

# WE BUILT IT, WHERE ARE THEY?

Don Shearman<sup>a</sup>, Lyn Armstrong<sup>a</sup>

Presenting Author: Don Shearman (d.shearman@westernsydney.edu.au)

<sup>a</sup>, Mathematics Education Support Hub, Western Sydney University, Sydney NSW 2751, Australia

**KEYWORDS:** mathematics support, statistics, support modes

## BACKGROUND

Western Sydney University (WSU) is a large multi-campus university covering Western Sydney. The region includes approximately 9% of Australia's population and 44% of the population of Sydney (Western Sydney Profile, 2015). WSU has high proportions of low socio-economic and first in family students, together with many with non-English speaking backgrounds. About 50% of those taking a first-year mathematics or statistics subject in 2015 had no senior high school mathematics prior to attending university.

The Mathematics Education Support Hub (MESH) at WSU is a central unit tasked with supporting students in their mathematics and statistics at all levels and providing curricular support to the schools within WSU.

## AIMS

This study aims to evaluate the effectiveness of, and engagement with, the two main forms of face-to-face mathematics and statistics support and the interactions between these forms of student support.

## DESCRIPTION OF INTERVENTION

Because of the multi-campus nature of WSU there is no MESH drop-in centre. Instead, MESH staff are available in six campus libraries at advertised times to help with mathematics, statistics and numeracy problems from any course of undergraduate study. This service is known as Library Roving. In addition, the MESH team offer topic specific workshops in most first year mathematics and statistics subjects on a just in time basis before major assessments in these subjects. These workshops are designed to help students understand the concepts being taught in the subject and are not focused on assessment questions.

## DESIGN AND METHODS

Student identifiers for those attending workshops or Library Roving are collected. We also have access to results and demographics of students attempting the subjects supported by MESH workshops. Our analysis has involved comparing results for students making use of both forms of support, their levels of engagement with the support, and key demographic characteristics.

## RESULTS

Overall we have found that there is a positive correlation between student results and the level of engagement with student support workshops. Engagement with Library Roving provides a further boost of approximately 3 marks on average to students' final marks in their mathematics or statistics subjects independently of their engagement with workshops. While a significant proportion of students who utilise MESH support services make use of both forms of support, there are also significant numbers of students who use only workshops or only Library Roving. Overall, approximately 30% of students studying a mathematics or statistics subject make use of the available support facilities.

## CONCLUSIONS

Despite evidence that students utilising MESH support perform better than those who don't, the proportion of students making use of the service is very low.

It is not surprising that there are large numbers of students using only Library Roving as this service provides assistance to all undergraduate students, not just those studying mathematics and statistics. There are, however, a significant number of students within these subjects who choose to use only one of the two forms of support, suggesting that the different forms of support may appeal to students with different learning preferences.

## REFERENCES

*Western Sydney Profile – a region of diversity and growth* (2015), Retrieved June 6, 2017, from <http://blog.id.com.au/2015/population/local-government/western-sydney-diverse-and-growing-rapidly/>

Proceedings of the Australian Conference on Science and Mathematics Education, Monash University, 27-29 September 2017, page X, ISBN Number 978-0-9871834-6-0.