



A Secondary School / Tertiary Institution Cooperative Venture.

Academy of Mining and Quarrying **(Simulators & Machines Under Supervision.)**

In September 2007 EXITO initiated a scheme whereby a Secondary School, Aranui High School (Christchurch) and a Tertiary Education Organisation (TEO) Tai Poutini Polytechnic (Greymouth) have joined forces to create an Academy of learning that takes students across the secondary/tertiary divide and readies them for a career using heavy machinery.

The outcome of the one year programme will be students that can competently move into productive work in the mining and quarrying (and related) industries.

What Part Does EXITO Play?

Although EXITO was the catalyst through which this venture began, the real relationship must exist between the Secondary School and the TEO.

EXITO has begun the process of registering a series of unit standards at Level 2 that cover operating machine simulators and a further series of operating machines under supervision. EXITO will also assist in developing teaching and assessment resources for these.

These unit standards, along with some health and safety units, surface site induction units, plus others will go together to form a Level 2 National Certificate in Extractive Industries registered on the National Qualifications Framework.

Students will be able to qualify for that National Certificate in Extractive Industries as well as completing their studies for NCEA, probably at Level 2 or 3.

The simulators are in this case purchased from Goughs Caterpillar (Christchurch) and average around \$25,000 per simulator.

EXITO then has set a framework through which this programme can occur.

What Does EXITO Hope To Achieve?

The quarrying and mining industries are suffering from too few younger members of the workforce coming forward to work in these industries despite the mining industry being paid approximately 15% higher than the average workforce rate.

It is EXITO's hope that students who complete this programme will move straight into positions within the quarrying and mining industries and be productive operators from day 1.

Those operators will be able to move into additional training through EXITO with higher level qualifications and be well on their way to a successful career with a mapped out career pathway and real opportunity for a secure and lucrative future. It is the 'earn while you learn' concept put into a real setting.

What Part Does the Secondary School Play?

The Secondary School is the 'home' of the one year programme. Students are enrolled in both their Secondary School and at the TEO involved. This type of programme is catered for under the Ministry of Education and the Tertiary Education Commission, and is further supported through the Gateway programme.

The school devises a programme whereby the students study for half of their time at Secondary School subjects, moving towards an NCEA outcome, and the rest of their time with the TEO moving towards a National Certificate outcome.

Initially the students will learn to operate the machine simulators at the school. These are very realistic machines and have been given high praise by industry operators.

The students will in this first programme become proficient with:

- an excavator,
- a wheeled (front end) loader,
- a bull dozer, and
- an off-road haul truck.

Other simulators may be added for future programmes.

Once proficient, students will move into using light machines under supervision with the TEO and through Gateway will have periods of time in industry on work experience.

It is also possible that the students may learn to operate a road roller and a number of other small machines such as a compactor, as a part of their programme.

What Part Does the TEO Play?

The TEO provides the simulators, the light machinery, the machine tutor, and the assessor for the industry related unit standards. It is essential that the school and the TEO have an excellent working relationship as cooperative ventures such as this need good will and excellent cooperation for the programme to be a success.

The TEO then moves the students forward in the industry related parts of the programme, mentoring the students and assisting with placements under Gateway.

The TEO will also provide block courses (in Christchurch) where appropriate as a part of their tuition.

What Extensions Are Possible?

Simulator training, while still in its infancy, is developing into the leading edge of machine operation training. With actual machines now costing up to \$6M each and a single tyre costing close to \$100,000 it is essential to train operators before they get near such machines.

Simulators allow for repeatability so that incorrect procedures, errors etc. can be corrected as many times as is necessary until the performance is altered to a safe and productive manner of operation.

Most certainly night school, weekend school and holiday programmes for school leavers and those looking to change careers are distinct possibilities. Also because of the ease with which a simulator can be broken down and reassembled (around 20 minutes) they are both compact and

portable. This will allow for them to be deployed at work sites around a region, used at Expos, taken to A&P Shows etc. or even shared between schools.

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