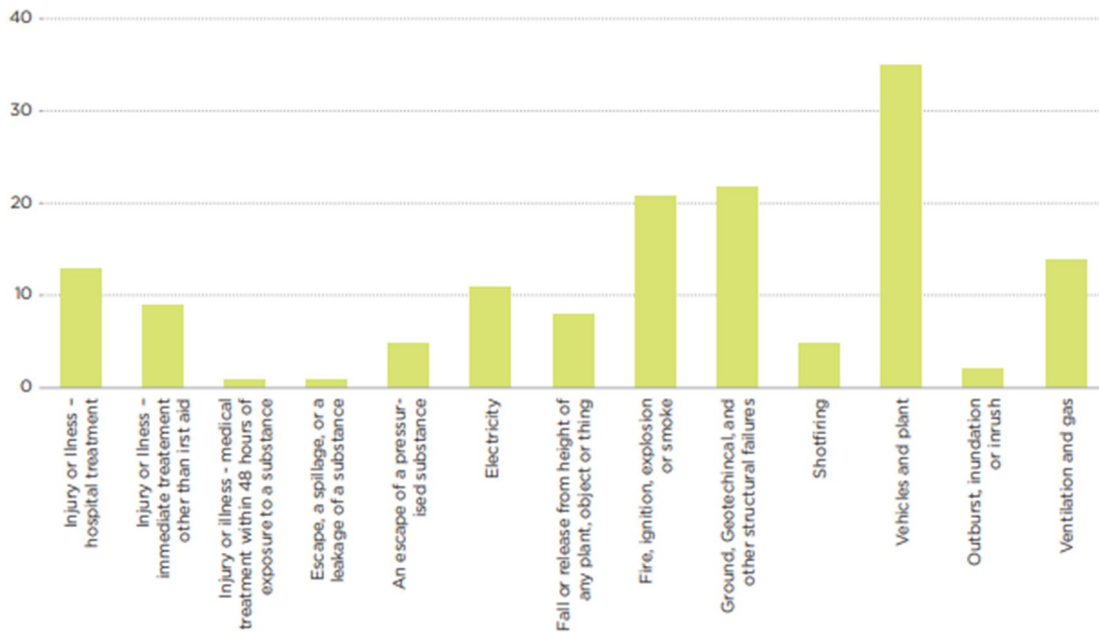


## Microlearning for mobile plant operators

This brief covers the Microlearning project background, method for developing the microlearning modules, potential application, feedback from industry and QR code analytics.

### Background

WorkSafe New Zealand have led the development of microlearning modules for mobile plant operators. The WorkSafe New Zealand High Hazards Unit, Extractives Team initiated a mobile plant project in 2020 to address the contributing factors that led to mobile plant being the leading notifiable category of incidents reported to WorkSafe. The below graph shows the notifiable event categories for the Extractives industry reported to WorkSafe for the previous 12 months (*Source Extractives Quarterly report Jan – March 2023*) The data shows 24% of notifiable events occur in relation to vehicles and plant, followed by 14% fire, explosion or smoke. The Extractives industry includes Mines, Tunnels and Quarries. These are high risk industries that provide employment for 6,000 workers. In March 2020 there was a mobile plant fatality when an articulated dump truck breached open edge protection.



**FIGURE 7:** Notifiable event categories for the previous 12 months

### Developing Microlearning modules

This initiative was only made possible by collaboration with WorkSafe Innovation and Education teams who provided expertise in software development and learning design.

The project empowered workers to be involved in the development of the resources through testing, review, and evaluation of the online micro-learning modules. It enabled workers to think critically about active risk management and enact solutions to improve the health and safety outcomes for themselves and those around them.

Three quarry sites were involved in the trial. (Brookby Quarry, South Auckland 60 workers, Smyths Quarry, Waikato 20 workers and Gleeson and Cox, Huntly 30 workers) 32 Workers submitted survey responses (see video for details).



The aim of the modules is to provide Health and Safety learning modules specifically for mobile plant in the quarry's work environment based on universal design for learning. (see website for 2min video explaining microlearning).

### **Potential application for other industries**

Whilst this is tailored to the quarry industry this approach to learning can be applied to other industries (Forestry, Agriculture, Road Transport, and Civil Construction).

### **What we have developed**

Microlearning provides learning that is digestible, byte sized chunks that is accessible for workers. These modules were developed as a proof of concept. They are free to access and can be accessed via mobile phone, tablet or laptop.

There are currently eight topics:

1. Safety basics
2. Machine capabilities and technology
3. Wearing seatbelts
4. Fit for purpose and service
5. Reversing into a tipping position
6. Tip head design
7. Raising a hoist
8. Open edge protection



They are not a formal qualification. This is a link to the learning topics and short video explaining what microlearning is here <https://quarries-learning.vercel.app/> or by scanning this QR Code. Small laminated QR codes have been distributed to industry at workshops that workers can attach to key rings.

It was always the intent to complete the proof of concept and then get industry to take up a leadership role. A training advisory group has been formed that includes people from industry and WorkSafe to develop a suite of modules. We have partnered with MinEx (Health and Safety Council for Extractives industry) for them to host this on their website from Dec 2023.



### **Feedback from industry:**

Eddie Te Kahika, Health & Safety Manager M.W. Lissette Limited

*I've just been going through these micro learning links. They are excellent 😊*

Phillip Boulton, Fleet Review Services

*I set up Fleet Review Services Ltd back in 2013 as I saw a real need to train plant and machinery operators on the value of good prestart inspections. This has continued to expand into communicating good health and safety practices around all quarry operations.*

*I am an assessor for MITO and have been carrying out specific onsite training for Artic dump trucks, Wheel loaders and Excavators. My past life has been working for Caterpillar and Volvo with these types of products. I have finally sat down and had a good look at your Quarries Microlearning Modules today and **I must say these are very good.***

Mike Chilton, Consulting Quarry Engineer, Aggretech and Institute of Quarrying

*These modules will be good tools for our industry – thanks for putting them together.*

Tim Kennedy, President Institute of Quarrying and Quarry Manager Fulton Hogan

*An experienced A grade quarry manager “thinks they are really good. I have run a couple of them with the coast crew and they had some really good conversations. They certainly hit the right spot.”*