

Embedding Professional Skills through Immersive Learning

Clare Johnson, Head of Cyber Security, University of South Wales
@clareontherun, clare.johnson@southwales.ac.uk

Background

- 'Professionalism and Governance in Cyber Security'
- For computer security and computer forensics students
- Mostly male students (90%), vocational backgrounds eg BTEC
- Previously ran 'long and thin'
 - 24 weeks, 1 lecture and 1 tutorial each week
- Full of 'fluffy' stuff
 - Professional skills such as giving presentations, CVs, skills audit, personal development planning etc
 - Academic skills such as researching, report writing, referencing

Feedback 2016-2017 - LOOP

48% said the module materials enabled them to learn

"The module is obviously forced upon the course"

"I wonder what the point is"

"It demotivates me"

21% said the content stimulated their interest in the subject

"It is not relevant"

"Content is somewhat dull"

LOOP is the University's internal feedback system

New structure

- Based on feedback and 'students as partners' approach
- Immersive learning approach
- Same content and learning outcomes
- Authentic learning approach
- Focus on content (project brief) rather than learning objectives
- Learning objectives become embedded
- Six weeks: 3 hours of lectures + 3 hours of tutorials
- Assessment via Group Presentation, Individual Report and Vlogs

Industry Partners

- Existing relationships with Industry exploited
- New relationships developed
- Projects suggested
- Gaps filled by previous project ideas
- Students are new to Cyber, so projects needed to be vetted
- Industry partners attended final presentations

Feedback 2017-2018 - LOOP

“I liked the group project”

“It could be more relevant”

“No presentations”

35% said they were satisfied with their experience on this module

“Not very interesting”

“More breaks”

“Module is very useful”

“Enjoyable”

Feedback was disappointing, but this snapshot was taken the week before the presentations, when the students would have been feeling under the most pressure

Findings – Qualitative Comments

In addition to LOOP, pre-project and post-project paper based surveys were handed out directly to students. These yielded more positive results than LOOP (possibly because of timing)

- 18 wholly positive comments
- 8 wholly negative comments

“Very intense”

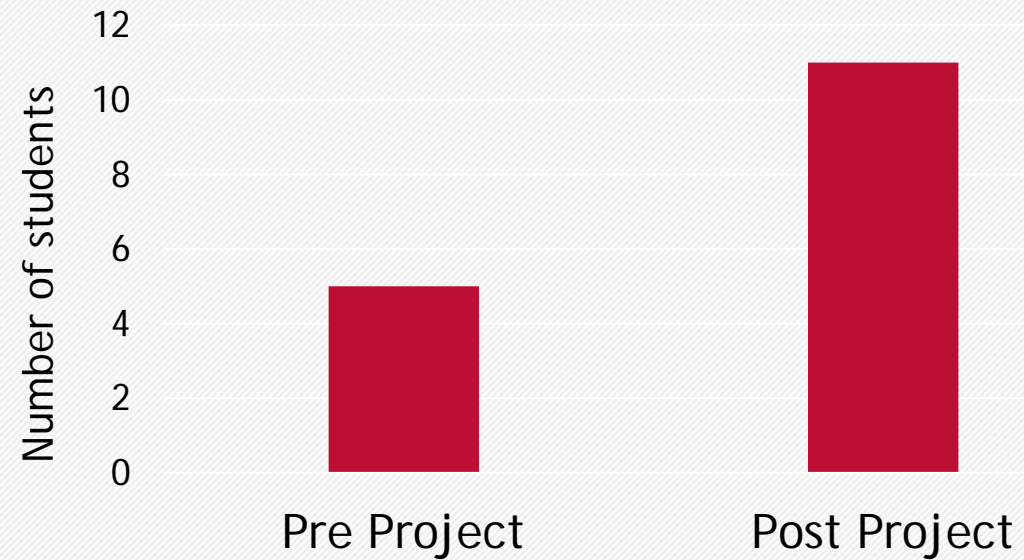
“Interesting and was fun to do”

“I felt that it encouraged efficiency”

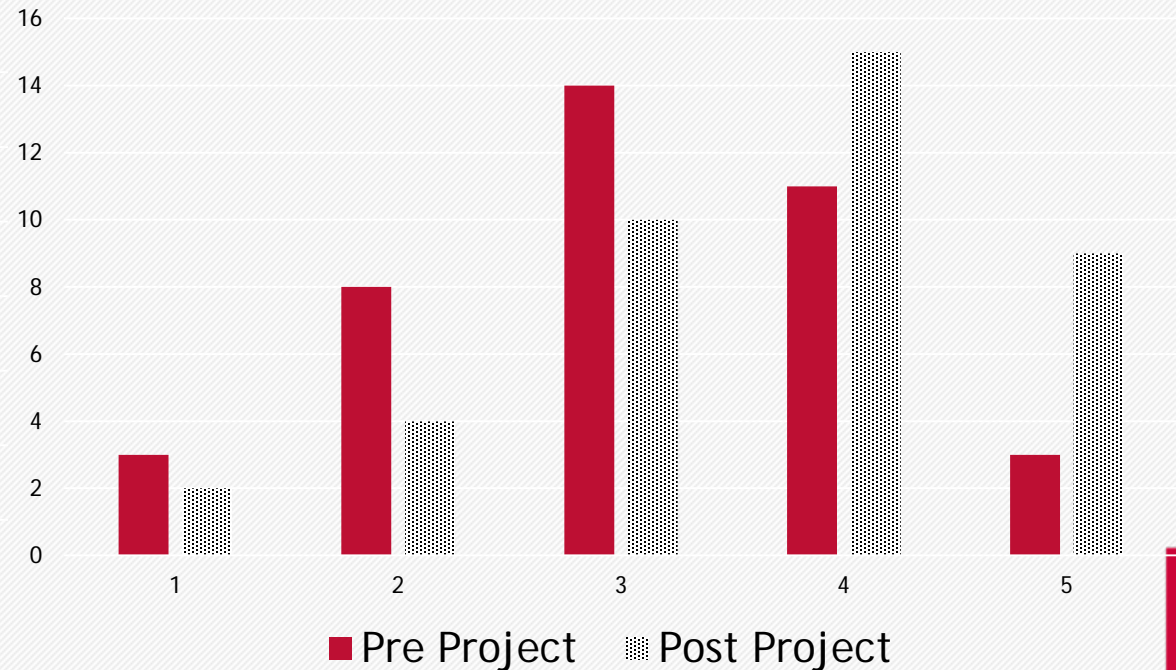
“Enjoyed working as part of a team”

Findings - Quantitative (1)

How relevant do you think this module is?



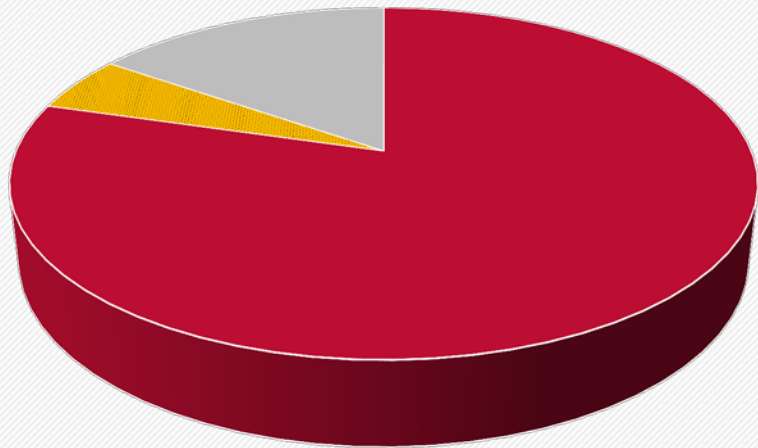
How interesting do you expect the project to be
How interesting did you find the project



Likert scale: 1 Not at all interesting; 5 Really interesting

Findings – Quantitative (2)

Has this mode of delivery helped you develop stronger relationships with your classmates than other modules?

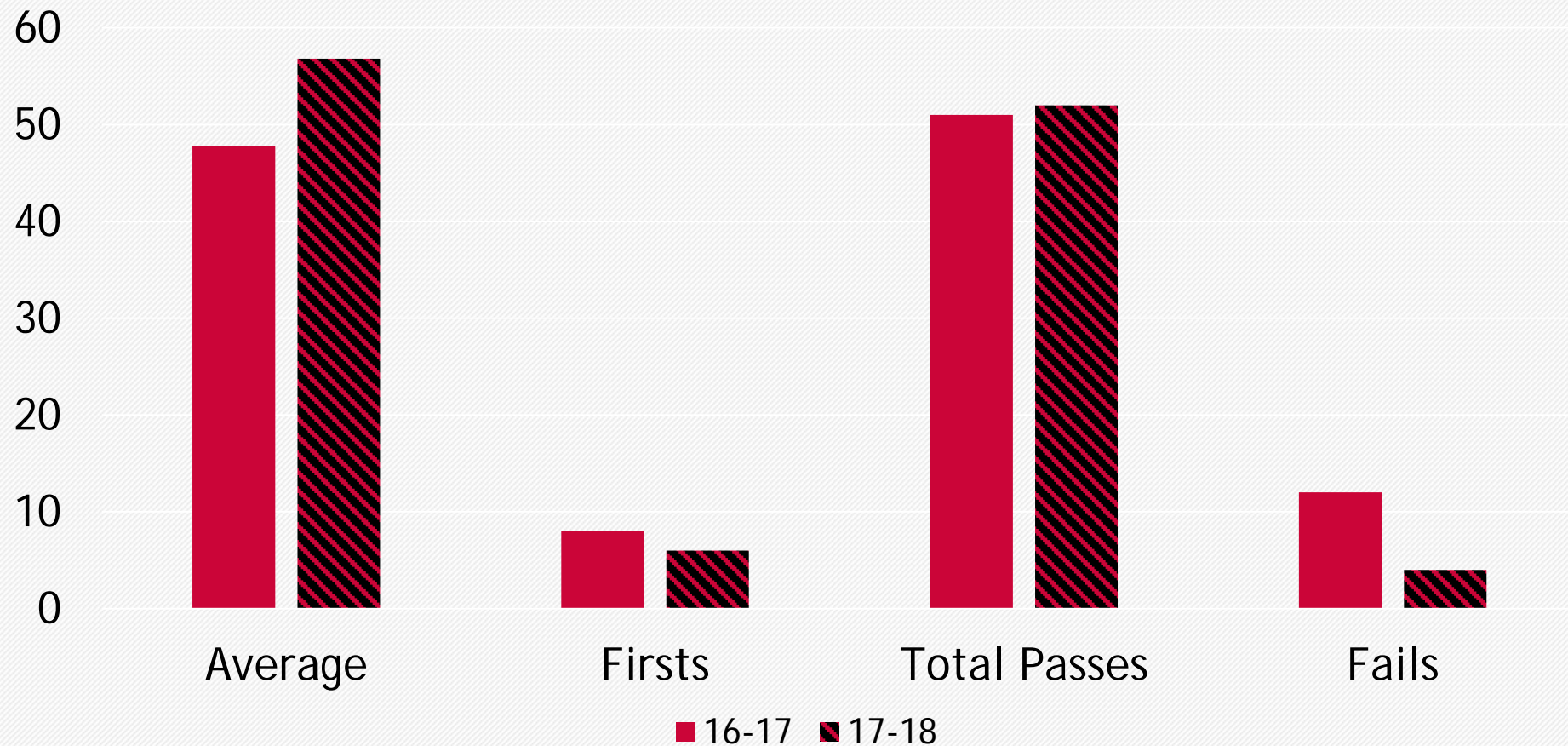


■ Yes ■ No ■ Not sure

Whilst a couple of students felt much more confident after the presentations, overall there was no significant difference in their perceived confidence levels

Two thirds of students felt that they learned something new from watching their peers' presentations

Final Grades (project phase only for 17-18)



What would we do differently?

- Build project ideas early
- Engage industry more directly with students - pitch?
- Mid way report to industry from students
- Formalise feedback from industry to students
- Ensure the structure of the day includes sufficient breaks

Conclusions

- Helped students to focus
- Industry partners develop a vested interest in the students
- We know we are teaching them the right things (and the students know this too)
- Ongoing partnerships which can be nurtured
- Knock on effect as industry engaging with other levels as a result
- Subject matter is difficult to make appealing, but the immersive, authentic approach helped to build relationships and improve attendance and grades

Thank you for listening!

Questions?

clare.johnson@southwales.ac.uk