Addressing Student Engagement Issues for Female and International Female Students in Computing Studies Courses

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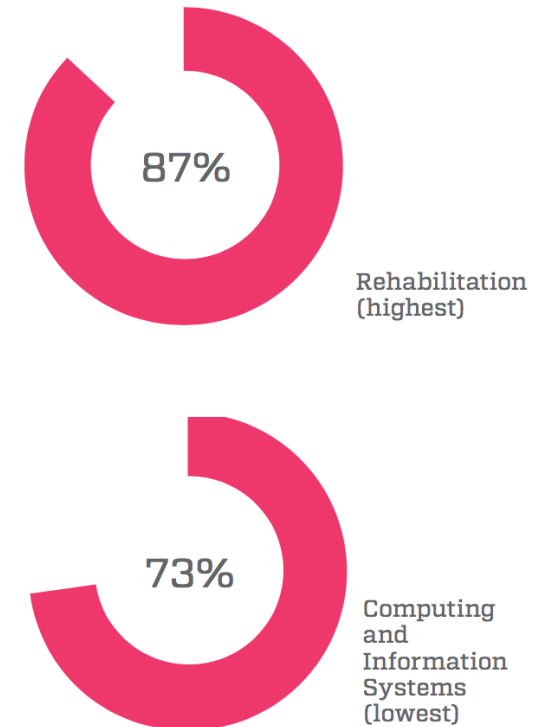
ALTA 2019

Student Engagement and Computing courses

- Computing courses world wide rate poorly on Student Engagement measures - NSSE, SES and UKES.
- SES – covers 21 disciplines

Table 4: 2016 SES Results (Scores out of 100)

	Mean	Max	Min	Sci, Math	CS
Skills Development	81	90	75	81	75
Learner Engagement	62	75	54	65	60
Teaching Quality	81	89	75	84	76
Student Support	72	76	66	73	69
Learning Resources	85	89	76	89	85
Entire Experience	80	87	74	82	74

Figure B **Student rating of the quality of the entire educational experience by study area**

87%

Rehabilitation (highest)

73%

Computing and Information Systems (lowest)
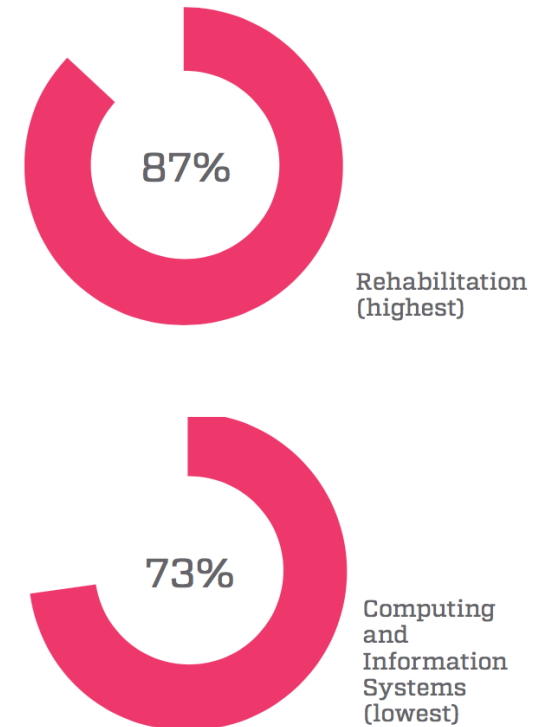
2015 SES Report Highlights

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Student Engagement and Computing courses

Some previous work:

- ITiCSE 2017 Working Group – Leaders **Michael Morgan**, **Matthew Butler** and Jane Sinclair "*Understanding International Benchmarks on Student Engagement: Awareness and Research Alignment from a Computer Science Perspective*"

- ITiCSE 2018 Working Group "*Contrasting CS student and academic perspectives and experiences of student engagement*" - Leaders **Michael Morgan**, **Matthew Butler**, **Chris Gonsalvez**, Jane Sinclair

Student Engagement: some challenges

- Enrolments in computing courses have been growing rapidly.

- Many courses have high proportions of international students.

- However, student engagement in computing courses has been declining.

- An ongoing concern is low proportions of female students.

Our study

Our research questions:

- RQ1: What are the factors that influence engagement of female students?

- RQ2: Are there any differences between the factors that influence the engagement of domestic and international female students?

Our plan:

- Analysis of a dataset with SES data from all universities in Australia for 2013 to 2017 – 542,642 responses with 17,432 responses from Computing and Information Systems study area.

Education for employability: WIL approaches to preparing domestic and international ICT students for the workforce

Christabel Gonsalvez, Michael Morgan, Judy Sheard, John Grundy

Education for employability

- Work Integrated Learning (WIL) "activities and programs that integrate academic learning with its application in the workplace".

- WIL is widely used in undergraduate and post graduate computing courses.

- Many different programs, e.g. industry-based learning (IBL) programs, capstone projects, internships, industry guest speakers, networking events.

WIL and international students

- Computing courses have high enrolments of international students.

- WIL is becoming increasingly popular with international students:
  - helps them seek employment in Australia
  - for those who return home, experience in a foreign workplace enhances their CVs

- However, there are indications that international students have lower participation in WIL.

Our study

Our research questions:

- RQ1: What pedagogical approaches are used in WIL in computing courses?

- RQ2: What are the particular needs of international computing students in Australia in regards to WIL?

- RQ3: How well do current WIL programs cater for the needs of international students in computing programs in Australia?

Our plan:

- A systematic literature review of the last 10 years.

Questions?