MAKER IMMERSION TRAINING PROGRAM

Certificate IV and Diploma in Building and Construction

Presentation for DET Showcase

Acknowledgements

- We all acknowledge the traditional Aboriginal owners of the country throughout Australia where this product has been created, and we pay our respects to them, their culture and their Elders past, present and future.
- The Maker Immersion Project is the result of the collaboration between Exner Education and Real Serious Games.
- This successful collaboration has produced this innovative product with the efforts and commitments of our staff and colleagues and with the partnerships with AECOM, Built, The University of Melbourne (Faculty of Architecture, Building and Planning), Capstone Education, SafetyJourney, and Melbourne Corporate Health, and we acknowledge the enormous support by our TAFE partners Holmesglen Institute and Federation University Australia.
- This project was supported by the Victorian Government.

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Project Partners

exner education

We are the RTO, we write the course content that is Mapped

real SERIOUS games

RSG develop the VR as a learning resource for our Course content

Built.

Subject Matter & Industry Experts that we are working with to develop notes that reflect skills required in the industry currently and in the future

AECOM

Subject Matter & Industry Experts that also provide BIM & eCosting models for us to include in the course

holmesglen

Federation UNIVERSITY • AUSTRALIA

Provide feedback in the development of the notes & will demo VR in classrooms

THE UNIVERSITY OF MELBOURNE

Melb Uni are evaluating the training materials and a review of the VR as a learning tool versus traditional learning

CAPSTONE EDUCATION

Ensure our notes are mapped and compliant. Ensure Assessment is compliant

SAFETYJOURNEY
TRANSFORMING CULTURE TOGETHER

Neuroscience experts that provide advice on the way students engage and store information whilst they learn

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Victorian Government provided funding for the Maker Project under the Workplace Training Innovation Fund (WTIF). We will use this funding for the development of assets and distribution.
The goal of the fund is to increase "productivity in the workplace and ensuring existing workers and students looking to enter the workforce have the skills they need to take up jobs in new and emerging industries"

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The Maker Immersion Project was Initiated to provide solutions to the problems in construction training

Increased Rates of Completion

Increase enrolments

Increased industry required skills

Better site safety skills

Job Ready Qualifications

Increased Skills, Retention & Productivity

This has come to us from industry and TAFE feedback

Our Program of Training

The Maker Immersion Training Program is an integrated set of resources to deliver the Cert. IV & Diploma in Building & Construction that are designed to be taught through TAFE's.

It includes a full set of notes with the Units of Competency clustered into modules, with topics that are mapped down to the criteria required against Australian VET accredited training packages.

The course incorporates scenario-based learning opportunities using Virtual Reality scenarios, and real examples in the notes and case studies to underpin the learnings required.

The kit includes the following educational resources:


Mapped Notes

Virtual Reality Scenarios


Assessments

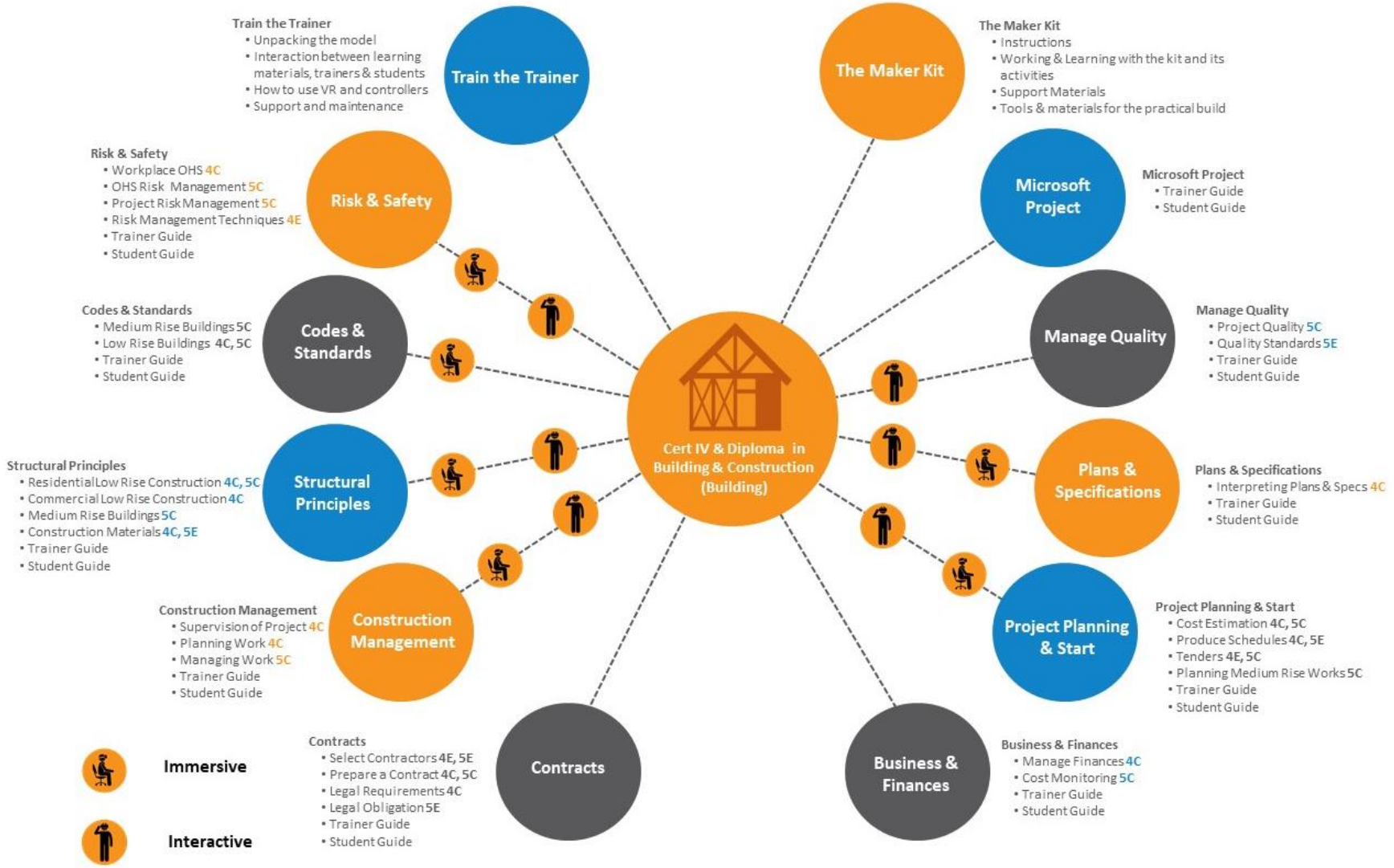

Quizzes


Trainer Guide


Student Guide


XBook

Overview of Course Modules



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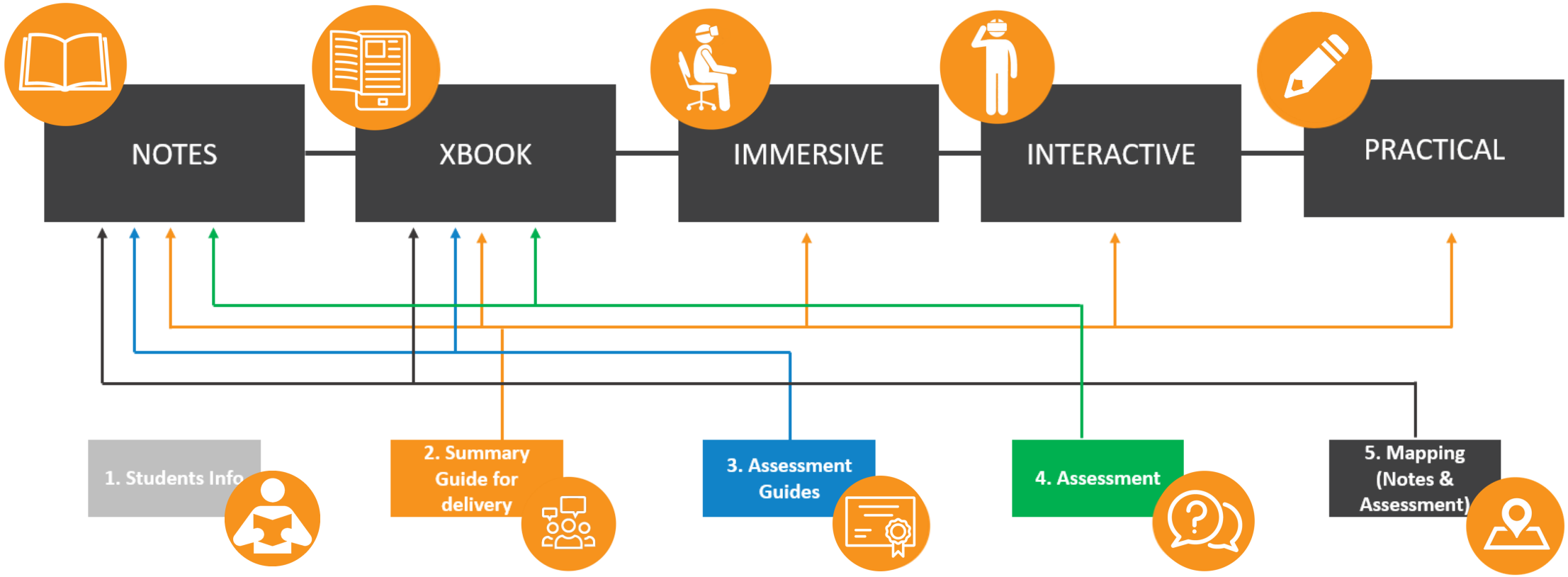
MODULE PROCESS EXPLANATION



Course Notes

Course Notes

- Our notes are written by Industry with TAFES for industry ready graduates, they have been designed to match the natural rollout of tasks on a worksite
- They cover the entirety of all units of competencies in the module
- The full set of notes is more like a textbook that works as a reference document for both the student and the trainer
- In addition trainers are able to use the notes as a reference document and select different components to suit the individual trainer's delivery approach
- They are mapped against ASQA training packages and accredited training packages
- Our notes will cover a range of information for those who have no site experience and will allow the opportunity for more experienced student to move through to more relevant sections

The notes include the following:

Mapped Notes | Virtual Reality Scenarios | Assessments | Quizzes | Trainer Guide | Student Guide

Course Notes Sample Pages

Course Notes

4. Revise the identified risks

Unit	Criterion	Criterion Detail
BSBPMG517	4.3	Determine risk responses to changed environment
BSBPMG508A	2.2	Monitor progress against project plans to identify variances and recommend responses to a higher project authority for remedial action

A project should review its Risk Register regularly to ensure continued suitability during project progress and possible changes in the environment.

To be considered a live document, the project should not only review the risk register on a regular basis but every time a change occurs. For example:

- A new job or task presents a new hazard.
- An unusual or unexpected event occurs.
- After a significant accident or incident.
- A huge number of hazard reports are issued.

Risk response is the process of controlling a project's identified risks. It is the process of deciding how to deal with each risk and the most common risk responses are:

Avoid
Change your task or plan to avoid the risk.

Mitigate
Act to reduce the risk.

Transfer
Transfer the risk to another party.

Accept
Decide to take the risk as the severity or likelihood have been assessed as low.

	Conduct a group discussion exploring activities or tasks that require a separate Safe Work Method Statement on a Construction Project.
	Select one of the 19 High Risk Construction Work (HRCW) activities. 1. Download the Safe Work Method Statement Information Sheet from the Safe Work Australia website. 2. Complete the template SWMS for your chosen activity.

e. Health & Safety Co-ordination Plan (HSCP)

To manage health and safety on site, a useful tool is the Health & Safety Co-ordination Plan (HSCP). It should be prepared before work starts on site and it includes all the details as to *HOW* safety will be managed on site. The people who the plan relates to including the PCBU, board members, managers, leaders and supervisors, workers, H&S representatives, contractors, subcontractors and visitors.

The Health & Safety Co-ordination Plan (HSCP) must be prepared before any construction work commences to describe how safety will be managed on site. The plan includes:

- Names and positions of those who have specific health and safety responsibilities.
- How health and safety will be handled on site, first aid, induction and HSR representatives.
- Peoples' WHS responsibilities.
- How incidents will be managed.
- How issues will be resolved.
- Inspections.
- Site safety rules.
- Emergency procedures.
- Reporting procedure for incidents.

The principal contractor must review the HSCP in order to check all information is accurate and easily accessible by all those on site.

Following is a basic template that can be used from Work Safe Victoria website. This is a generic plan and should be adapted to your worksite and project.

a. Understanding risk management framework

Figure 61 - Risk Management Framework

We need to understand risks so we can plan to address and mitigate them. This section will take you through risk types and assist you in preparing a Risk Management plan.

A well-designed plan allows you to identify, manage and control risks more effectively. Using planning tools and considering factors during the risk management process are introduced within this topic.

The details of the risk management framework will be introduced in later sections of this module, however, before looking at the risk management framework, enough understanding of the system is required.

To manage risks, we need to identify the risk, plan the controls and use tools to mitigate or reduce the risks. A Risk Management Framework sets out the process for dealing this process and is what we will use to address risk.

Figure 62 - Understanding the risk management framework

Virtual Reality

Virtual Reality

- There are two types of VR, Immersive & Interactive used in the course at different times, though not each module has VR
- Immersive VR requires the student to be seated and generally the student is introduced to key learning outcomes, or a base understanding is established that needs to be introduced early in the module
- Interactive VR involves the student's participation in a room scale VR, that will require them to stand in a 2.5m x 2.5m space where they will be able to move around and interact with a worksite or simulated situation, physically picking up objects and interact with virtual workers. It allows students to test their skills in a safe environment without risk or fear of failure.
- VR can be used to demonstrate competency by the student .
- VR can be used as a training tool or assessment, however at this stage it is used as a formative assessment only as it has not yet been deemed a summative assessment tool.

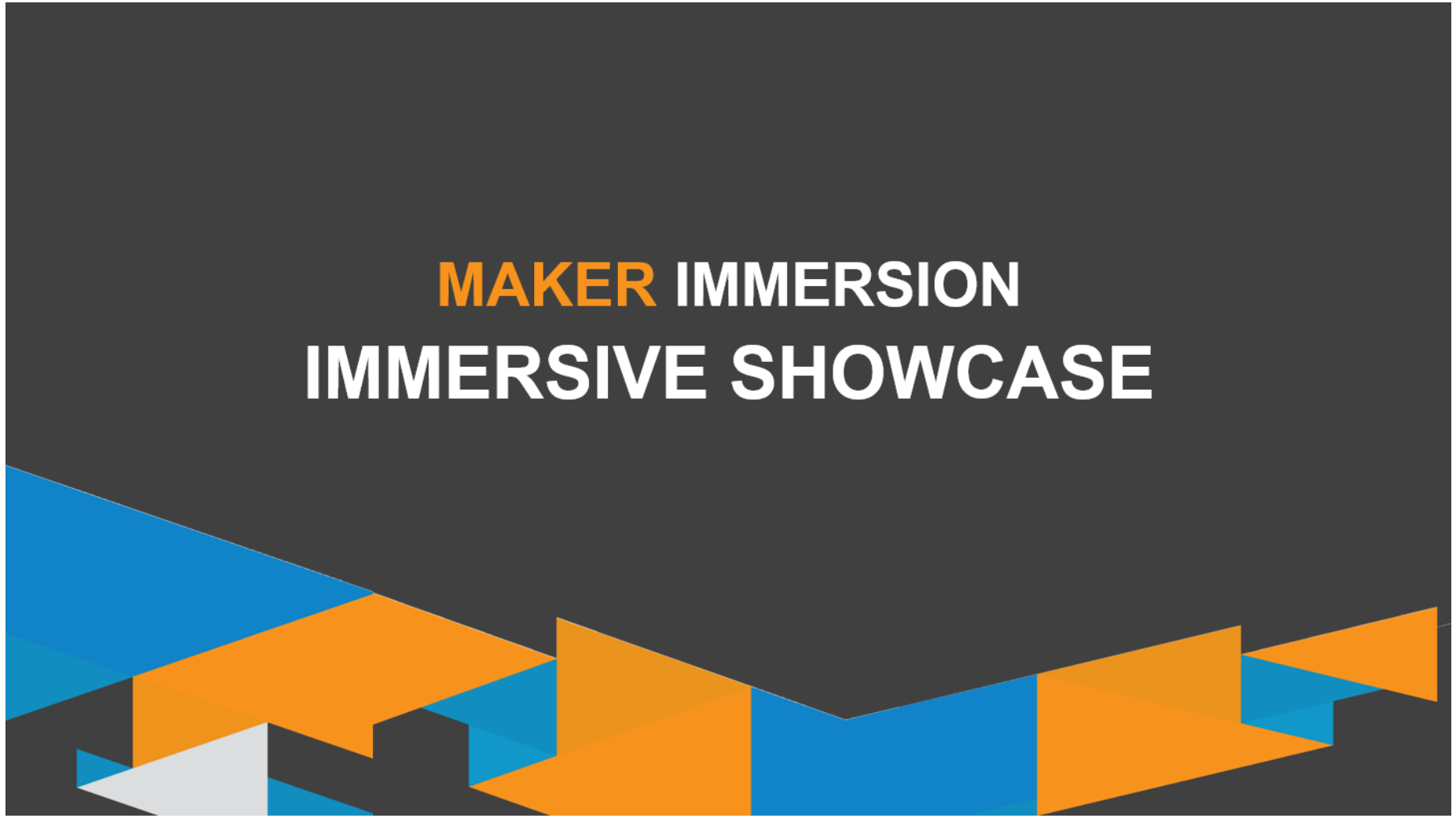
The VR activities include the following:

Video of Interactive

Video

Video of Immersive

Video

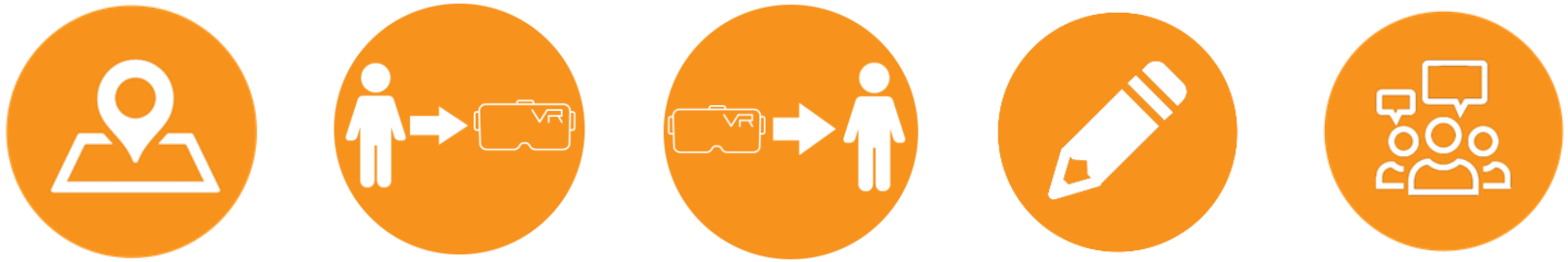


Trainer Guide

Trainer Guide

- Provides the trainer with the notes and unit of competency mapping
- Recommended activities
- Recommendations of when immersive VR and interactive VR should be utilised by the trainer
- Lead ins to VR so the learnings from the experience are achieved
- Lead outs of VR to ensure that the information was viewed or experienced
- Guided questions at the conclusion to ensure appropriate learnings have taken place
- Assessment Marking guide

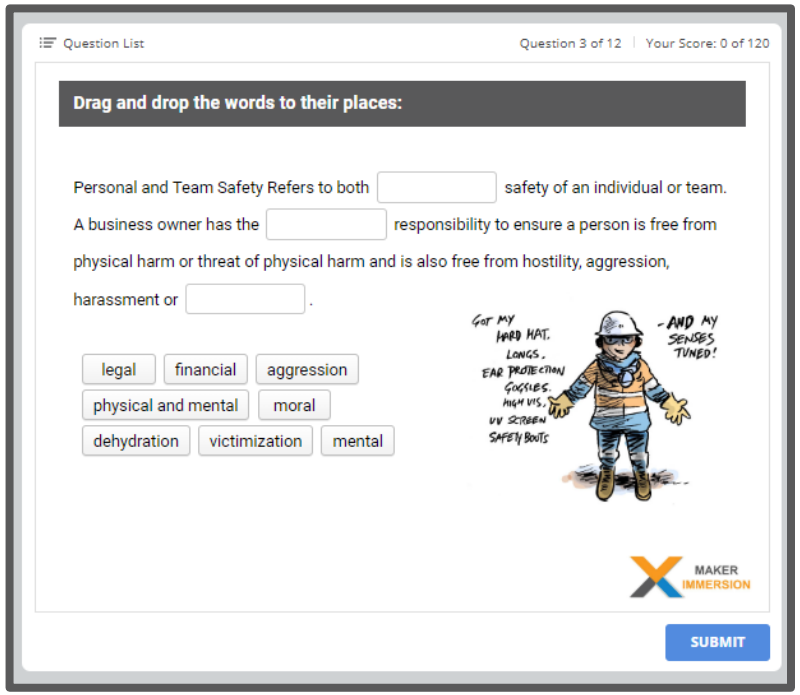
The Trainer Guide includes the following:

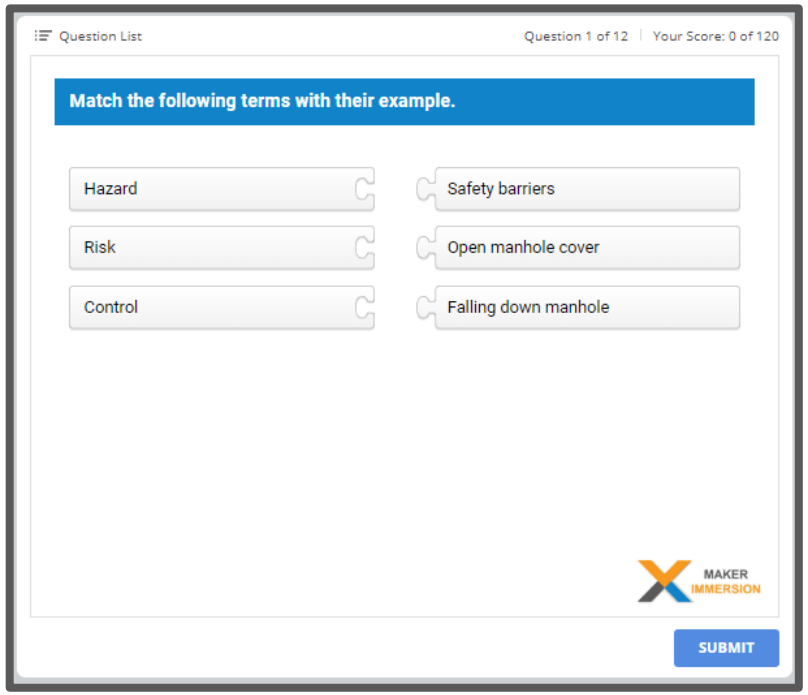


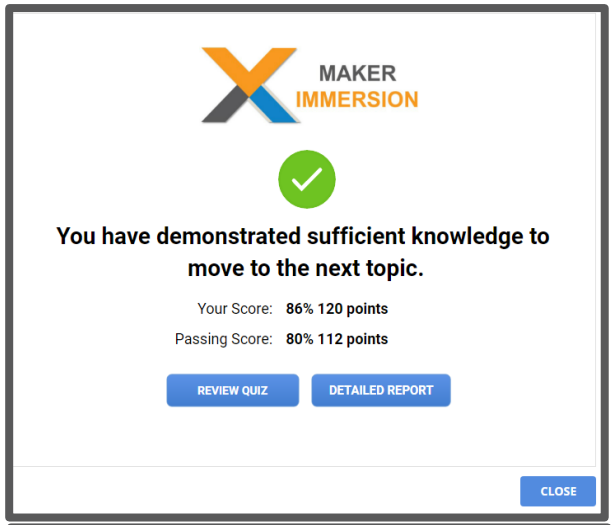
Mapping | Lead In | Lead Out | Activities | Discussion

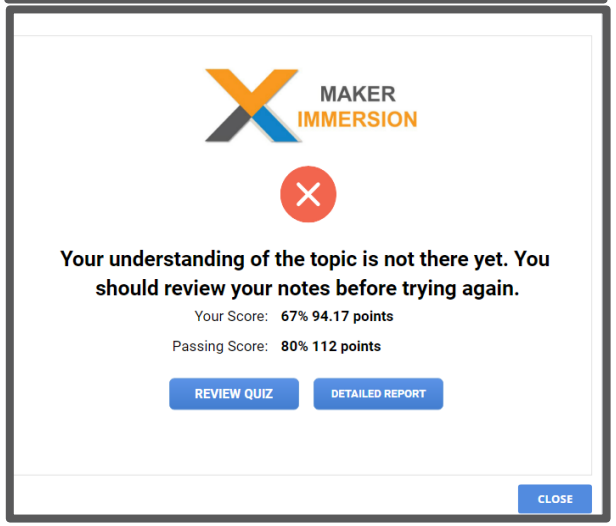
Quizzes

Quiz









XBook

- Provides an engaging reading experience for students.
- The XBook is delivered via a Learning Management System (LMS) SCORM package that is easily loaded onto all LMS programs, including Canvas, Moodle, Blackboard and Bright Space.
- The XBook is the complete version of the notes accessed via tablet, computer or phone.
- XBook presents key learning outcomes in an electronic environment with multiple interactive elements including 360° images, widgets, cartoons, video and animations to enhance the learning experience and retention of information
- There is an ability to search, highlight, bookmark and make notes which are saved and easily accessed every time opened.
- Student will receive a score at completion of the quiz

The XBook includes the following:

XBook Functionality

XBook

Ability to make notes

Ability to bookmark

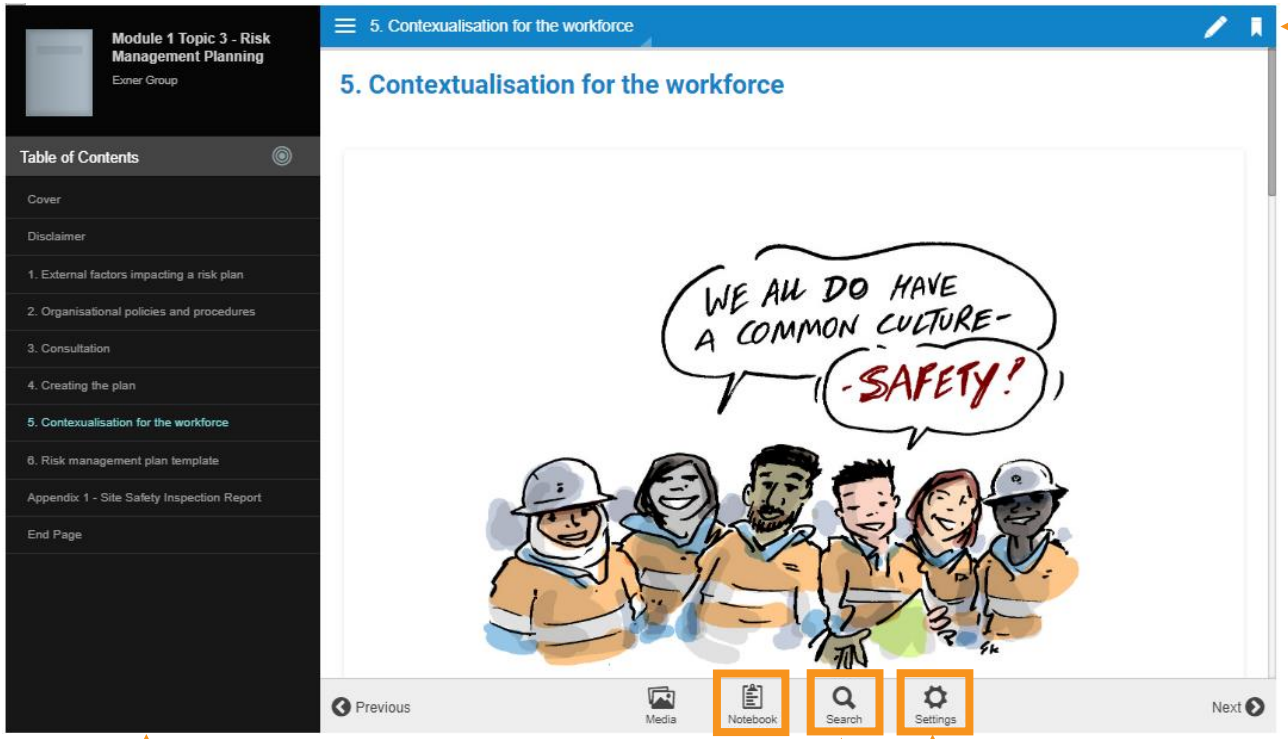


Table of contents that allows you to click onto relevant chapter

Store notes highlights & bookmarks

Search by chapter or entire book

Adjust viewing setting

360-degree images of VR scenarios

Module 11 – The Maker Kit

To combine the skills learnt and the opportunity to apply them to a practical project, using the previous 8 (for Certificate IV) or 10 (for the diploma) modules studied, the students use either Module 11 or other simulated work area.

Application of materials and equipment that would normally be used on a construction project, adds to the realism of the practical component. Building a three-sided, single level room, negates the need for a building permit and eliminates exposure to several on-site hazards and risks such as working at heights.

Tools required will include:

- PPE safety equipment
- Small tools
- Nail guns
- Ladders

How we have reached out to industry?

2018 NATIONAL VET CONFERENCE

Presentation & Exhibitor

2018 WORLD VET CONGRESS

Presentation & Exhibitor

INDUSTRY SHOWCASE

Exhibitor

TRADING PLACES PUBLICATION

Editorial Feature

Who we have spoken to?

HOLMESGLEN TRAINERS & STUDENTS

QLD TAFE

SWINBURNE CAMPUSES

MONASH UNIVERSITY

We have also spoken to Box Hill Institute, Chisholm, Victoria Polytechnic & Federation University among others. Their feedback has been essential in developing our educational tools, particularly the notes, the VR experiences and the XBook to ensure they reflect current industry practices and are accepted as both realistic and best practice.

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QUESTIONS