



Training Water Professionals



Summary

Building the capacity of water professionals is needed to close human resources gap, adapt to the rapidly changing reality, provide knowledge exchange, and thus ultimately contribute to fostering a learning culture around improved water governance. This Tool provides an overview of the rationale behind training water professionals, discusses key training formats and methods, highlights the need to design interdisciplinary training initiatives, and suggests how learning loops can contribute to building organisational learning.

Rationale for Training Water Professionals

Training is a vital component of a multi-level capacity building process (Ferrero et al., 2019). Capacity development in the water sector encompasses equipping individuals, organisations, and societies with skills and competencies to solve water-related problems to complement “water hardware” with “human software” (UNESCO-IHE, 2020). Training water professionals is indispensable for several reasons:

- **Insufficient supply of water professionals:** Many countries from the Global South are lacking water professionals with necessary knowledge, experience, and skills to achieve progress in the WASH sector (estimated human resources gap of approximately 800 thousand professionals in 10 African and South-East Asian countries to achieve global coverage) (IWA, 2014).

- **The need for flexibility and adaptability:** Water professionals should be incentivised and given the opportunity to acquire new skills and knowledge in a rapidly changing environment.
- **Demand for intensive knowledge exchange:** Future and existing water leaders should have necessary tools and platforms to share expertise ([Tool B4.03](#)).
- **Requirement for creating participatory mechanisms and capacity in line with IWRM principles:** Participation of various stakeholders in decision-making process is only possible with created participatory capacity, such as awareness raising, confidence building and education supported by the economic resources, especially for women and marginalised social groups ([Agarwal et al., 2000](#)).

Training Modalities and Delivery Methods

There are three main modalities formats to carry out training activities ([Ferrero et al., 2019](#)):

- **Face-to-face training:** A target group is getting knowledge and skills in-person and in real time. For instance, in the context of the [GEMWET project](#), Tunisian youth took part in physical capacity-building workshops on business finance and business planning to develop their green business ideas.
- **Online:** Training has become the new normal in the COVID-19 affected world with a variety of virtual platforms rapidly expanding their digital services ([GWP, 2021](#)). To compare, in the first decade of the century, e-learning activities were among the least popular capacity development activities facilitated by UN-Water member organisations ([Ardakanian and Aimard, 2008](#)). Cap-Net UNDP offers one of the most comprehensive compendium of [online training initiatives](#) related to water.
- **Blended training:** Blended learning combines online and in-person training, which has increased rapidly due to the advantages of the approach. The African Water Law training provided within Peer-to-Peer Learning in International Water Law and Water Governance is a long-standing initiative, which was first organised in person and then switched to also offer training in virtual format.

A specific focus should be given to training methods that allow for North-South, South-South and triangular exchanges ([UNESCO-IHE, 2020](#)). Such training methods where water professionals can learn from each other include:

- **Peer-to-peer exchange:** This format of training stimulates knowledge sharing complementing more formal training. This is realised in practice via communities of practice ([Tool B4.03](#)) or learning alliances, such as communities of practice accessible via GWP Toolbox Action Hub for IWRM.

- **Training of trainers:** A model used for knowledge dissemination where participants become trainers and are expected to deliver this knowledge to others. Also known as the concept “for and by professionals”, training of trainers is considered a sustainable method of training practitioners who become professional trainers using didactical skills and tools ([Maenhout and Oost, 2013](#)). Training of Trainers programme on IWRM in the Mekong Basin was realised as a 10 day training activity resulting in producing a training manual and developing a group of 5 master trainers for each participating country (Cambodia, LAO PDR, Thailand, Viet Nam).

Other training tools and delivery methods include: flipped classrooms, young professional programmes, courses, seminars, workshops, participatory toolkits, awareness-raising events (sessions on LGBTQIA+ issues provided by an organisation internally), exchange programmes (for PhD, scholars etc.), role play activities, serious games ([Tool C2.03](#)), field visits, participatory approaches for community members ([Tool B2.03](#)).

Building an Interdisciplinary Approach

Interdisciplinary approach is required when water professionals should have the ability to critically synthesise the insights related to multiple disciplines and sectors. The T-shaped water professional concept (Figure 1) promotes combination of deep functional knowledge (the vertical bar) and the breadth of knowledge (capped horizontal bar) ([McIntosh and Taylor, 2013](#)). Introduction to interdisciplinarity should start from the formal education demanding new methods and curriculums ([Wagener et al., 2012](#); [Dehnavi and Al-Saidi, 2020](#)). A variety of interdisciplinary courses is also available online: Cap-Net virtual campus offers courses in the intersection of IWRM, gender, climate change, ISO standards, and the SDGs.

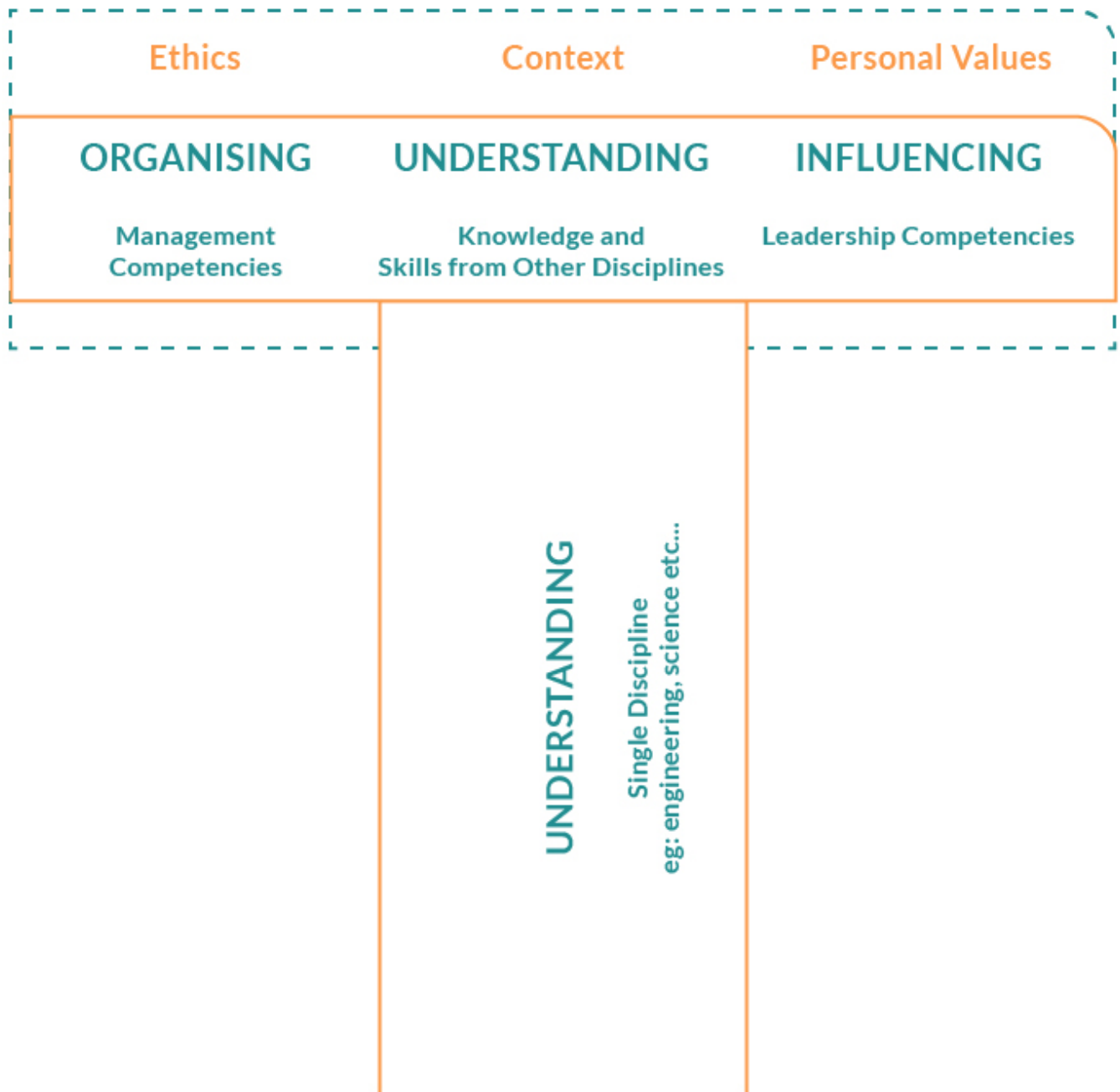


Figure 1. T-shaped Water Professionals Model. Source: [International Water Center \(2021\)](#).

Learning Loops and Organisational Learning

Challenges of the 21st century generate demand for water professionals who will be able to manage the process of double- and triple-loop learning (Figure 2). The concept is also important in the context of organisational learning, which can imply changed behaviour, assumptions, and structures ([GWP, 2021](#)). Single loop learning poses the following question: “are we doing things right?” and mostly focuses on making adjustments to correct a mistake within a rigid system of strategies, policies, and procedures. As a result, little or no learning and insight occur. Double-loop learning goes a level deeper asking if “we are doing the right things”, which stimulates understanding causalities highlighting underlying causes behind the problematic action, creativity and critical thinking. Level 3

learning asks the following: “how do we decide what is right?” leading to exploring the values, mission, vision and the reasons why we have systems (McIntosh and Taylor, 2013).

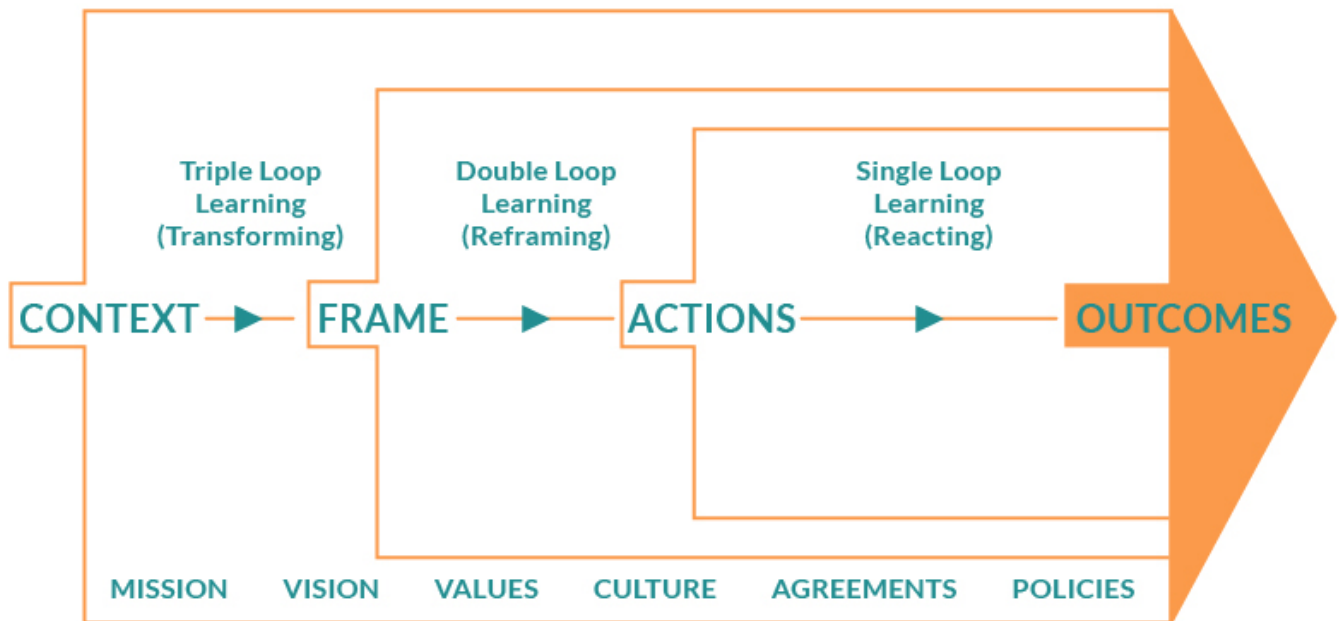


Figure 2. Single, double, and triple loop learning model. Source: [Tamarack Institute \(2021\)](#)

Thematic Tagging

Water services , Youth

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