

**TRAINING IN THE TERRITORY - INTRODUCING
INNOVATIVE TECHNOLOGY IN THE TRAINING AND
DEVELOPMENT SPACE - WATER SERVICES**



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TRAINING IN THE TERRITORY - INTRODUCING INNOVATIVE TECHNOLOGY IN THE TRAINING AND DEVELOPMENT SPACE - WATER SERVICES

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ABSTRACT

Water Services have implemented the trial of two P-912 wearable Point of View (PoV) camera kits for the purpose of recording assessment activities by operators undertaking training through the Water Training Package.

Historically the gathering of evidence against units of competence by operators undertaking RPL/RCC activities has been poor and time consuming with many operators abandoning efforts to compile their portfolio of evidence.

By introducing and using the point-of-view cameras it is hoped that this will expose them to an awareness of how technology can be adapted to suit the learner in their usual work environment. The PoV cameras are an excellent tool for recording workplace activities and practical skills, and can be utilised remotely by the student to record their assessment activity. The use of PoV cameras will augment traditional forms of evidence such as written explanations of process, copies of reports, third party report etc.

This project aims to develop strategies and tools to enable the use of PoV cameras for remote assessment of learners. This will meet an urgent need for alternative assessment options for remote personnel, who may be currently disadvantaged by lack of access to assessors.

1.0 BACKGROUND

PoV cameras first gained popularity in extreme sports where adrenaline junkies used them to film their adventures on air, land or water. From bungee jumping to sky diving to surfing to motocross racing, these wearable cameras are able to take still shots or record continuous footage where they can later be downloaded in the computer or attached with a cable and viewed on high-definition television.

In 2010, Wide Bay Institute of TAFE in partnership with the Queensland Water Directorate trialled the effectiveness of using 'point-of-view (PoV) wearable camera safety glasses to record evidence of practical application of skills in the workplace for assessment of competency.

EDUPOV is the acronym for Education Point of View. This is a learner-enabled wearable technology to assist in the development of learning resources and assessment submissions. It allows the wearer to record what they see and do, from almost the same viewpoint as their own sight.

Figure 1 shows the PoV wearable camera safety glasses as trialled by Wide Bay Institute of TAFE.



Figure 1: *PoV Glasses*

Following from the work done by Wide Bay Institute of TAFE and the Queensland Water Directorate, Water Services have implemented the trial of two P-912 wearable PoV camera kits for the purpose of recording assessment activities by operators undertaking training through the Water Training Package. In addition to this, Water Services is also starting to compile audio visual training material for internal evaluation of our processes and to assess the knowledge transfer from the classroom to the work site.

This proposal aims to develop strategies and tools to enable the use of PoV cameras for remote assessment of learners undertaking RPL/RCC activities through the NWP07 Water Training Package. This technology will provide assessors with the unique benefit of seeing things from the student's perspective whilst undertaking practical assessment tasks.

Figure 2 shows the proposed camera kit. This camera assembly includes numerous mounting options to suit applications beyond its intended wearable constitution. It also has a wider view angle than that of the PoV glasses shown in figure 1.



Figure 2: *The Camera kit*

1.1 The Opportunity Being Addressed

As typical in the Water Industry, operator age profile is over 45 years. It is a male dominated industry with low level or no formal qualifications, who work in the field and have a very practical approach to tasks.

Historically the gathering of evidence against units of competence by operators undertaking RPL/RCC activities has being poor and time consuming with many operators abandoning efforts to compile their portfolio of evidence.

This group are particularly wary of change and are resistant to the use of computer and e-

learning applications. By introducing and using the point-of-view cameras it is hoped that this will expose them to an awareness of how technology can be adapted to suit the learner in their usual work environment.

Point of View (PoV) cameras are an excellent tool for recording workplace activities and practical skills, and can be utilised remotely by the student to record their assessment activity. The use of PoV cameras will augment traditional forms of evidence such as written explanations of process, copies of reports, third party report etc.

This project aims to develop strategies and tools to enable the use of PoV cameras for remote assessment of learners. This will meet an urgent need for alternative assessment options for remote personnel, who may be currently disadvantaged by lack of access to assessors. Assessment utilising PoV cameras can ensure that an assessment is flexible and valid, and allows for reasonable adjustment.

Remote Operations working with indigenous communities and in particular their Remote Essential Services Officers have an opportunity to explore the possibilities of using this technology to assist in the delivery of the Certificate II ESO qualification. Research has shown that to engage students it is important to include audio visual material. The learning styles of people in remote communities respond to visual, kinetic and aural activities and the low literacy skills make illustrative resources most appropriate.

1.2 Benefit

Cost effective training and assessment strategy must be agreed for delivery over vast geographic distances, while maintaining confidence in assessment of very practical skills. This trial will enable staff to demonstrate competencies using new technology and provide a positive experience in e-learning. The learners will be empowered by the increased flexibility in providing evidence of their competency through the use of point of view cameras to record this evidence on-the-job. This will give the learner more control over the time and place of their assessment through using options not previously available. Learners can also review their recordings and assess their own competencies against known sources, such as a trainer's demonstration or checklists.

The success of this trial will enable further assessments and activities to be conducted in this way, opening up the possibilities to other business units within Power and Water.

1.3 Additional Application Of This Technology

There are many uses for this technology within Water Services, below summarises additional uses, it is by no means exhaustive:

- High risk assessment
- Safe Act Observations
- Maintenance reporting to supervisors
- Remote area inspections
- Suspected breach evidence (eg water theft)
- Compilation of in-house training material
- ESO audio visual training resource material

2.0 FUTURE DELIVERY OPTIONS FOR TRAINING UNDER THE NATIONAL

WATER TRAINING PACKAGE

The National Water Training Package consists of three "endorsed" features. National Competency Standards, Assessment Guidelines and the Australian Qualification Framework. The content and assessment of this package are based on the competent performance of work related skills together with the knowledge required to underpin these skills. There is therefore less reliance on accreditation of curriculum content as a quality assurance mechanism. To successfully complete each module or unit of competency, students must demonstrate satisfactory achievement of all general objectives to a level described by the assessment guidelines for the National Water Training Package.

Apart from the formal assessment, RTO's may choose to use other techniques to ascertain students' progress. This might apply particularly to those activities which are part of the student's normal classroom and/or work activities, for example, classroom discussion, practical exercises and diagnostic tests.

Each RTO delivering the National Water Training Package may use differing strategies to assess competence of their trainees as long as they meet the essential conditions and standards for registration as set out under the AQTF.

With the numbers of individual RTO's delivering training and assessment services across Australia and the limited auditing of their performance by State and Territory registering bodies, the quality assurance of their product is problematic.

A number of approaches could be used to ensure consistency in the delivery, assessment and ultimately the knowledge transfer (outcome) of training through the National Water Package. This however, would need industry endorsement and commitment. The options may include the following:

- Establish an industry body to evaluate the delivery of training and assessment services provided by RTO's.
- Establish an independent industry based body to deliver training and assessment activities nationally.
- Encourage and support RTO's to realise the AQTF Excellence criteria.
- Only engage high performing RTO's that are recognised as Quality committed or Outstanding under the Excellence criteria.

The next step for industry would be to lobby State and Territory Training Authorities and the Department of Education, Employment and Workplace Relations for the introduction of Water Industry Apprenticeships and by doing so, recognise the Water Industry operator as a trade within its own right.