

Why did we plan the project?

Human Biological Sciences (BIOL121) is a very large, national, 1st year 1st semester unit that is made up of school leavers and mature age students coming from diverse backgrounds in terms of their science knowledge and experience. The majority of students have not studied any science for some time and perceive it as being difficult; they are in danger of being left behind and not coping with the unit.

What did we do?

The aim of this project was to ease the students' transition to University by providing online modules that support them in developing their basic *biology* and *chemistry* knowledge. The two modules were entirely voluntary and the material presented in them were not directly assessed.

The modules were mounted as online 'lessons' through LEO and consisted of several topics. Each topic focused on a fundamental aspect of biology or chemistry. The lessons contained different kinds of media and each topic included self-assessment quizzes, so that students could check how their understanding was progressing.

The focus of this poster is on the biology learning module as biology makes up the bulk of the unit.

Who used the resources and benefitted?

Over 1000 students used the lessons nationally and 243 participated in the survey. Our mature-age students were strong up-takers of these new tools with 84% using at least one lesson (Fig.1).

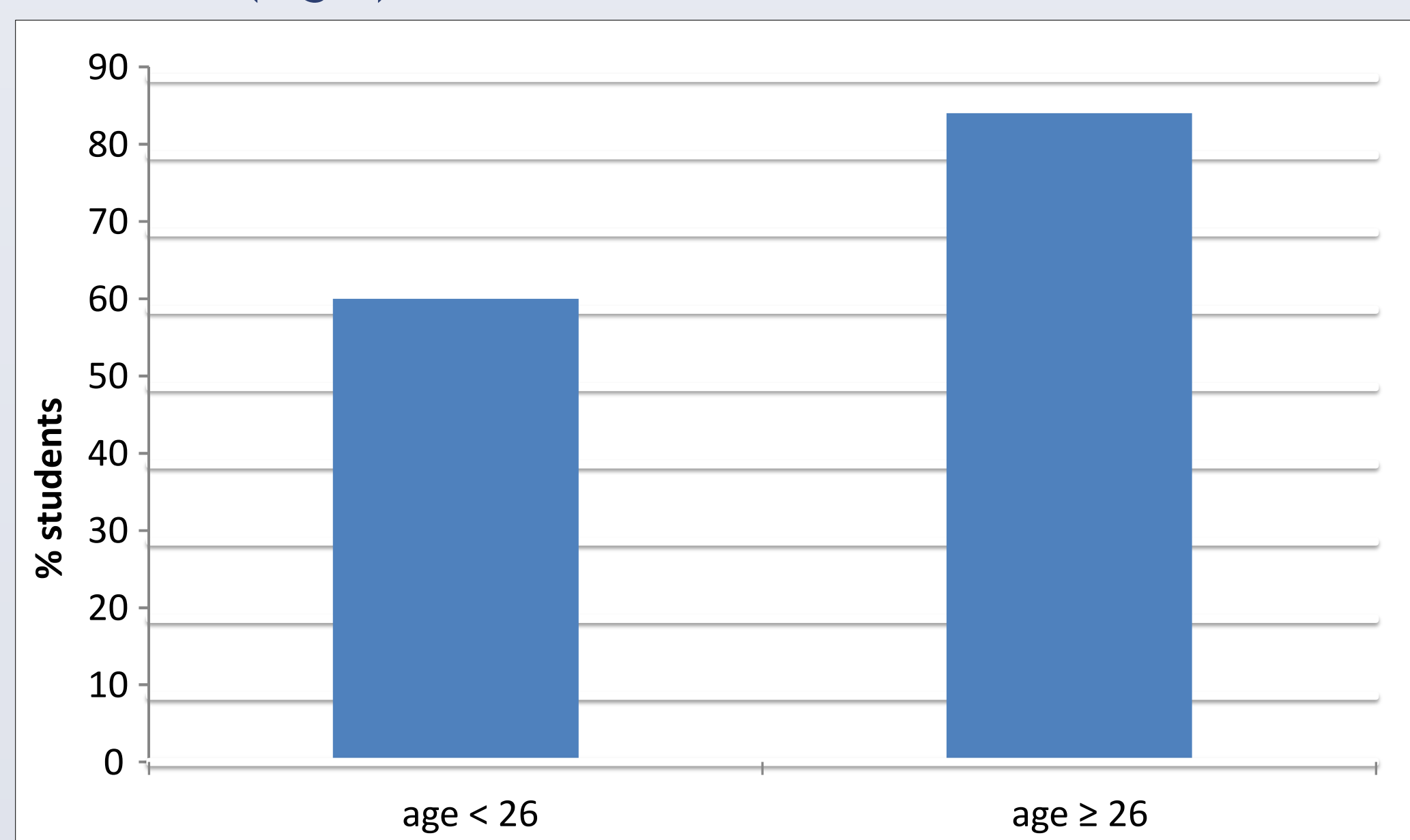


Fig. 1 Use of lessons by different age groups

The average BIOL121 exam mark of those who used both lessons was significantly higher than that of those who used neither and got a fail average (Fig.2).

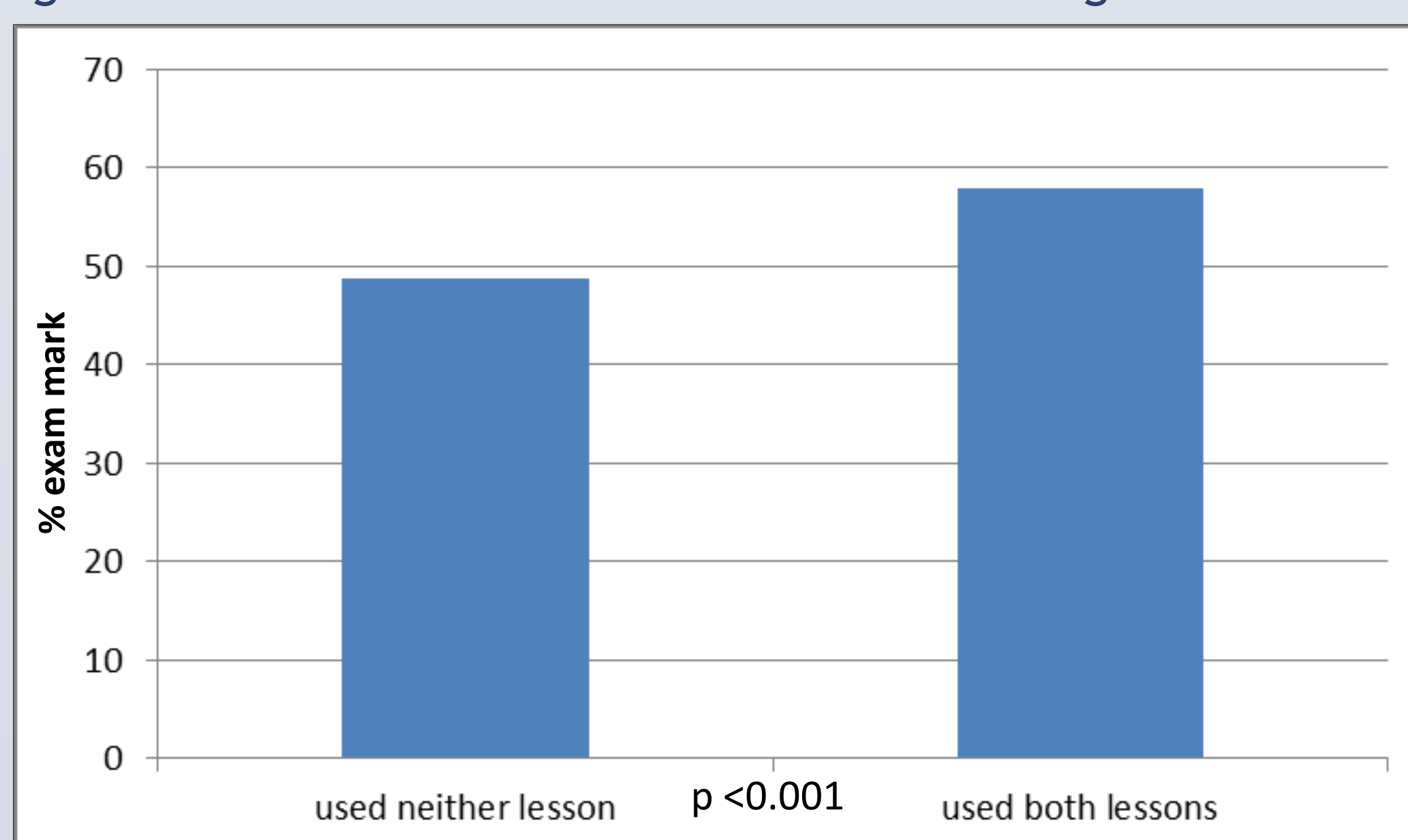


Fig. 2 Use of lesson and exam mark

The older students who used the biology lesson did significantly better in the exam than the younger age group. The effect of age group on performance was not significant for those who did not use the lesson (Fig.3).

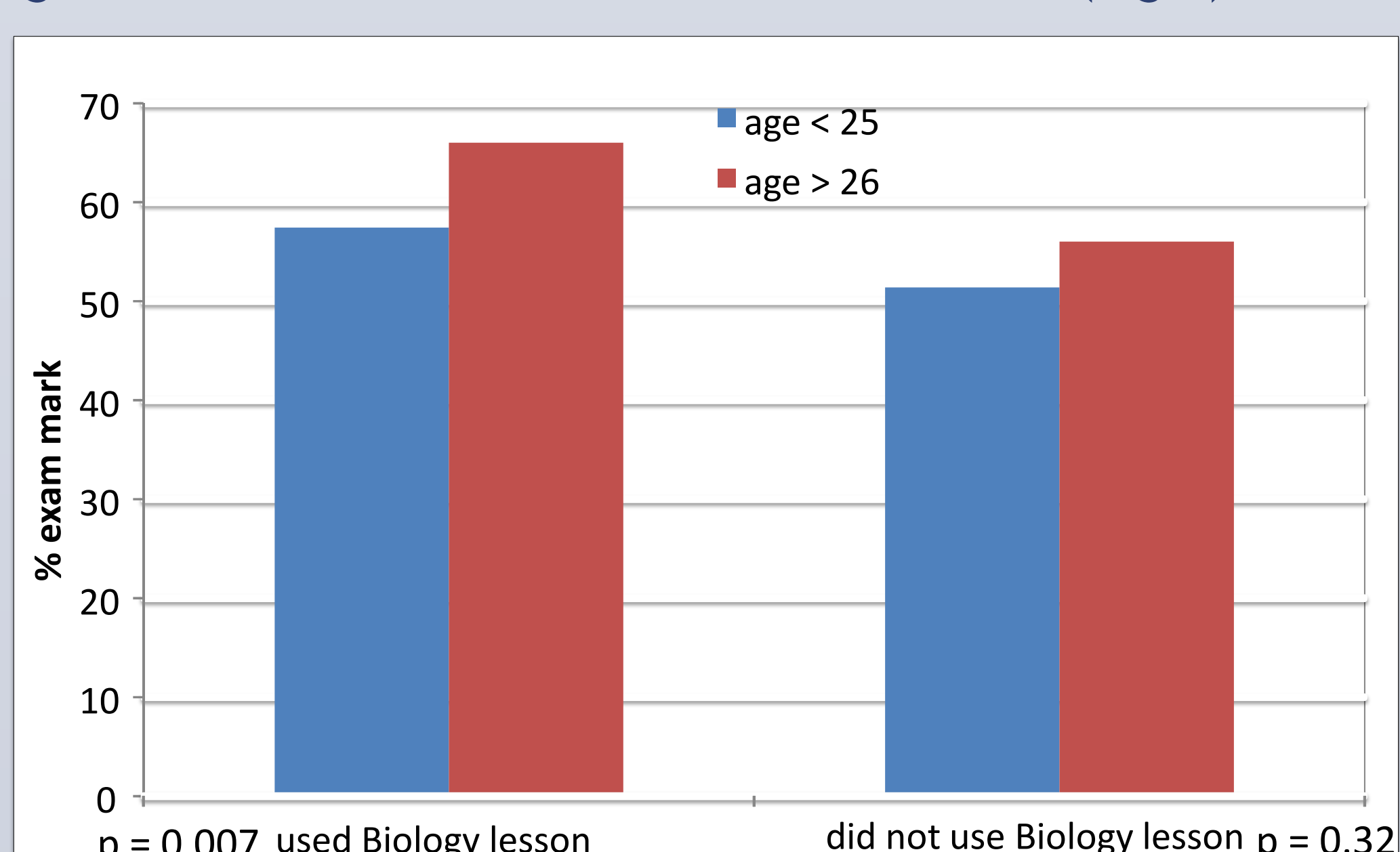


Fig. 3 Exam mark by use of biology lesson and age group

The targeted group with no science background benefited significantly from the biology lessons (Fig.4). There was no improvement in exam mark for those that did Biology at year 12 if they used the lesson.

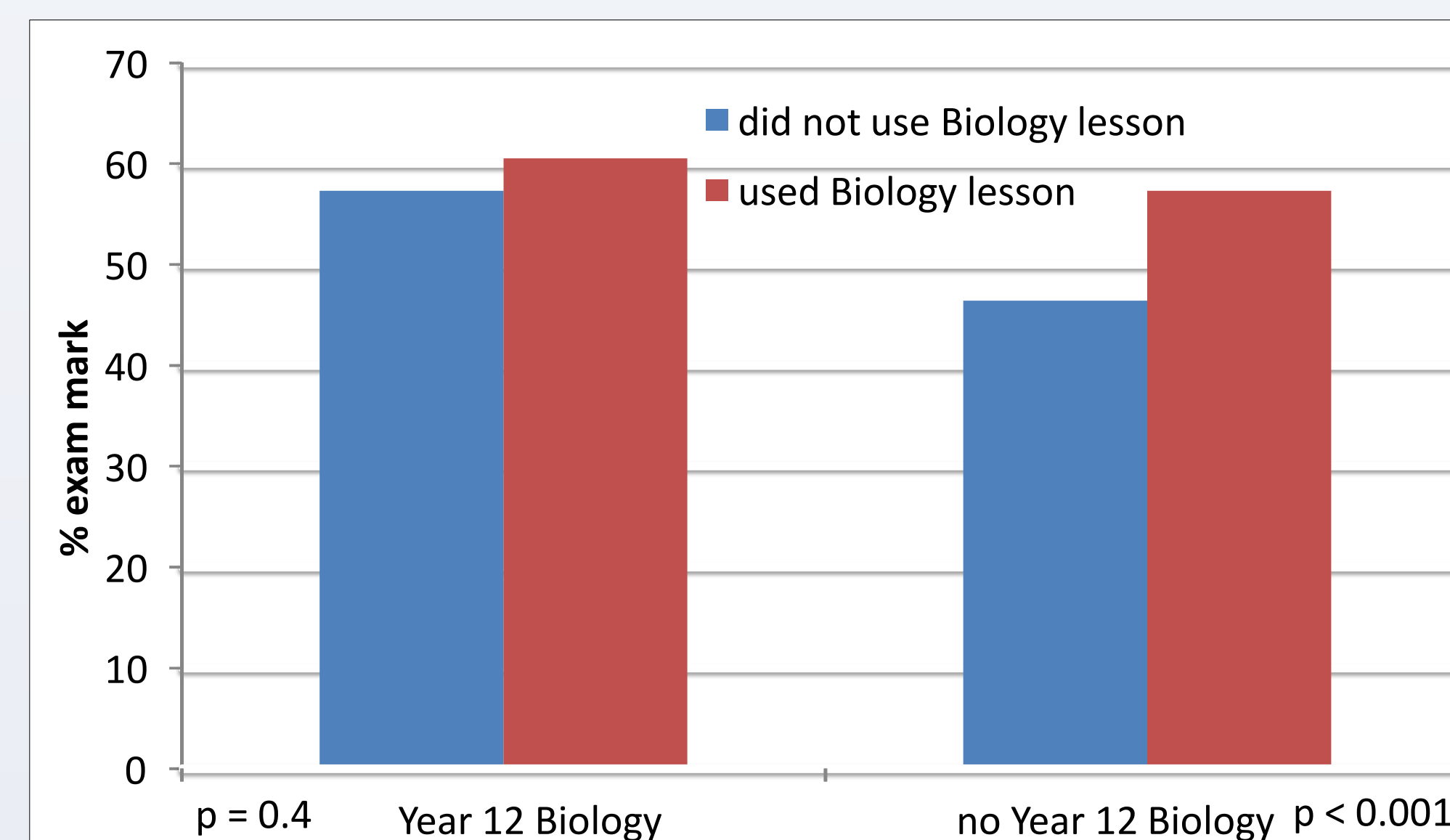


Fig. 4 Exam mark by use of lesson and previous biology background

What did the students tell us?

Students who chose to utilise the resources were able to gain confidence in basic biology at their own pace. The material presented in the modules assisted in developing a deeper understanding of fundamentals, promoting a better grasp of the more complex concepts being discussed throughout the semester.

'clear and easy layout with numerous ways such as videos, text, external information and quizzes to refresh and learn the basic content before starting BIOL121'.

'I have always found biology a little bit tricky and having an extra resource to help me further understand or revise over certain topics was very useful. Both the biology and chemistry lessons were a great addition to the course and I found them very handy as I often felt embarrassed to ask for help in classes, so being able to access these was great'.

'The biology and chemistry lessons were a huge help, being that I had not done any science subjects in over 10 years. They formed the basis for what we learnt throughout the semester. Without knowing the basics it would have been harder to grasp concepts, very grateful that these were available.'

What next?

This 'lesson' resource could be of significant benefit across ACU campuses in BIOL121, and not just for this unit. It can be used directly or with modification in other ACU courses.

The resource will be improved each year by editing and the addition of other sections based on evaluation by focus groups and peers.

Further Reading

Birks, M., Ralph, N., Cant, R., Hillman, E., & Tie, Y. C. (2015). Teaching science content in nursing programs in Australia: a cross-sectional survey of academics. *BMC nursing*, 14(1), 24.

Gresty, K. A., & Cotton, D. R. (2003). Supporting biosciences in the nursing curriculum: development and evaluation of an online resource. *Journal of advanced nursing*, 44(4), 339-349.

Thank you!

ACU Teaching Development Grant, 2014

Digital Chemistry Lessons - Pre-recorded Video Lectures, LTC, 2013

Mr Mark Murphy, LTC for technical support

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