



Education programs to foster water sensitive leaders

Water Sensitive Cities (WSC) require an integrated approach to urban design and urban water planning. Successful delivery of WSC outcomes requires organisations responsible for managing water, water services and urban planning to innovate and effectively deliver new services and adopt service delivery modes. Fostering these skills will be an important industry-wide investment, and understanding how water professionals want to learn will shape the delivery mechanism.

A learning needs framework

Developing a broad, systemic appreciation of water management involves a range of subjects from governance, law, policy, social impact assessment, stakeholder engagement, conflict management, hydrology, water quality, ecology and engineering.

Researchers have used the “T-shaped professional” framework to describe this attribute of future WSC leaders. T-shaped professionals are described as those with:

- a deep disciplinary or functional understanding; and
- an ability to:
 - apply that understanding in different situations;
 - talk the language of other disciplines and functional areas
 - translate between the interests, objectives and concerns of multiple stakeholders; and
 - network effectively across traditional boundaries.

Skills and knowledge needs identified by urban water champions

Water professionals from Australia, The Netherlands, Vietnam and Bhutan who were considered “water champions” within their organisation were interviewed to identify their perspective on skills and knowledge needed to transition toward a more holistic WSC approach.

Thirteen Australians (from Victoria, Queensland, New South Wales and Western Australia) were interviewed. The water champions considered the main skills and knowledge gaps to be:

- capacity to effect change within an organisation and to better engage with internal and external stakeholders;
- ability to provide economic justification for WSC projects;
- developer and approval authority understanding of policy and regulations;
- strategic planning and risk analysis;
- community and stakeholder engagement and collaboration; and
- management, maintenance and compliance of stormwater treatment and harvesting

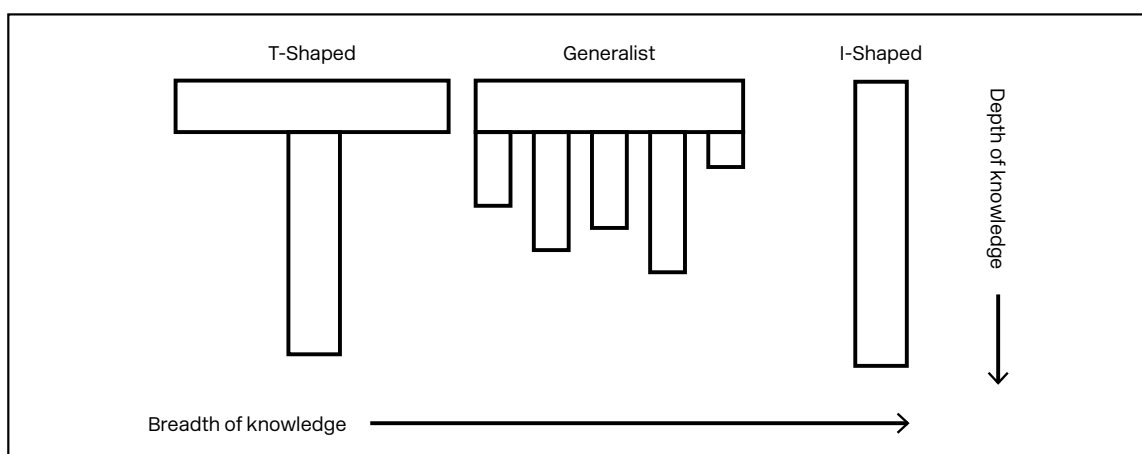


Figure 1: from “Developing T-shaped water professionals: reflections on a framework for building capacity for innovation through collaboration, learning and leadership, 2013”.

The water champions considered WSC case studies and demonstration sites as high priority components of training and learning programs. Interviewees expressed a desire for a range of educational options from workshops through to Masters level programs.

Based on the interview responses, the researchers recommend that:

- a series of teaching “modules” relating to the mains skills and knowledge gaps are developed;
- a broad spectrum of courses are developed ranging from complete graduate programmes, short graduate level courses, tailor-made intensive programs to stand-alone workshops aimed at high level management;
- coursework material is able to be used and adapted by a network of trainers and knowledge providers with the CRCWSC; and
- a large number of case studies are developed to illustrate key issues and opportunities for a range of settings.

Skills and knowledge needs refined with broader consultation

A market research survey was created and launched in late 2014 to develop a refined understanding of the skills and knowledge needed within the urban water sector. The survey received 122 responses.

The survey participants consider a broad range of skills and knowledge to be important to deliver WSC outcomes including the components prioritised by the water champions.

Survey participants showed a preference for learning via:

- Face to face classroom learning;
- Combination of face to face and online learning;
- Relevant case studies;
- Involvement of respected water sector leaders; and
- Field trips.

These insights and recommendations will be particularly relevant to capacity building programs and state government agencies looking for pathways to implement industry transformation.

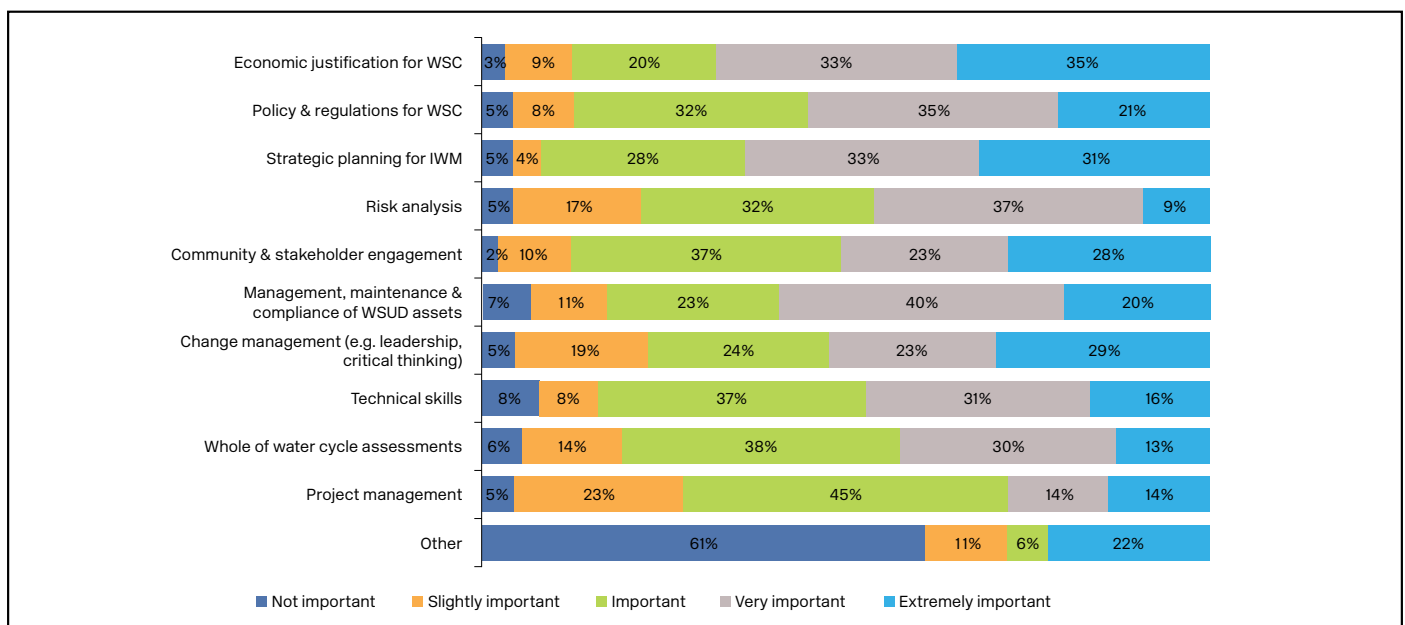


Figure 2: Skills and knowledge which are important for respondents to develop to improve their ability to deliver WSC outcomes from “Delivering Water Sensitive Cities professional learning, Aug 2015”

Further reading

McIntosh B., Orams P. and Patschke S. (2015) Delivering Water Sensitive Cities professional learning - Understanding the learning needs and preferences of the Australian urban water sector. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

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

McIntosh, B. S. and Taylor, A. (2013). Developing T-shaped water professionals: reflections on a framework for building capacity for innovation through collaboration, learning and leadership. Water Policy, 15(S2), pp. 42-60. Copyright © 2013 Brian S. McIntosh and André Taylor.

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