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

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

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

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

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

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

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

Neuroscience experts that provide advice on the way students engage and store information whilst they learn
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”
The Maker Immersion Project was Initiated to provide solutions to the problems in construction training.

- Increased Rates of Completion
- Increased 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:
MODULE PROCESS EXPLANATION

1. Students Info
2. Summary Guide for delivery
3. Assessment Guides
4. Assessment
5. Mapping (Notes & Assessment)

NOTES -> XBOOK -> IMMERSIVE -> INTERACTIVE -> PRACTICAL
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
4. Revise the Identified Risks

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A project risks matrix can be created to organize and prioritize risk management activities.

To be revised, the project should regularly review the risk register on a regular basis to identify new hazards, the reasons:
- New jobs or tasks present new hazards.
- New people or unexpected events occur.
- A significant accident or incident.
- A large number of hazards reports are used.

Risk register in the process of controlling a project’s identified risks. It is the process of identifying how to deal with each risk and the risk owner to risk responses seen.

Risk register:
- Change your task or plan to avoid the risk.
- Mitigate.
- Accept.
- Transfer the risk to another party.

Change your task or plan to avoid the risk.

Mitigate.

Accept.

Transfer the risk to another party.

Accept.

To take the risk of the severity or likelihood have been assessed as low.

1. Download the S500 Risk Matrix Statement of Engagement Sheet from the S500 West Australia website.
2. Complete the bespoke S500 for your chosen activity.

Health & Safety Co-ordination Plan (HSCP)

The Health & Safety Co-ordination Plan (HSCP) must be prepared before work starts on site and it includes all the details as to how safety will be managed on site. This plan includes a list of all those involved in the project, roles, and responsibilities, personnel, equipment, materials, and resources required.

The Health & Safety Co-ordination Plan (HSCP) must be prepared before any work commences to determine how safety will be managed on site. The plan includes:
- Roles and responsibilities of those who have specific health and safety responsibilities.
- How health and safety will be handled on site, and who, in what way, will manage and represent.
- Hazard assessment.
- How incidents will be managed.
- How lessons will be learned.
- Incident reports.
- Site safety audits.
- General procedures.
- Reporting procedures for incidents.

The practical seminar must review the HSCP to ensure all information is accurate and easily accessible to a person on site.

Following is a basic template that can be used from WorkSafe Victoria website. This is a generic plan and should be adjusted to your workplace and project.
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:

- Mapping
- Telemetry
- Discussion
- Immersive VR
- Interactive VR
Video of Immersive

MAKER IMMERSION
IMMERSIVE SHOWCASE
The Trainer Guide includes the following:

- 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
Quizzes
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:

- Annotate
- Mapped Notes
- Video’s
- Images
- Widgets
- Viewable Plans
XBook Functionality

- 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
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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