

Promoting health and safety practices by engaging with the stakeholders

ESDF

Roza Dimeska - School of Chemistry

Simon Bedford - Learning, Teaching & Curriculum
Melinda Chylinski- WHS Advisor
Michelle Wakelam - Virtual Accident



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

Aims and Objectives

Why? Health and safety practices are seen as “boring” by students, staff and most training programmes do not persuade participants from this point of view. This project based on sound pedagogy and previous research in the area demonstrates to all stakeholders why health and safety is a vital aspect of the scientific method and thus successful science practitioners.

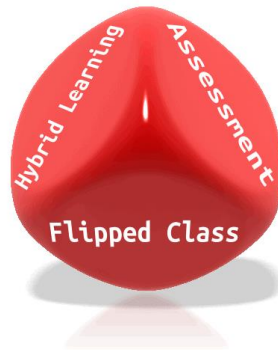
Outcome: This is demonstrated by improved compliance with WHS principles and policies.



Aims and Objectives

What? This project provided an engaging safety training program delivered via a hybrid learning model to undergraduate & postgraduate students, and staff within the Faculty of Science, Medicine and Health. The key underlying pedagogy is to promote self-efficacy within the learners to find out about health and safety for themselves rather than have it delivered to them by the providers.

Output: A set of online modules for undergraduate, postgraduate and staff have been incorporated into the relevant WHS programs.

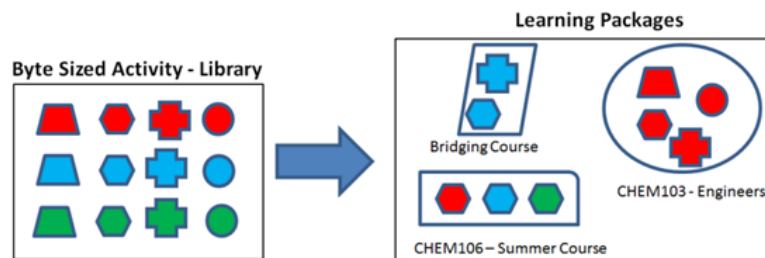


Aims and Objectives



How? The project focused on chemistry to produce a range of “byte sized modular units” each addressing different aspects of chemical and laboratory safety that provided exemplars of how successful programs can be created within the faculty. We used captivate software to make these as interactive as possible.

Outcome: As well as software, hardware and resources we had a professional staff member trained in producing these modules so that the work is self-sustaining.



Undergraduate project

1st year Chemistry subjects

Lots of students, lots of inductions
Do WHS preparation before coming to lab
Copy main points into handbooks
Do quick Q&A in the f2f sessions
More time for teaching
All students tracked on Moodle
Feedback from students, staff +ve



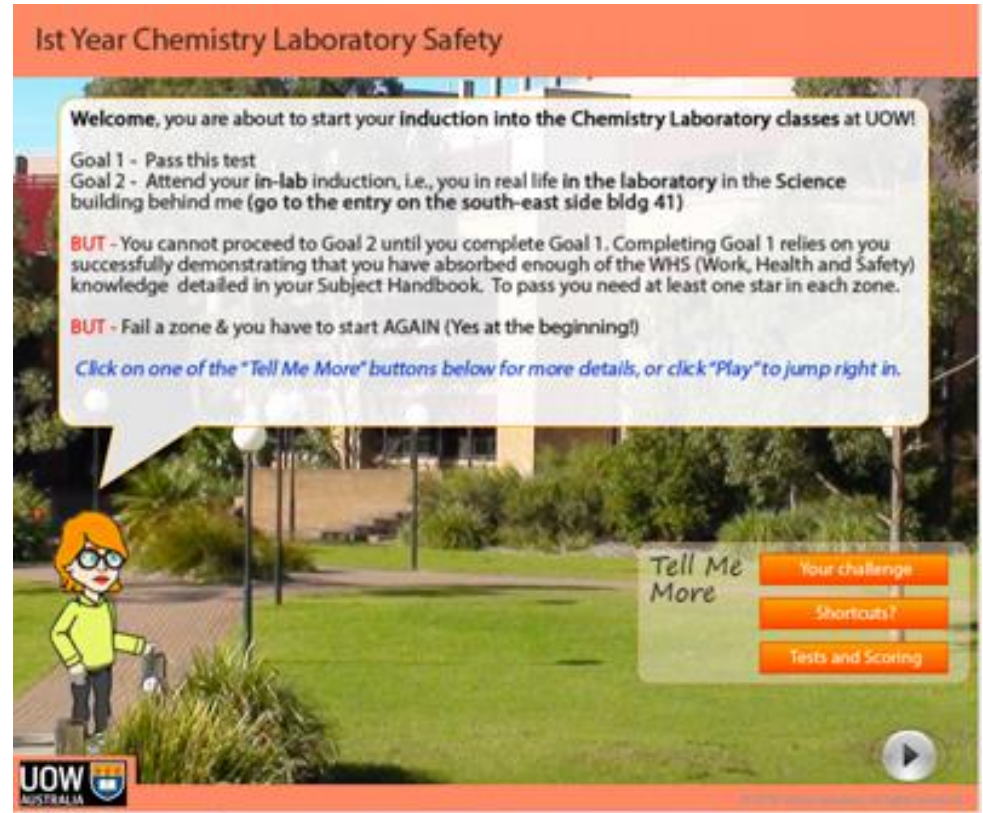
<http://virtuala.com.au>

Undergraduate Program



In line with flipped class approach
Students complete:

- 1/ Subject Handbook
- 2/ On-line test
- 3/ Attend in-lab induction



Undergraduate Program



Scoring:

What interactions should you use?

How do you gain points?

Should you lose points?

How many times can you repeat it?

Undergraduate Program Evaluation

- Students were asked to complete the evaluation below with a response of agree, somewhat agree, neutral, somewhat disagree or disagree

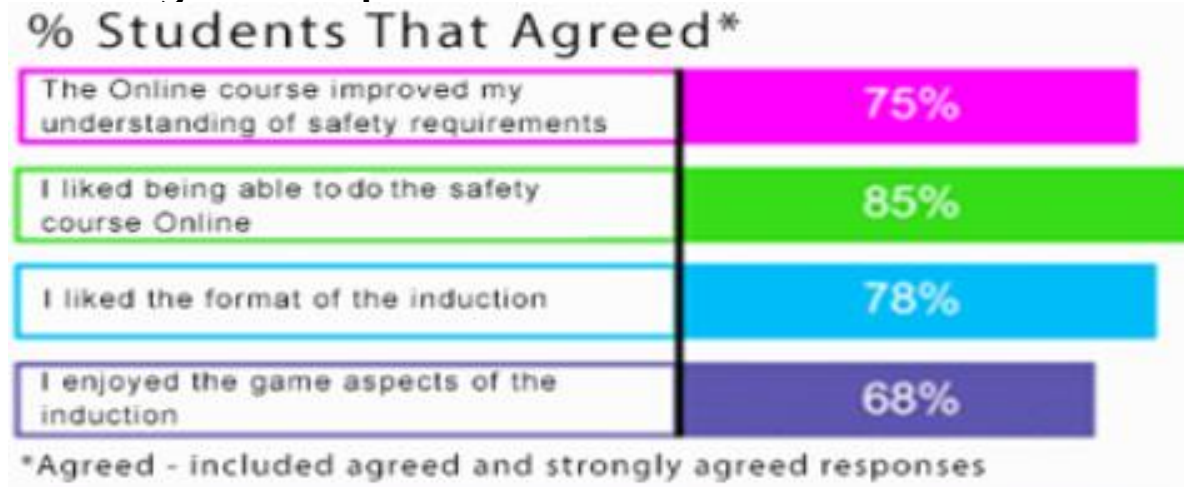
Q.1 : I like being able to do the induction online

Q.2: I liked the format of this induction

Q.3: The induction was better than the face to face sessions we had last semester

Q.4: The induction improved my understanding of safety

Q.5: I enjoyed the game aspects of the induction



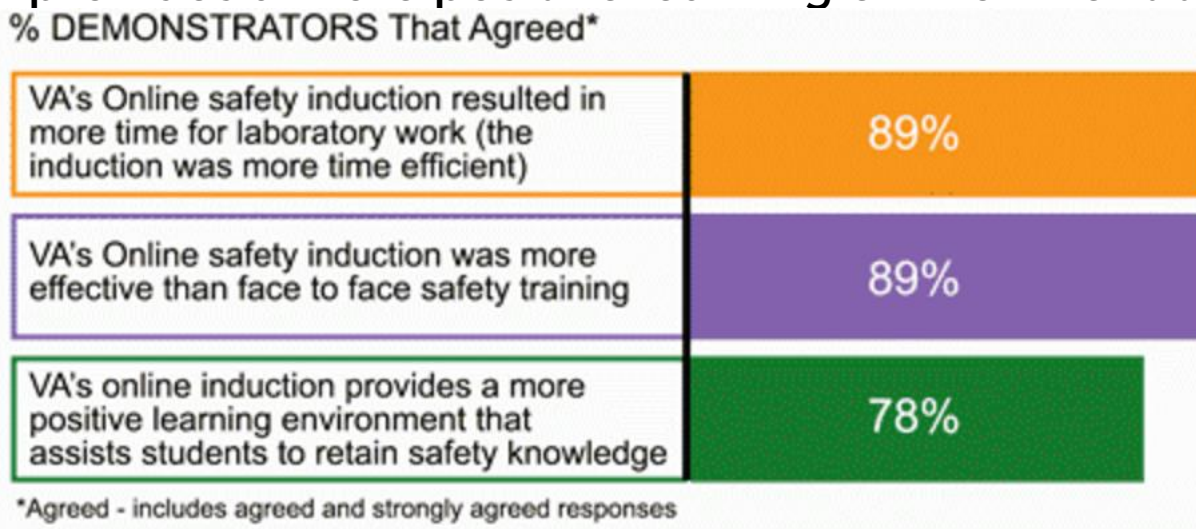
Undergraduate Program Evaluation

Of the demonstrators

89% of demonstrators agree or agreed strongly that the online safety induction resulted in more time for laboratory work (the induction was more time efficient)

89% of demonstrators agreed or agreed strongly that the online safety induction was more effective than face to face safety training

78% of demonstrators agreed or strongly agreed that this online safety induction provides a more positive learning environment that assists students



WHS1.mp4



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

Undergraduate project

WHS Inductions in STF

Safety requirments for Lab 43.201

Eating & Drinking

Personal Protection Equipment (PPE)

Fire & Evacuation

Incidents & First Aid

Waste Management

Housekeeping

Risk Assessment



UNIVERSITY OF
WOLLONGONG
AUSTRALIA



800 undergraduate students
Exposed in 2016

“Previously, our lab induction process was tedious, having to be repeated by multiple lab leaders and sometimes on more than one occasion each. The video provides a very effective solution as it can be posted on the Moodle subject site where students are required to view it before attending their first lab class - CHEM212 Coordinator.”



UNIVERSITY OF
WOLLONGONG
AUSTRALIA

Postgraduate project

Hydrogen Balloon Filling facility



WELCOME !



SWP and SOP for Hydrogen Balloon Filling



Training



Quiz



Small number of students
Infrequent need of training
Just in Time – resource
SWP/SOP prep done online, followed by f2f
All students tracked on Moodle
E-mail sent to supervisor



WHS2.mp4



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

Postgraduate project

Ecological Research Centre

The UOW Ecological Research Centre (ERC)



Quote from staff:

“Your opinion about how to make this lively and interactive (eg more effective and interesting) with Captivate would be welcome.”

Special entry requirements

Isolation



Staff WHS Induction

School of Chemistry



School of Chemistry Local Area WHS Induction

- Staff induction run every week
- Small, or large numbers
- Lot to cover – can be repetitive
- Online shows “how to do”
- All info in one place – can be revisited
- All staff tracked on Moodle

SMAH Faculty

- Lots of staff and information to cover
- Need to check everyone has done it
- F2f would be very time consuming
- Assessment – 100%
- Easy to update – edit slides




WHS3.m p4




WHS4.m p4

Faculty of Science Medicine and Health WHS Induction



A person wearing a blue protective suit and a clear face shield is shown in profile. Overlaid on the right side of the image is a complex hexagonal molecular structure diagram. The diagram features several hexagons connected by lines, with labels such as C_8H_{11} , C_2H_2 , C_9H_8 , C_2H_4 , and C_3H_4 . The background is a solid orange color.

UNIVERSITY OF
WOLLONGONG



PERSONALISED EXPERIENCES. WORLD CLASS RESULTS

QUIZ

You must achieve 100% in this quiz to pass.



Achievements



Conclusion

- Gamification is good for UG
- Easy to update and change in light of feedback
- Provides real life feedback on assessment
- Starting to see improved compliance with WHS principles and policies
- Positive feedback from staff and students



U

O

W



roza@uow.edu.au



UNIVERSITY
OF WOLLONGONG
AUSTRALIA