

Case Study

Water Industry Technical Competency Framework

Succeed-Lead-Learn. An example of on the job learning for water industry operators



Introduction

Application of the 70:20:10 L&D model in the water industry

This case study demonstrates a practical approach to the application of the 70:20:10 Learning and Development (L&D) model, in the context of water industry operations. This is illustrated through Veolia Australia & New Zealand's (Veolia) Succeed-Lead-Learn L&D program and how it has been implemented to support the continuing professional development (CPD) of drinking water operators.

A key feature of Veolia's program is the focus on recognition of the importance of on-the-job learning. According to the 70:20:10 model of L&D, this should comprise up to 70% of all work-related learning activities. Key challenges in incorporating on-the-job learning into an organisational L&D strategy and training plans, is how to capture the evidence of L&D undertaken and value of these learning activities. The implementation of this program at Veolia sites has offered an opportunity to demonstrate how this can be achieved in a practical and effective way.

Veolia and the Aqua 2000 Project

Coliban Water is one of the larger Victorian Regional urban water corporations responsible for management of 35 reservoirs and water storage basins across North-Central Victoria. In the late 1990s, Australia began experiencing severe drought conditions that stretched on for well over a decade. During this period, Coliban Water required a partner who could deliver advanced water treatment infrastructure to guarantee water supplies to the towns of Bendigo, Castlemaine and Kyneton.

In 1999, Coliban Water engaged Veolia to deliver the AQUA 2000 Project, which was a 25-year contract to build, own, operate and transfer water treatment plants and supporting infrastructure for Bendigo, Castlemaine and Kyneton. The main plant in Bendigo has a capacity of 126 megalitres per day and features submerged microfiltration technology whilst the Kyneton plant (eight megalitres per day) and Castlemaine plant (18 megalitres per day) use conventional pressurised ultrafiltration and microfiltration respectively.



Figure C5.1: The Bendigo WTP, the largest of 3 water treatment facilities managed by Veolia under the Aqua 2000 Project

Through the Aqua 2000 project, Veolia employs 12 experienced and qualified drinking water treatment Operator/Maintainers, most of whom have achieved certification under the National Certification Framework – (NCF), and WIOA's Operator Certification Scheme.

In September 2010 the Victorian Department of Health and Human Services issued the “Victorian Framework for Water Treatment Operator Competencies – Best Practice Guidelines” (the guidelines). An important aspect of the guidelines is an Operator Certification Scheme which formally recognises the skills and experience of drinking water operators. Currently WIOA has the first water industry operations certification scheme in Australia, officially launched in Victoria in December 2012.

The development and implementation of the Victorian guidelines was an important first step on the road to the establishment of a National Certification Framework (NCF) for Water Industry Operators. As of 2018 the NCF has been established to provide recognition and certification of drinking water, waste water and recycled water operators.

Key program drivers

Veolia considers operator skills and competency, as well as nationally recognised accreditation schemes such as operator certification and the NCF, to be an important measure of the value provided to clients, as well as improving the capability and professionalism of Veolia's operational teams.

Key Driver 1: Demonstrating industry leadership

Veolia, as an operational contracting organisation, views structured technical competency programs and initiatives, to be an important way to demonstrate industry leadership:

- As a private sector organisation, having a number of operators recognised through the NCF has been an important market differentiator with other contracting competitors in the water sector. It demonstrates a clear commitment to valuing the capability of Veolia's experienced operational staff.
- Veolia was an early adopter of operator certification, with the first two drinking water operators to be certified in Victoria in 2012, both employed in Veolia's Bendigo operations team.
- Demonstration of good corporate citizenship, by advocating technical competency of operators as an important Australian public health initiative.
- An opportunity to break down the barriers between publicly owned utilities and private operational contracting organisations.

Key Driver 2: Establish an L&D program suited to the needs of the operator workforce

The concept of continuing professional development (CPD) is a very common one across a range of professions such as accountancy, health care and engineering.

However managing CPD can be challenging to water businesses, particularly in times where cash flow is tight and operational budgets are under scrutiny. Some of the challenges that have been identified include:

- The perceived cost and staff commitment borne by the businesses who participate in accreditation schemes requiring CPD. It is important that the overall value of these schemes is clearly demonstrated to outweigh the cost imposed.
- Delivering appropriate training equitably, for a variety of treatment plants and processes.
- Getting the most effective outcome from available training budgets for CPD. Don't simply rely on classroom-based training, which can be costly and not always the best learning option.
- Managing staff rosters to allow for CPD activities. This requires a shift towards more practically focused and on-the-job activities.

Key Driver 3: Recognition of the importance of operator competency in ensuring public health outcomes

In 2018 Water Research Australia (WaterRA) launched the “Value of Operator Competency” R&D project. This project has the aim of demonstrating the importance of having skilled and competent operators to the water industry, and the value it provides to customers, organisations and the wider water sector. Nationally recognised accreditation schemes, such as the NCF, can be used as a benchmark to define the minimum training, qualification and competency standards that operators should attain and maintain in order to operate drinking water treatment facilities. This provides water businesses, customers and regulators with the assurance that operators have all of the skills, knowledge and experience required to carry out their roles competently and safely, as well as ensure public health and environmental outcomes.



The Program

Succeed-Lead-Learn

LEARN (10%) Formal Learning Programs	LEAD (20%) Development through guidance	SUCCEED (70%) Work related development
<ul style="list-style-type: none"> • OH&S • Technical training • Leadership training • E-Learning • Lunch and learn • Conferences and seminars 	<ul style="list-style-type: none"> • Coaching & mentoring • Manager & peer feedback • Team collaboration • Networks • Lessons Learned 	<ul style="list-style-type: none"> • On-the-job learning • Special projects • Job rotation • Secondments & exchanges

Figure C5.2: Veolia's Succeed-Lead-Learn approach to implementation of the 70:20:10 model for L&D

Continuing Professional Development & Succeed-Lead-Learn

The idea of certification and CPD in the water operations context is to recognise that operators play a critical role in protecting public health and safety, through the competent operation of drinking water plants. Veolia's approach to certification and CPD for operators has been to completely re-think the way that they approach training within the organisation. There has been a cultural shift from simply sending operators away to attend courses, to incorporating training and professional development as an integral part of day-to-day operations. Veolia have taken greater control over CPD management and delivery, to include new and innovative methods of delivering professional development activities.

Veolia encourages all employees to pursue professional development activities relevant to their role and career aspirations. The "Learn-Lead-Succeed" (10-20-70) initiative represents Veolia's approach to learning and reflects leading practice on how adults learn and develop new skills and knowledge:

- 70% of learning - the vast majority - comes from work related development such as on-the-job tasks, special projects/assignments and job rotation
- 20% of learning comes through guidance and demonstration from other people such as managers, supervisors and peers
- 10% of learning comes from formal learning programs such as training, reading books and listening to seminars/presentations.

To date activities that Veolia's certified operators have participated in include:

- **Attending site tours (Succeed).** Veolia have run a program of site tours to other water utilities around Victoria. This gives operators exposure to the operational practices of the wider water industry, allows them to build networks and contacts with other water businesses, as well as expand their knowledge of water and wastewater treatment processes.
- **Operational secondments (Succeed).** Veolia have always had a practice of providing opportunities for staff mobility. With the advent of certification, this practice has been extended to operators, providing them with the opportunity to participate in short-to medium-term operational secondments. Notable examples have been; working on a demonstration plant for robust recycling applications in Hobart, and a month at Casey Station in Antarctica commissioning and operating a water treatment plant to treat diesel-contaminated meltwater.
- **Conducting process investigations (Succeed).** There have been a number of process investigations that have been led and reported on by certified operators in Victoria. Notable examples have been; a drinking water network nitrification study, a troubleshooting study on granular media filters, and a washwater system water quality enhancement investigation.
- **Hosting industry workshops and tours (Succeed and Lead).** Experienced operators have led a number of site tours and maintenance demonstrations at Veolia facilities for operators and engineers visiting from other water businesses. This has allowed them to show technical leadership and enhanced the reputation of the business.
- **In-house technical and "lessons-learned" workshops and seminars (Succeed, Lead and Learn).** There has been enormous benefit through using Veolia's own technical staff to host and deliver in-house knowledge-sharing awareness sessions on a range of water-treatment topics.

Hence much of Veolia's efforts have been to recognise there are a number of activities that can be considered to be CPD that don't involve classroom based training. The critical aspects are to;

- Identify the key learning outcomes and benefits of these activities, and
- Formalise the scheduling, management, record-keeping and reporting on CPD

The Importance of Recognition, Recording and Reporting on L&D

The implementation of a training management database is important to the overall management of Veolia's continuing professional development programs and for maintaining operator CPD. Veolia have a training management database to manage all operator training requirements. The database includes information pertaining to nationally accredited qualifications and units of competency, work experience and certification requirements for each operator, to enable the business to achieve compliance with regulation and with Certification under the NCF. The database can have provision for reporting on competency and refresher training requirements for individuals. These reports can be used to allocate training budgets as well as for performance appraisals of operators.

A second key component of maintaining operator CPD is the link to Veolia's annual employee Performance Appraisal and Development process. Veolia's approach to performance holds team members accountable for their own ongoing learning and career development. It also holds managers accountable for the overall performance of their areas, which includes supporting individual team members to develop and improve performance.

The Performance Appraisal and Development Plan process is a cycle that involves planning, checking and assessment. To begin the planning process, the team member and manager have a performance and development discussion to review overall expectations, which includes collaborating on the development of performance objectives. Team member's training and development goals are also clarified or updated. The result of this discussion is the development of a training plan that directs the team member's efforts towards achieving specific results to support organisational goals and objectives and team member success. The training plan is reviewed throughout the year to check progress. This provides a framework to ensure the team member achieves results through coaching and regular feedback.

Mapping the training and competency requirements of WIOA's Operator Certification Scheme across to Veolia's Performance Appraisal and Development Plan process, is key in the success of maintenance of operator certification. Veolia's CPD activities can then be designed and developed in such a way to achieve these outcomes.



Discussion

Challenges of Managing Operator CPD

There are a number of challenges for a water business such as Veolia, in implementation of an operator CPD scheme. These include:

- Balancing the needs of multiple contracts across the country and ensuring individual client needs are met at all times.
- Providing a consistent training delivery and training quality framework for water, wastewater and recycled water operational competencies that is applicable across state borders and even in different countries (e.g. New Zealand).
- Finding customised and flexible training options that cover highly technical treatment processes such as ozone, biological activated carbon, microfiltration, ion exchange and reverse osmosis.
- Designing a CPD program that can be portable enough to fit various regional operations.
- Customising CPD to meet the needs of the Veolia business plan, as well as corporate vision, values and drivers for excellence in quality, safety and environment.
- Mitigating extra costs to the business for training and maintaining CPD for a large number of operators over a number of contracts.

Veolia believe that they have found solutions to many of the above challenges, using operator certification as a key driver for innovation and improvement in organisational learning and development. This includes addressing the need to capture the importance of on-the-job learning in CPD.

Benefits of Operator CPD

It should be noted that the perceived cost of operator CPD has been a major driver for innovation within Veolia. The overall benefit has been of innovation in training delivery arising from the adoption of operator certification. This has resulted in ongoing and significant savings to the business in training and professional development.

Through demonstration of industry leadership, Veolia has had the opportunity for participation in a number of training and workforce development initiatives to improve access and quality of training and professional development for the whole water industry. These include:

- Working with RTOs to develop a broader range of training delivery options.
- Sharing knowledge and expertise with industry, particularly in hosting events to showcase new and emerging technologies, industry tours, demonstrations and workshops.
- Working with government and peak industry organisations to create water industry skills and workforce development initiatives.

Conclusion

From a team culture perspective, Veolia has found participation in the implementation of operator certification to be a beneficial exercise. Feedback from certified operators has been that they appreciate the recognition of their skills and knowledge, and are receptive to the increased focus on their role as custodians of public health. Veolia's operators have risen to the challenge of CPD, and are more likely to actively participate in their own training and professional development planning.

Further benefits have been the establishment of Veolia's reputation as an industry leader in operator professional development. Through Succeed-Lead-Learn they have built up an extensive knowledge and expertise for delivery of high quality industrially-relevant learning and development. As a result they have been able to assist other water businesses with their professional development requirements through the delivery of tours, workshops and practical demonstrations. These have contributed to the on-the-job learning requirements of operators across the industry and enhanced Veolia's standing as a highly reputable water business.

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