



Innovative
Research
Universities

MRUN

Malaysia Research University Network



The implications of Digital Learning

Joint research projects by Australian
and Malaysian universities

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A MEMORANDUM OF UNDERSTANDING WAS SIGNED IN 2014 TO ESTABLISH A FORMAL RELATIONSHIP BETWEEN IRU AND MRUN MEMBER UNIVERSITIES. THE PROJECTS PUBLISHED IN THIS BOOKLET ARE A DIRECT RESULT OF THAT PARTNERSHIP.

The MRUN-IRU Partnership



In November 2014, Innovative Research Universities (IRU) and the Malaysia Research University Network (MRUN) signed a three year Memorandum of Understanding to establish close and continuing partnerships between IRU and MRUN universities.

As part of their collaboration, MRUN and IRU agreed to finance a select number of projects to stimulate stronger connections. Collaborative projects were established across two streams: Research; and Teaching and Learning.

This report features the four projects undertaken through the Teaching and Learning stream, which were spread across four key areas: Digital Readiness, Effective Teaching, Learning Analytics and Learning Spaces.

Each project published here is a partnership between IRU member universities and MRUN universities. Most involve more than one university from each country.

The case studies represent a flavour of the innovative research being undertaken through the partnership and the collaborative approach to learning from each other.

The projects have already produced multiple outcomes including conference papers, articles and original research, contributing to the knowledge base around Teaching and Learning in Malaysia and Australia.

While the projects have now officially come to an end the research and critical thinking they have prompted will endure, as will the new-found international connections.

Conor King
Executive Director
Innovative Research Universities (IRU)



Partners:

Universiti Putra Malaysia
Murdoch University
Flinders University

Measuring the effectiveness of higher education teaching

About the project

Having reliable indicators of teaching effectiveness is particularly important given such measures are used to inform annual assessments, staff promotion, teaching awards and key performance indicators for teaching. It also ensures a higher emphasis on the important role of teaching in universities.

Various measurements of teaching already exist, including feedback from student surveys.

This project set out to improve current benchmarking by testing the value of a framework to measure the effectiveness of higher education teaching across Australia and Malaysia, exploring the commonalities and differences.

As part of this work, the collaborative team involved in this project sought to expand and clarify the evidence used to assess and determine teaching effectiveness.

The work undertaken through the project includes:

- examining existing literature and frameworks for measuring teaching effectiveness in universities
- identifying common teaching criteria and standards used in Malaysian and Australian universities
- proposing a common framework to be tailored for each university
- implementing one or more applications of the framework for each participating university
- evaluating the effectiveness of the framework and assessing its influence on teaching.



"Having reliable indicators of teaching... ensures a higher emphasis on the important role of teaching in universities."



Outcomes



Joint meetings of the MRUN and IRU universities in Perth, Darwin and Putrajaya



Presentations at a meeting of the IRU Academic Stream in Johor Bharu



An existing review of Australian literature being updated and discussions underway to expand it to Malaysian literature



Development of a complementary survey of teaching criteria and standards in Malaysian and IRU universities



Paper presentation on the project at South East Asian Higher Education Summit (SEAHES) in both 2015 and 2016



Paper presentation at Teaching and Learning Forum in Perth, Jan 2016



Three further papers on teaching effectiveness and criteria submitted for publication, Dec 2017



Understanding students' digital readiness for emerging technologies

About the project

New emerging technologies including Web 2.0 tools are ever-present in the lives of university students, mainly for social interaction. In higher education courses, student preparedness for using new technology varies depending on educational background and access to ICT.

While students recognise the value of learning technologies, they often need explicit guidance for their use for academic purposes.

The central aim of this project was to create a baseline study for identifying use of Web 2.0 technologies by university students and their readiness to apply the emerging

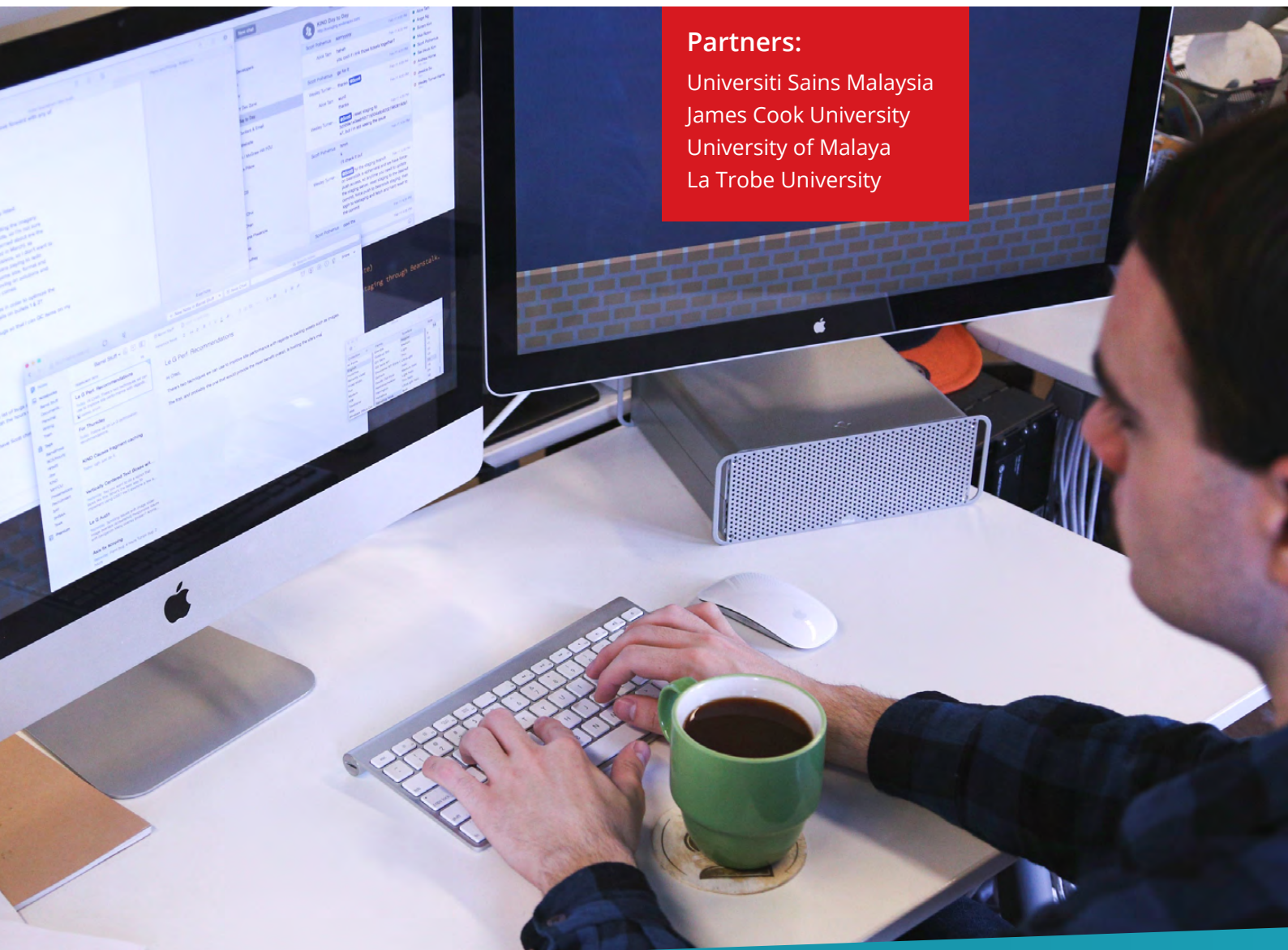
technologies in their learning. It also aims to design a model of Web 2.0 technology as a cognitive tool in learning including a case study to test it.

The project tested the use of Smart Sparrow adaptive learning technology, which was well received by students in Australia and is still in use. However the project was not able to test the content in Malaysia due to high licensing costs.

Working collaboratively has also provided valuable insights into cross-cultural and cross-institutional similarities and differences in students' digital literacy and digital readiness in Malaysia and Australia.

Partners:

Universiti Sains Malaysia
James Cook University
University of Malaya
La Trobe University



“Working collaboratively has provided valuable insights into cross-cultural and cross-institutional similarities and differences.”

Outcomes



Meetings between representatives of the IRU and MRUN teams in Penang in 2016 where an action plan and publication plan was developed



Pre and post digital readiness surveys developed, tested, translated to Bahasa Melayu and deployed among students at MRUN and IRU universities



Three adaptive digital literacy lessons based on the JISC digital literacies framework, developed, tested and deployed with 285 students at La Trobe University and 744 students at James Cook University



Undergraduate students at Universiti Sains Malaysia surveyed on their use of social media and trained in the construction of cognitive tools



Two Universiti Sains Malaysia masters students completed research projects which included the development and application of cognitive tools



Two masters students presented papers at a conference in Germany



Presentation of co-authored papers at conferences in both Malaysia and Australia



Co-authored book chapter published in 2017 book 'Empowering 21st Century Learners Through Holistic and Enterprising Learning' (Springer Singapore)



Presented an interactive digital poster at QULOC (Queensland University Libraries Office of Cooperation) University Librarians' Forum 2017



Article in Student Success Journal on students' use of and dispositions towards learning technologies in enabling spaces, Feb 2018





Partners:

Flinders University
Murdoch University
Charles Darwin University
Universiti Teknologi Malaysia
Universiti Kebangsaan Malaysia

Using learning analytics to support improvements in teaching

About the project

Improving teaching practice in higher education is a major challenge. However the use of learning analytics – that is, the measurement, collection, analysis and reporting of data about learners and their contexts – has great potential to inform and address the deficiencies and weaknesses in teaching practices.

This project sought to explore the use of learning analytics to enhance teaching practice by:

- identifying the range of learning analytics functions related to teaching practice that are available in the project partner institutions
- finding ways in which learning analytics can be used to improve teaching practice
- developing a set of metrics based on learning analytics to improve teaching practice.

The effectiveness of the developed metrics was also investigated, based on students' retention, engagement and motivation, along with case studies to demonstrate how learning analytics are being used by teachers in partner institutions.

Additionally, the team developed significant insights about the key elements necessary to support learning analytics such as infrastructure, data collection points, alignment of processes and approaches to professional development.

Working across countries further reinforced the contextual and developmental nature of learning analytics in line with broader cultural elements.

"The team developed significant insights about the key elements necessary to support learning analytics."



Outcomes



IRU-MRUN workshop and discussion on the pilot study findings, Oct 2015



Research paper based on the survey findings, May 2017



Conference paper 'Collaborative Research between Malaysian and Australian Universities on Learning Analytics: Challenges and Strategies', Feb 2016



Conference paper 'Identifying At-Risk Students in Online Learning by Analysing Learning Behaviour: A Systematic Review', Sep 2017



Conference paper 'A Framework for Learning Analytics Intervention in e-Learning', Aug 2016



Journal article 'Learning analytics experience among academics in Australia and Malaysia: A comparison', May 2018. DOI: doi.org/10.14742/ajet.3836



Review paper on Learning Analytics



Three further research articles being written



Conference paper 'A Systematic Review on Learning Analytics Intervention Contributing to Student Success in Online Learning', Feb 2017



Final project summary report (available at iru.edu.au/international)

Analysing the educational value of active learning spaces

About the project

This collaborative research project focused on the systematic evaluation of 21st century active learning spaces to better understand the value of their design and the return on investment.

It included testing the underlying design assumptions associated with learning spaces to provide new evidence to universities about their effectiveness.

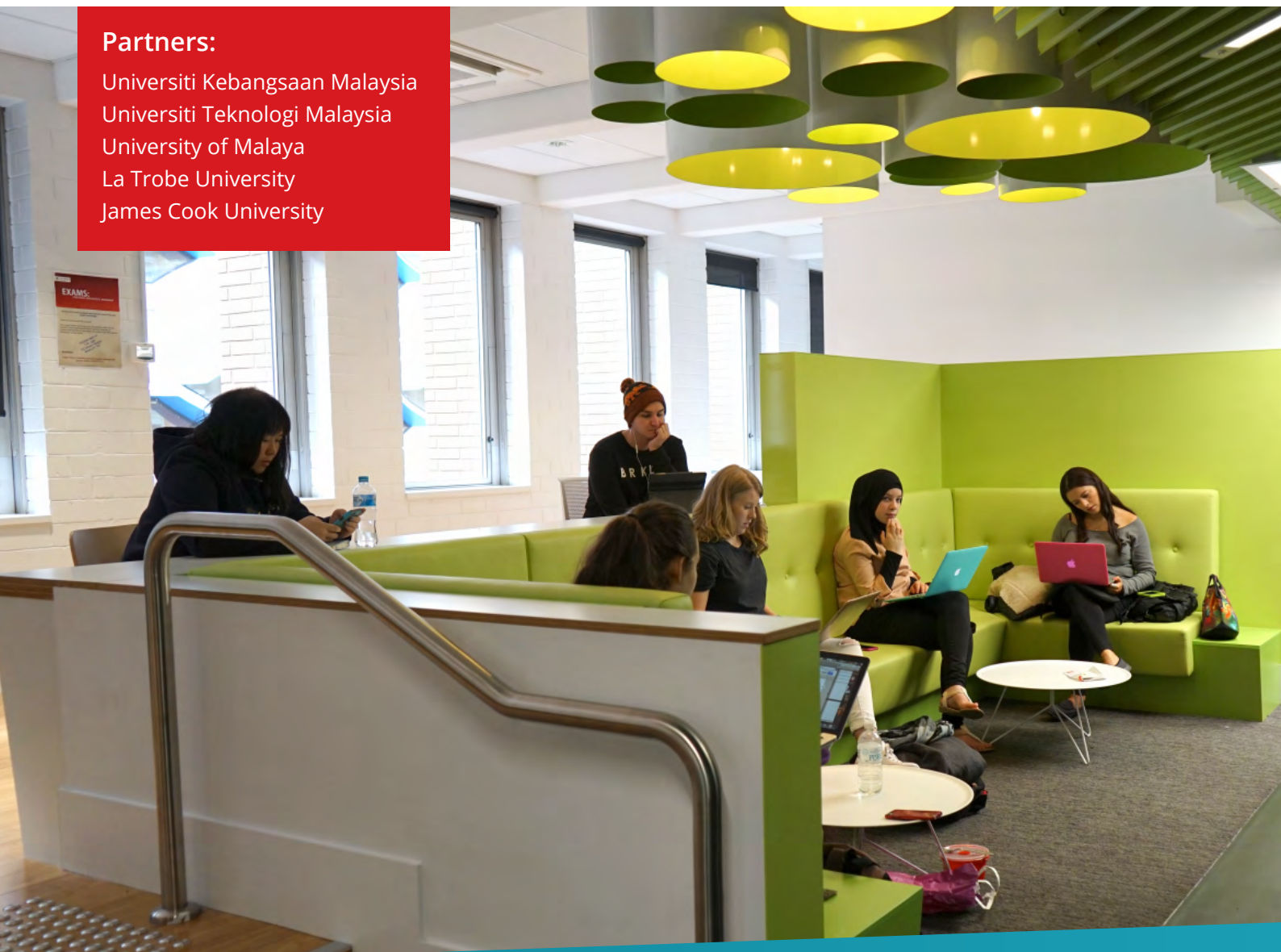
The theoretical approach for this project utilised both the Pedagogy, Space, and Technology (PST) framework and the Spaces for Knowledge Generation (SKG) framework as part of the Australian Learning and Teaching Council's Next Generation Learning Spaces project.

The aims of this research included:

- identifying and describe current learning space design
- evaluating expected returns on investment (ROIs)
- investigating the impact of innovative learning spaces on relevant institutional outcomes
- recommending specific points of focus (pedagogy, space, technology or a combination of all) to improve ROI on learning spaces for institutions and their students.

Partners:

Universiti Kebangsaan Malaysia
Universiti Teknologi Malaysia
University of Malaya
La Trobe University
James Cook University





"This project focused on the systematic evaluation of 21st century active learning spaces to better understand the value of their design and return on investment."



Outcomes



Three face-to-face meetings between MRUN and IRU representatives in Kuala Lumpur and Melbourne



Symposium on Higher Education Learning Spaces and the 4th Industrial Revolution, Kuala Lumpur, May 2018



Book Chapter: 'A Review of Post-Occupancy Evaluation Tools' (published in 'School space and its occupation: The conceptualisation and evaluation of innovative learning environments', 2018, Sense Publishers)



Review paper on IRU-MRUN Learning Spaces findings for Australasian Journal of Educational Technology (in preparation)



Research paper on HEALS project research framework published for Higher Education Research and Development Society of Australasia (in preparation)



Research paper on measuring ROI on innovative Learning Space designs for Journal of Educational Technology and Society (planned)



Thematic Paper on Student Belonging (planned)



Thematic Paper on Staff development / developing spatial literacies / active learning space vernacular or repertoire (planned)



Case study reports on Learning Spaces published at each of the MRUN universities involved in the project

About IRU

Innovative Research Universities (IRU) is a network of seven comprehensive universities committed to inclusive excellence in teaching and research in Australia.

Its membership is Charles Darwin University, Flinders University, Griffith University, James Cook University, La Trobe University, Murdoch University and Western Sydney University.

About MRUN

The Malaysia Research University Network (MRUN) comprises of five Malaysia research universities.

Its membership is University of Malaya (UM), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and Universiti Teknologi Malaysia (UTM).