Case study > Water Works Online> South Australia> 2009

Water Works Online - collaboration across industry

TAFE SA North and Veolia Water

Background

This project was the result of communication and collaboration between TAFE SA and Veolia Water. Within TAFE SA there was collaboration between the Management Training sub program of Business Services (based at TTG Campus) and the Water Operations training section from within the School of Plumbing based at Regency Campus.

TAFE SA is made up of three networked institutes. TAFE Adelaide North Institute has the complete range of VET nationality approved training packages. The Water Operations (Networks) Training Package has recently been introduced across Australia to fill a need in industry where qualifications have not traditionally been in place. The water operations component of 'plumbing' has operationally been made up of individuals who have learned on-the-job, many of whom are now close to retiring age. There is a danger that an immense amount of knowledge will leave the industry when these workers retire. Hence across Australia the water operations industry is keen to train new workers within the industry to a standard where they can fill the gap as older workers leave the industry.

A National Water E-learning Group has been formed to meet regularly with the objective of developing e-learning nationally within the water operations industry. Water operations is described as the part of the network of delivery systems outside the home plumbing system. It begins with the water catchment areas through to reservoirs then to the piping networks delivering water to the residential meters. There is a lot of commonality across Australia yet each state has its own particular differences.

Veolia Water Pty Ltd is a French owned organisation that operates United Water as a wholly-owned subsidiary in South Australia (SA). It is one of three critical key stakeholders within the water industry here in SA. United Water is a wholly-owned subsidiary of Veolia Water, the world's largest water company. Veolia Water has 93,000 employees worldwide, serving 139 million people in 64 countries. Recognised as a world leader in water services for municipal and industrial clients, Veolia Water specialises in the efficient management of existing assets and the creation of new water sources, through reuse and desalination.

The project team consisted of Hilary Ashworth, Andrew Kidd and Alex Shearer from TAFE SA, with Phil Benton and Karen Freisler from Veolia Water Pty Ltd.

The aim of the project was to develop and pilot an online training program for the *Certificate III in Water Operations (Networks)*. There are existing Flexible Learning Toolboxes (Toolboxes) in water operations that include some of the units that were of interest. Water Works Online (WWO) chose five of these units from Toolboxes and developed a Moodle site to trial with groups of participants from United Water. WWO were

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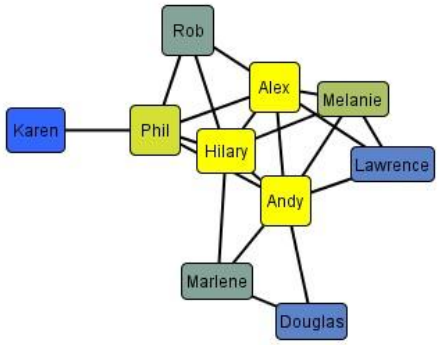
particularly interested in developing a common look and feel and a template, which would both work for participants and be usable by different operations interstate.

WWOs extended network included Queensland Water (Rob Fearon), Douglas Purcell (SA Toolbox Champion) and individuals from the TAFE SA Learning Materials Unit (Melanie Worral and Lawrence Hatton). The networking diagram below illustrates the interaction between both the immediate and extended team of personnel.



With water scarcity and quality being major issues across all of Australia, it is important that water operations is seen by the community, the individuals within the water delivery organisations and registered training organisations (RTOs) as a skilled and innovative field of work. All states are commencing the rolling out of training in this field and it is important that there is consistency and collaboration across all those organisations involved.

As part of this project we have opened up all information through a wiki available to the public. If this project had not been funded, training in this area would be 12 months behind where it is currently. Once again it is an important national training area required to fill a need as populations grow, as droughts continue and as the community becomes aware of the importance of this natural resource.

What was done

This project commenced with a meeting at Veolia Water with Hilary Ashworth (Project Manager), Andrew Kidd (facilitator), Alex Shearer (Water Operations TAFE SA), Phil Benton (Veolia Water Pty Ltd - industry expert), and Karen Freisler (Veolia Water). From this meeting the scope of the project was determined. It was to include the *Certificate III in Water Operations (Networks)* and to investigate the possible use of existing Toolboxes. It was decided that Moodle would be the preferred platform for development however the option was always kept open for other learning management systems (LMSs) to be reviewed and used. WWO planned for a series of monthly meetings for the team and weekly meetings specifically for the project manager and facilitator. Communication and uploading of links and resources during the development phase would take place through the creation of a wiki. The agenda items and minutes for these meetings can be seen by clicking on the wiki meetings link.

Progressively the Moodle sites were created and a training program was developed by Alex Shearer, showing core units and electives along with the preferred sequencing of these units for participants. The Toolbox Repository was accessed and three Toolboxes were identified as having relevant content to the Certificate III level. Of these Toolboxes, *Central Water* was pitched at the right level and had interactive and interesting and relevant content. The number of units to be chosen from this Toolbox varied at times, however, ended up as five units.

The units from the Toolbox were then loaded into Moodle. It became obvious most, but most importantly to Phil Benton (as the industry representative) that the layout of the Moodle was very ‘busy’. There was also concern that the individuals within the industry who may be interested in training would not necessarily be computer literate. Other LMSs were referenced as providing clean and uncluttered pages that were logical for all, including inexperienced users. Nevertheless WWO continued with Moodle despite some misgivings.

When the first unit was uploaded, a pilot program to test the usability and acceptability of the deconstructed Toolbox material was undertaken. The feedback from this group of students and facilitators indicated that this qualification would not be delivered totally online. There would be a need for a combination of face-to-face, online and workplace training to take place, some of which would be RPL (recognition of prior learning). There was some criticism from participants that the Toolbox contained generic material that included wording and pictures that were not relevant for SA. There was also an obvious need that facilitators would have to become familiar with Moodle, its vagaries and the training material.

At this stage (after the first trial) the Learning Materials Unit (LMU) were involved to create a consistent look and feel to Moodle. It was also part of the brief that this would include graphics and yet deliver a clean and uncluttered look. This had mixed outcomes. Some members of the project team were very happy with the look, feel and simplicity of the pages, whilst others still felt it looked busy compared to other LMSs. WWO made a compromise as funding and time could not allow an outcome that would satisfy all parties to the maximum degree within the given time and budget.

The design work carried out by LMU worked very well in providing consistency across all the Moodle sites. Also evident was the formation of a common template for users with a learning 'logic' that could be used by other RTOs and State Water operations personnel.

Benefits experienced by TAFE SA

The project created communication, understanding and unity across program areas, the LMU and Veolia Water (representing industry and students). The project strengthened links with industry both state and nationally, and provided feedback to TAFESA on the needs of industry and student training needs. As the project progressed it propelled staff into areas of e-learning otherwise not known, and created understanding and experience that can be called upon for program material and LMS development. The feedback from the trial student groups provided invaluable understanding of individual student needs and of water industry organisational needs and wants. Of potential benefit to TAFE SA were new projects for 2010 with other industry stakeholders which allowed a clear snapshot as to the possibilities of meeting industry needs in an innovative, flexible manner.

Lessons learnt

It was important to use the methodology of project management to monitor and control the project from inception. Further background to this project related to the submissions for funding and their outcome. Two submissions, one relating to human resources (HR) the other water operations, were combined into one – with the result that the HR project was cancelled in order to have adequate funding for the higher priority water operations project.

One of the consequences was that the expert knowledge of water operations training was diluted. The most important aspect of project management that we encountered was that of scope management. There was always a tendency to add tasks and activities to the project. This addition needed to take into account the budget time and resources that are available to complete the project. Scope management required that the scope was documented and signed off on by all participants and that any change to scope is agreed upon and again signed off.

Part of scope management is the deliverables from the project. It was unclear exactly what the deliverables should be until the Framework's South Australian E-learning Coordinator, Marlene Manto participated in a meeting and explained exactly what was required for this nationally funded project. This could have been explained earlier in the project but understandably project members on most projects are still grappling with the outcomes of their own projects in the early stages. The project could have included more active human resources from the plumbing area to support Alex, as was initially planned. Other aspects of the project that were handled quite well included communication and budget management aspects.

It was also important for projects such as this to allocate time for the project and that there was discipline in enforcing that time. It was a good idea to remove oneself from regular operations to ensure that day-to-day interruptions did not impinge on the project. The physical separation of team members also created issues regarding the communication of issues and queries, email and telephone communication quite often caused delays because of members being away from their desks undertaking other activities.

The results

The results of the project were five Moodle sites that are operational and have been tested with two trial groups. The results have yet to be confirmed with ongoing groups of students. This confirmation will indicate the fine tuning that is required for both facilitators and the design of the sites themselves. Nevertheless, five Moodle sites is a significant step forward for training in Water Operations (Networks) for TAFE SA and for water operations nationally.

The learning objects that have gone into the five Moodle sites are transferable to other LMSs. They can be used by other RTOs on their LMS or by water operation organisations for their own in-house training. Instructions have been developed for users of the training materials and objects. In addition, a template has been created for the Moodle sites that allow logical progression whilst accessing the Toolbox objects. This template then adds to the pedagogical logic contained within the Toolbox objects.

Reflections and suggestions

There is always a tendency for the scope of the project to 'creep' at times. More time allowed for trialling/interaction with industry stakeholders. Funding to be allocated earlier on in year to enable earlier pick up/access by successful applicants. Suggest national projects be publicised to state-based teams to enable collaboration. Earlier linked up with the industry-based, national project administered by Queensland Water.

Framework connection

The national training system's e-learning strategy, the Australian Flexible Learning Framework (Framework[1]) funds and supports E-learning Innovations projects which aim to embed e-learning into the national training system by supporting and enabling innovation in training design and delivery, at the territory level. The outputs of the WWO project are available to others. The Moodle that has been developed is now part of the *Certificate IV*

[1] http://flexiblelearning.net.au

in Water Operations (Networks) training package delivery from TAFE SA at the Regency Campus. Trainers have been exposed to the Moodle, students have undergone training using the Moodle and feedback has been obtained from both groups, as well as from industry who now expect this to be further developed and refined.

In engaging in this E-learning Innovations project, the following Framework products and resources were used:

- Central Water (10.02)[2]
- H2Online (10.03)[3]
- Splash (11.04)[4]

Of these Toolboxes, Central Water was used in the development of the Moodle site.

Acknowledgement

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[2] http://toolboxes.flexiblelearning.net.au/series10/10_02.htm

[3] http://toolboxes.flexiblelearning.net.au/series10/10_03.htm

[4] http://toolboxes.flexiblelearning.net.au/series11/11_04.htm