the champion interview results which were much more detailed.

As shown above, skills and knowledge that scored the highest when summing “very important” and “extremely important” responses were:

- ‘economic justification for WSC’ (68%);
- ‘strategic planning for WSC’ (64%);
- ‘management, maintenance and compliance of water sensitive urban design (WSUD) assets’ (60%); and
- ‘policy and regulation for WSC’ (56%).

Moreover, areas such as 'change management' and 'community and stakeholder engagement' scored slightly lower in the sum of "very important" and "extremely important" (52% and 51%), but scored significantly as "important" (37%). Additionally, 'project management' scored very low as "very important" and "extremely important" (28%), but had the highest score (45%) as "important".

The 'other' skills and knowledge responses provided were a mix of leadership and change skills and technical knowledge:

- water balance requirements, storage, minimum flows, allocation frameworks and appropriate offtakes;
- real world, practical knowledge;
- (how to secure) funding for innovative projects;
- collaboration;
- leadership; and
- selling the vision internally.

There were some differences across the States in terms of the perceived importance of different skill and knowledge areas, although these differences were not pronounced and have to be interpreted given the likely sampling error (122 respondents). The differences detected tended to be relatively small differences in the distribution of perceived importance of different skill and knowledge areas, for example, from on average respondents from one State perceiving a particular skill and knowledge area as being slightly more important compared to respondents from another State, but where respondents from both States perceive the area as being important, very important or extremely important. The key differences detected were:

More respondents from Victoria and Western Australia rated developing skills and knowledge in the economic justification for WSC as 'extremely important' than in Queensland or New South Wales.

More respondents from Victoria rated 'policy and regulations for WSC as 'extremely important' than Queensland, Western Australia or New South Wales but more respondents from Queensland and Western Australia rated 'policy and regulations for WSC as 'important' than in Victoria and New South Wales so the differences average out.

'Risk analysis' was rated as most important across the states by respondents from Victoria and Western Australia.

'Community and stakeholder engagement' was rated as most important by respondents from Queensland, then by respondents from Victoria, then from Western Australia and New South Wales together.

'Management, maintenance and compliance of WSUD assets' was rated as 'very important' by respondents from New South Wales and Victoria, and as 'important' by respondents from Western Australia. In the case of Queensland, there was not a significant different between the different levels of importance assigned to this knowledge and knowledge area.

Please note that the percentage data is not given for these differences on the basis that the quantitative data is subject to sampling error, making the qualitative differences the most important feature to focus on. The data for inter-state differences is too large to comfortably present here so is presented in Appendix 1.

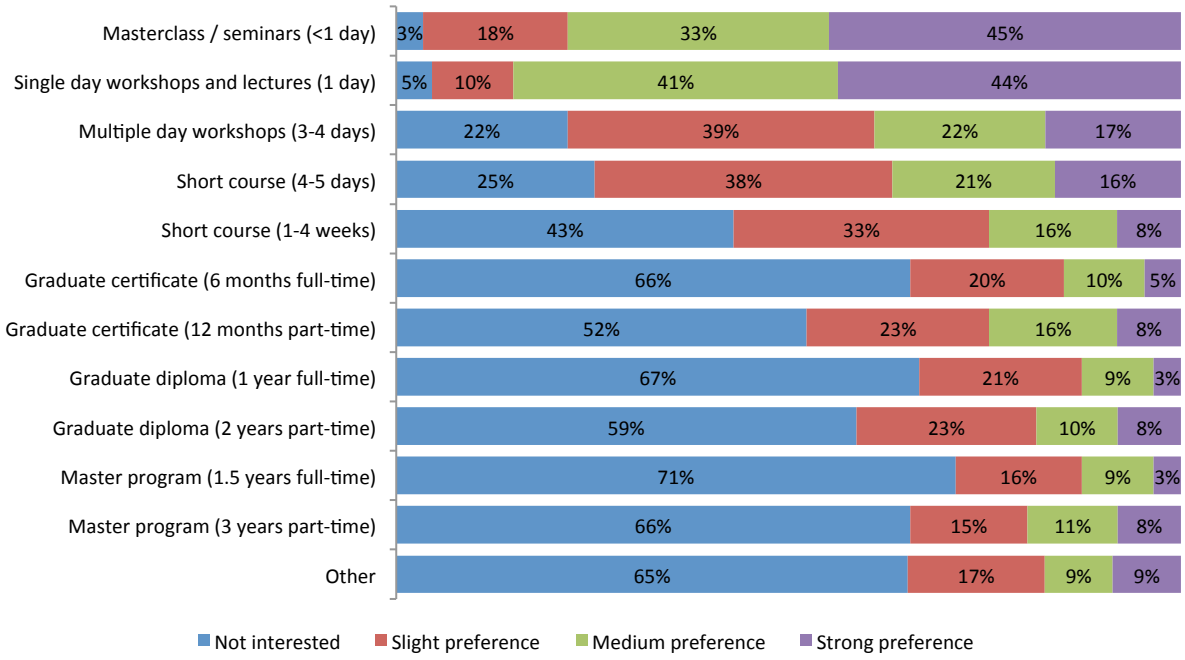
2.3. What types of structured learning are preferred?

Respondents were asked to indicate their preferences with regards to the type of structured learning that could be utilised to develop their WSC skills and knowledge. This included aspects such as (i) kinds of structured learning activities (from shorter-than-a-day masterclasses to postgraduate programs), (ii) features of the structured learning activity (face-to-face, online, hybrid, case studies, fieldtrips, etc.) and (iii) the importance of accreditation (academic or industry).

2.3.1. Kinds of structured learning activities

Figure 3 shows respondents' preference on different kinds of structured learning options. This question aimed to gather information about how much time respondents would be willing to invest in structured learning activities.

Figure 3. Respondents' preference for different kinds of structured learning activities



As shown above, there is a clear strong preference for activities requiring up to one day of engagement, such as masterclasses, seminars, workshops and lectures (over 40% of "strong preference"). Also, in general terms, results suggest that the longer the time required to undertake structured learning activities, the lower the level of interest respondents have in undertaking such activities.

Three to five-day activities (workshops and short courses) take the second place with a still significant preference from respondents (over 16% of "strong preference" and 21% of "medium preference").

Although more than 50% of respondents are not interested in any of the postgraduate structured learning options - such as graduate certificates, graduate diplomas and masters programs – it is important to note that part-time versions of postgraduate structured learning activities are preferred over full-time.

When looking at the 'other' preferred structured learning activities, responses emphasised other factors that are not necessarily related to the time require to participate in the activity, such as the importance of where the activity is delivered and its features (it is important to mention that this aspects of structured learning activities are explored in further sections of the survey). Comments are shown below.

- *"Structured learning opportunities (short courses) based in South East Queensland would be good".*
- *"Access to events through webinars would be extremely valuable. Sometimes the travel time (and additional cost) to an event is the impediment. I am also keen to experience site visit / tours too for a more "hands on learning" experience".*
- *"Online materials, online assessments. Also 'not for assessment' opportunities".*

2.3.2. Features of the structured learning activity

Figure 4 displays respondents' preferences in relation to the features of the structured learning activities. These features include:

- **Face-to-face / classroom:** Traditional learning approach, whereby students directly engage with an instructor in the same room.

- **Interactive online sessions:** Both instructor and participant are online at the same time, using a mix of communication methods (teleconferencing, chat, etc.).

- **Use of passive distant learning materials:** Student-centred, offers flexibility to provide students with stand-alone learning, a self-paced environment, any-time and any-where accessibility. Examples of these are webinars and massive open online courses (MOOC).

- **Hybrid learning:** Combines different delivery modalities and technologies, such as online learning and intensive face-to-face sessions.

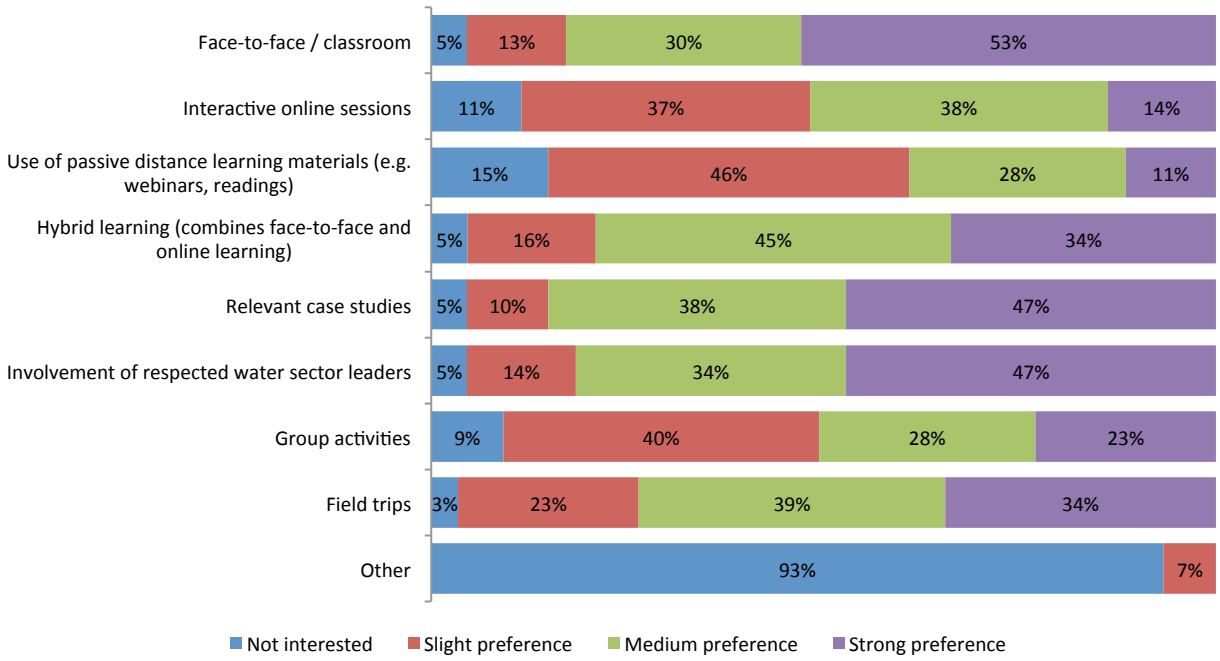
- **Relevant case studies:** Use of real examples to illustrate and explain the topic being explored.

- **Involvement of respected water sector leaders:** Students have the opportunity to engage with water sector leaders to discuss the topic being explored and learn from their experience.

- **Group activities:** Students are teamed in groups and assigned tasks to be achieved in collaboration among group members.

- **Field trips:** Experiential learning outside of the classroom environment. May include visits to representative sites and organizations, where topics being explored are applied in practice.

Figure 4. Respondents' preferred features of structured learning activities



Results indicate a clear "strong preference" for face-to-face interaction (53%), as well as the use of case studies (47%) and engaging with respected water sector leaders (47%), while purely online based features (both interactive and passive learning) scored less than 15%. However, hybrid learning, which combines face-to-face and online learning, scored a significant 34% in "strong preference" and the highest score in "medium preference" (45%). Finally, there is also a significant "strong preference" and "medium preference" for field trip activities (34% and 39% respectively).

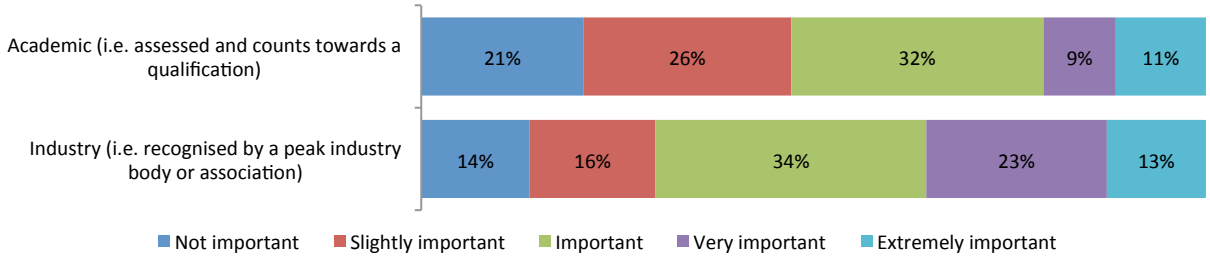
Only one comment was entered in the 'others' section, saying that "(…) many government entities have difficulty in accessing some kinds of online content (e.g. YouTube) which can impact on ability to use certain online content". This is a barrier that must be considered when developing structured learning options that include online features.

2.3.3. The importance of accreditation

Survey participants were asked how important accreditation is when undertaking structured learning activities. In this study, accreditation options have been described as academic (the activity is assessed and counts towards a qualification or degree) and industrial (the activity is recognised by a peak industry body or association).

Figure 5 shows the results:

Figure 5. Respondents' opinion about the importance of accreditation when undertaking structured learning activities



Neither academic and or industry accreditations were considered to be "extremely important" (only 11% and 13% respectively). However, industry accreditation was ranked as "very important" by 23% of the respondents, while academic accreditation scored only 9%. Moreover, both accreditations scored similarly as "important" (32% and 34% respectively). Overall, results suggest a preference for structured learning activities to have industry accreditation.

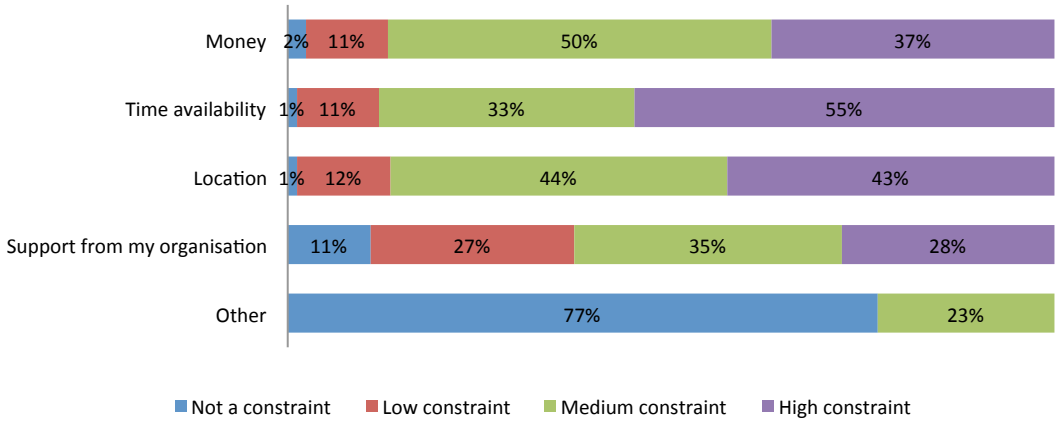
2.4. What are the constraints on undertaking structured learning activities?

The last section on the survey focused on exploring what respondent considered to be the constraints and opportunities for them to undertake structured learning activities. This included aspects such as time and economic constraints, location and support from employing organization.

2.4.1. The main constraints

Figure 6 displays what the survey respondents consider to be the major constraints to undertake structured learning activities.

Figure 6. Main constraints to undertake structured learning activities



Time availability was considered to be the highest constraint (55%), followed by location (43%), money (37%) and support from employer (28%). Comments from 'other' constraints also refer to time availability being the limiting factor, as it would require them to take time out from work or other responsibilities such as family. Examples are outlined below:

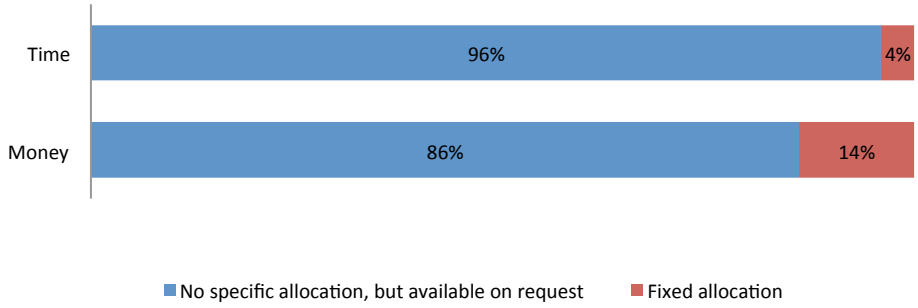
- *"(…)duration away from workload is all a serious consideration".*
- *"Family responsibilities".*
- *"Times of the year - quiet in Dec and January, very busy most of the rest of the year".*
- *"Sufficient notice (time to plan)".*
- *"Taking time off work, away from projects and productive time".*

2.4.2. Yearly time and money allowance for professional development

Firstly, respondents were asked about how much time and money are they allowed to use on professional development each year, and if this allowance was fixed or granted on request.

Figure 7 shows the results.

Figure 7. Time and money allowance to use on professional development

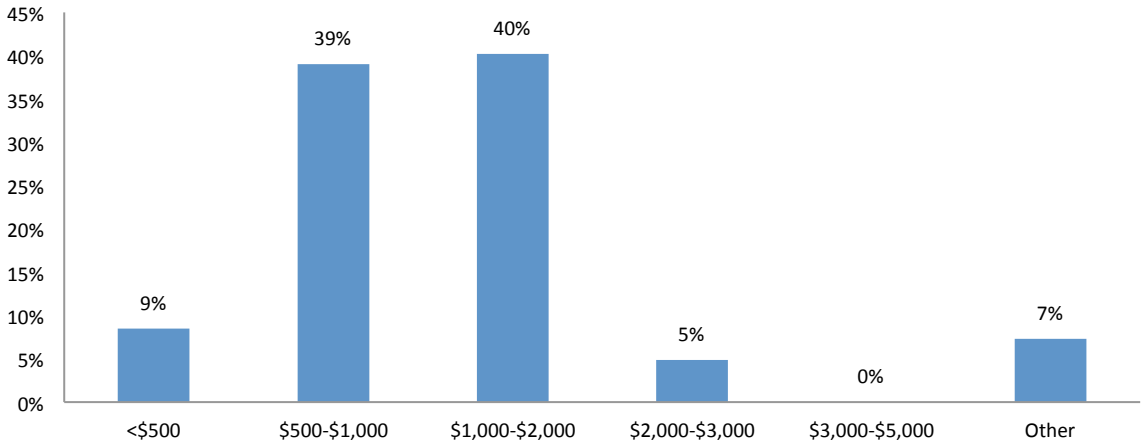


The majority of respondents said they do not have a specific allocation for both time (96%) and money (86%). In the case of the respondents that have a fixed time allocation (4%), the time allowance is in the range of 3 to 10 days per year. The respondents that have a fixed money allocation (14%) indicate yearly amounts that range from $ 0 (no allowance at all) to $ 4,500.

2.4.3. How much are respondents willing to pay for structured learning activities?

To gather an indication of how much money professionals are willing to invest in structured learning activities, respondents were asked about the maximum amount they would be willing to pay for a one-week short course (excluding travel and accommodation costs). Results are shown in Figure 8.

Figure 8. Maximum amount respondents are willing to pay for a 1-week short course



Results indicate that 40% of respondents would be willing to pay between $ 1,000 and $ 2,000, while an additional 39% would pay between $ 500 and $ 1000. There was a low preference for amounts below $ 500 or over $ 2,000.

Comments from 'other' answers (six people) highlight that they didn't choose a particular amount because they were are not interested in one-week short courses, or that they can't afford the time to do a one-week course.

2.5. Additional comments

Throughout the survey, respondents have written comments that suggest there is a strong need for WSC resources and learning that can be easily and rapidly applied to solve real problems. As seen in previous sections of this report, respondents demand short structured learning activities that feature active learning, and evidence shows that they are also constraint by the time and money available to undertake these types of activities. The comments below seem to align to this context, in the sense that respondents, if undertaking structured learning activities, will only do so if the benefits from attending to them are immediate, relevant to their day-to-day activities and rapidly transferable to drive change in their organisations. It is important to mention that these comments where written in the 'other' section of four different questions, and not necessarily relate the concerned questions. Approximately, these comments represent 30% of the total number of entries.

- *"Case studies are particularly useful. Convincing colleagues that the technologies actually work is very difficult and case studies are useful for this".*
- *"Short, non-technical summary reports that are quick to read and easy to understand".*
- *"I use tangible and practical knowledge to deliver outcomes because the WSC outcomes are too fluffy and not realistic".*
- *"Summary reports specifically designed for end-users to share research and research products with a wider audience (unable to access journal articles or attend conferences). They are designed to be short, concise, in plain language with application examples".*

- *“Real world, practical knowledge is always left out of the CRC. It's always too high level and only benefits the CRC and not anyone actually implementing it”.*

- *“Would be interested in mentor sessions, maybe on line via webinar, but reflecting on real life situations. In a previous job, I sought a peer review in the sense of peers in my professional area commenting upon my work and offering guidance. It was useful for all, because in commenting, you also reflect on your own practice and find options for improvement”.*

- *“Keep it real”.*

- *“It is always useful to have learning that is very relevant to immediate action; learning that helps next week instead of needing another week to process. Want pragmatic learnings, that is built upon the understanding that in the workplace there is very little time for researching options”.*

3. Main findings

- **Skills and knowledge is needed for both making a business case to adopt WSC innovations and its successful implementation:** The most demanded skills and knowledge are 'economic justification for WSC'; 'strategic planning for WSC'; 'management, maintenance and compliance of WSUD assets'; and 'policy and regulation for WSC'. To a lesser extent, knowledge and skills in 'change management' and 'community and stakeholder engagement' were also demanded. There are no outstanding differences among states.

- **Learning from existing practice and experience is important:** There is a preference for a strong component of practical and applied learning (i.e. case studies and engagement with industry leaders), and should be immediately transferable to solving day-to-day problems in the journey towards.

- **Face to face and active learning are preferred:** Structured learning activities are preferred when featuring face-to-face interaction, as well as active learning through case studies, engagement with industry leaders and field trips.

- **Online learning can play a role:** Hybrid learning (combination of face-to-face and online activities) was highlighted as a potential feature for structured learning.

- **Accreditation is not a priority:** Accreditation hasn't been considered to be extremely important, but industry accreditation would be a preferred option compared to academic accreditation for the bulk of respondents.

- **Time and money are scarce:** The biggest barrier for respondents to undertake structured learning is time availability, and strongly prefer short structured learning activities (i.e. no more than 1-day long) - the longer the activity is, the less preference from respondents. Additionally, time and economic allowances for professionals are usually not fixed, and have to be negotiated with the employer, or are not available at all.

4. References

McIntosh B., Pathirana A., Veerbeek W., Wegener P. (2015) *Water Sensitive Cities skills and knowledge needs - Australian and international WSC skills and knowledge needs assessment*. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.

5. Appendix

Tables showing inter-State differences in perceived importance of different skill and knowledge areas for the delivery of WSC outcomes.

Economic justification for WSC (e.g. building a business case for WSC)

	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	0% 0	17% 2	42% 5	33% 4	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	8% 1	8% 1	17% 2	42% 5	25% 3	12
Q6: SA	0% 0	67% 2	0% 0	0% 0	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	100% 1	0% 0	1
Q6: VIC	3% 1	10% 3	16% 5	29% 9	42% 13	31
Q6: WA	0% 0	5% 1	27% 6	32% 7	36% 8	22

Policy and regulations for WSC						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	0% 0	33% 4	33% 4	25% 3	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	17% 2	8% 1	17% 2	50% 6	8% 1	12
Q6: SA	0% 0	0% 0	67% 2	33% 1	0% 0	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	3% 1	13% 4	39% 12	19% 6	26% 8	31
Q6: WA	0% 0	5% 1	32% 7	41% 9	23% 5	22

Strategic planning for integrated water management						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	0% 0	33% 4	58% 7	0% 0	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	17% 2	8% 1	17% 2	33% 4	25% 3	12
Q6: SA	0% 0	0% 0	33% 1	33% 1	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	0% 0	3% 1	26% 8	32% 10	39% 12	31
Q6: WA	5% 1	0% 0	43% 9	19% 4	33% 7	21

Risk analysis						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	25% 3	33% 4	33% 4	0% 0	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	8% 1	25% 3	25% 3	42% 5	0% 0	12
Q6: SA	0% 0	0% 0	0% 0	67% 2	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	100% 1	0% 0	1
Q6: VIC	0% 0	19% 6	39% 12	35% 11	6% 2	31
Q6: WA	9% 2	9% 2	41% 9	27% 6	14% 3	22

Community and stakeholder engagement (e.g. collaboration, communication skills, conflict resolution)						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	8% 1	42% 5	25% 3	17% 2	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	8% 1	0% 0	8% 1	33% 4	50% 6	12
Q6: SA	0% 0	0% 0	100% 3	0% 0	0% 0	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	0% 0	19% 6	32% 10	26% 8	23% 7	31
Q6: WA	0% 0	5% 1	55% 12	23% 5	18% 4	22

Management, maintenance and compliance of WSUD assets						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	0% 0	9% 1	27% 3	55% 6	9% 1	11
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	17% 2	25% 3	17% 2	17% 2	25% 3	12
Q6: SA	0% 0	0% 0	0% 0	67% 2	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	13% 4	6% 2	19% 6	42% 13	19% 6	31
Q6: WA	0% 0	9% 2	36% 8	32% 7	23% 5	22

Change management (e.g. leadership, critical thinking)						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	0% 0	9% 1	18% 2	18% 2	55% 6	11
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	8% 1	17% 2	8% 1	33% 4	33% 4	12
Q6: SA	0% 0	0% 0	67% 2	0% 0	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	10% 3	23% 7	19% 6	26% 8	23% 7	31
Q6: WA	0% 0	23% 5	32% 7	27% 6	18% 4	22

Technical skills						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	17% 2	0% 0	50% 6	17% 2	17% 2	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	25% 3	17% 2	17% 2	33% 4	8% 1	12
Q6: SA	0% 0	0% 0	0% 0	33% 1	67% 2	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	6% 2	10% 3	42% 13	29% 9	13% 4	31
Q6: WA	0% 0	5% 1	45% 10	36% 8	14% 3	22

Whole of water cycle assessments						
	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	0% 0	58% 7	33% 4	0% 0	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	17% 2	17% 2	25% 3	25% 3	17% 2	12
Q6: SA	0% 0	0% 0	33% 1	33% 1	33% 1	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	6% 2	19% 6	29% 9	26% 8	19% 6	31
Q6: WA	0% 0	14% 3	50% 11	32% 7	5% 1	22

Project management

	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	8% 1	8% 1	58% 7	17% 2	8% 1	12
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	8% 1	8% 1	42% 5	25% 3	17% 2	12
Q6: SA	0% 0	0% 0	33% 1	67% 2	0% 0	3
Q6: TAS	0% 0	0% 0	0% 0	0% 0	100% 1	1
Q6: VIC	6% 2	35% 11	32% 10	6% 2	19% 6	31
Q6: WA	0% 0	27% 6	64% 14	5% 1	5% 1	22

Other

	Not important	Slightly important	Important	Very important	Extremely important	Total
Q6: ACT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: NSW	50% 2	0% 0	25% 1	0% 0	25% 1	4
Q6: NT	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: QLD	100% 1	0% 0	0% 0	0% 0	0% 0	1
Q6: SA	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: TAS	0% 0	0% 0	0% 0	0% 0	0% 0	0
Q6: VIC	50% 4	13% 1	0% 0	0% 0	38% 3	8
Q6: WA	75% 3	25% 1	0% 0	0% 0	0% 0	4

CRC for
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