



INTERNATIONAL WEBINAR
PGSD SERIES 1

SimLab Technology in Education 5.0.

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University of Newcastle

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ACKNOWLEDGEMENT OF COUNTRY

Dillumun Dancers

Tahlia West Bachelor of Aerospace Engineering

Kadina Barker Bachelor of Social Work

OUTLINE

1. University of Newcastle
2. Simulation
3. Simulation + Beyond



THE UNIVERSITY OF NEWCASTLE **BY NUMBERS**



**TOP
200**

university in the world¹



37,946

students from 113 nations
educated and supported by 2,766
full-time equivalent staff²



148,000+

in our global alumni community based
in 144 countries around the world³



**TOP REGIONAL
UNIVERSITY**

one of the top regional
universities in Australia⁴



**180
PARTNERSHIPS**

in 32 countries for student exchange
and study abroad programs



NO. 1

university in Australia for
Indigenous enrolments⁵

OUR LOCATIONS

SINGAPORE



AUSTRALIA



NSW AUSTRALIA

- CALLAGHAN ●
- NEWCASTLE CBD ●
- CENTRAL COAST ●
- SYDNEY CBD ●

SCHOOL OF EDUCATION

Through the identification and employment of high-quality researchers and educators we are:

- Becoming Australia's leading School of Education for equity, excellence and technologies in preparation of teachers, leaders and scholars.
- Addressing critical issues facing education by partnering with others in educational research of global significance and impact.
- Defining ourselves as national leaders in understanding Indigenous cultures of learning and producing the next generation of indigenous teachers, scholars and leaders.

RANKED
2

in Australia for
skills satisfaction
in postgraduate
Education¹

96%+
EMPLOYED

within four months of
graduation¹

TOP
100

in the world –
Education²

¹ Graduate Outcomes Survey 2018 - 2019
² QS World University Rankings by Subject 2019



EDUCATION

UNDERGRADUATE DEGREES

- Bachelor of Education (Early Childhood and Primary)*
- Bachelor of Education (Early Childhood and Primary Studies)
- Bachelor of Education (Primary)*
- Bachelor of Education (Primary Studies)
- Bachelor of Education (Secondary)*
- Bachelor of Education (Secondary Studies)

** End-on Honours degree options are available for this degree program. Please visit the [University of Newcastle Degrees](#) page for more information.*



EDUCATION

POSTGRADUATE DEGREES

- Graduate Certificate in Education
- Master of Education
- Master of Leadership and Management in Education
- Master of Special and Inclusive Education
- Master of Teaching (Primary Studies)
- Master of Teaching (Secondary Studies)



EDUCATION

AREAS of EXPERTISE

- **Quality Teaching Model & Rounds**
[Prof J.Gore, J.Ladwig, D.Miller, J.Harris, J.Bowe]
- **Physical Activity & Wellbeing**
[Prof R.Plotnikof, D.Lumans, P.Morgan, N.Eather, J.Smith, N.Riley]
- **Special/Inclusive Education**
[A.Prof J.Foggett, C.Leonard, A.Page, K.Dally, M.Arthur-Kelly]
- **Early Childhood**
[A.Prof I-Fang Lee, K.Watson, j..Brown, M.Ford]
- **Education Leadership & Management**
[Prof J.Fischetti, S.Imig, J.Ladwig]
- **Simulation & EdTechnologies**
[Prof S.Ledger, J.Fischetti, E. Southgate, P.Twining, R.Buchanan, G.Preston]
- **Studies of Research Training & Impact**
[Prof A.Holbrook, H.Fairbairn, N.Thapliyal]
- **History**
[A.Prof R.Parkes, H. Sharp, D.Donnelly, E.Shaw]
- **Global Ed Research Teaching**
[Dr S.McQueen, K.Ferguson-Patrick, R.Reynolds]



PART 2:

**SIMULATION IN
TEACHER
EDUCATION**



SIMULATION

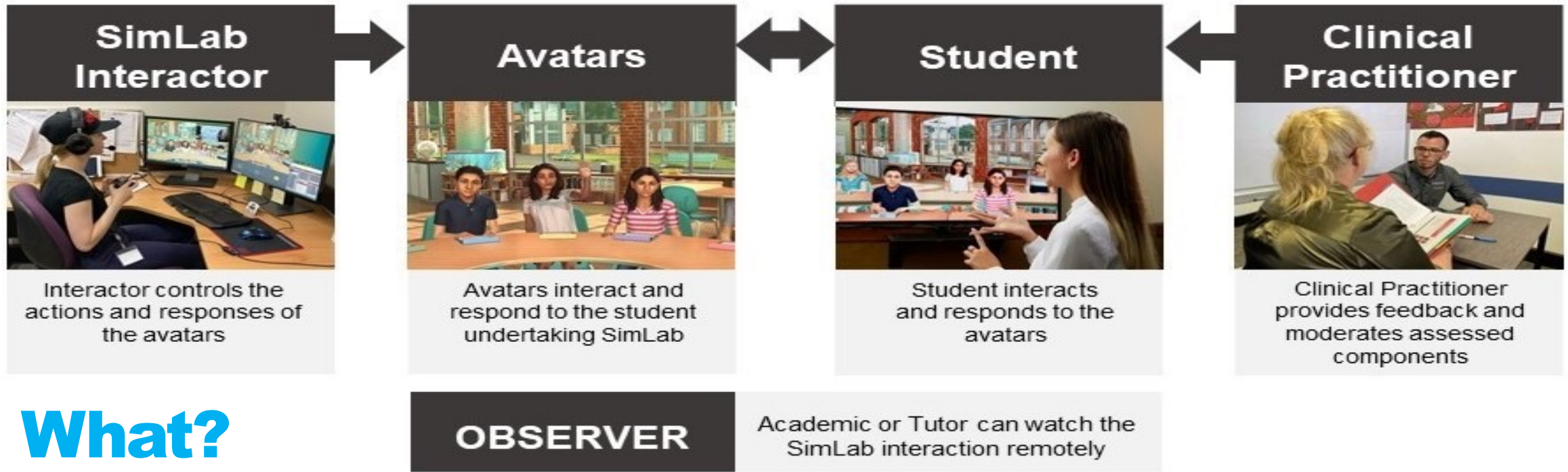
When, where, why?

- 2010 University of Central Florida [[Teachlive](#)]
- 2015 **Mursion** start up company from UCF
- 2017 Murdoch University [[Simlab-Mursion](#)]
- 2018 University of Newcastle [[SimTch-Mursion](#)]



Benefits

- Practice Before Placement
- Increased Confidence
- Diagnostic & Reflective
- Impromptu language skills
- Controlled scenarios



What?

- **On Entry Screening (Ledger)**
- **Parent Interviews (Rappa)**
- **Microteaching 2.0 (Fishetti)**
- **Language Studies (Mariani & Ulhaq)**

SIMULATION



• On Entry Screening

Students entering into teaching degree starts with a simulated screening experience

Language and Discourse	Improvisation	Rapport Building	Teaching Self Efficacy	Overall Rating	Comments
1	2	1	1	1	Quite monotone, colloquial and stilted - "Nah, I'm knackered". Lost most of kids. Only interacted with Ethan.
2	2	2	2	2	Mostly oral presentation with a little bit of questioning. Work for more direct questioning of students in order to build rapport. Seemed very nervous
1	2	2	2	2	Quite nervous. Any questions from the kids derailed his flow. Quite stilted. Nice manner and immediately self-reflective.
2	3	2	3	3	Appropriate language, a few pauses impacting flow, good use of props visual and audio to engage different learning types, not a lot of engagement to students
4	3	3	4	4	Adverbs: Nice manner. Work on creating context for the purpose of the lesson. Nice awareness.

On-Entry Screening into Teacher Ed

Papers

- Whipp, P., Ledger, S., & Morrison, C. (in press)
- Ledger, Fischetti, Whipp (draft)



Interactions

- Student/Student
- Teacher/Student
- Teacher/Teacher
- Teacher/Parent
- Principal/Teacher
- Principal/Student
- Principal/Parent

Scenario Based Interactions

CULTURES OF LEARNING

- **Diagnostic Approach**
- **Teaching & Learning**
- **Language**
 - **Rehearsed Questions**
 - **Impromptu Responses**
- **Reflective Practice**

Plan Teach Assess Reflect





Arum Illahi



Rena fadlilah



Arum Illahi

UNESA SIMULATION 2021 Micro-teaching



Putri Thalia Fitria



Rifah Meilya

PART 3:

**SIMULATION &
BEYOND**



PARTNERSHIP

UNESA, NEWCASTLE & MURDOCH

- Simulation in ITE
- Joint Research & Supervision
- Visiting Scholars
- Exchange Programs students & staff

2021

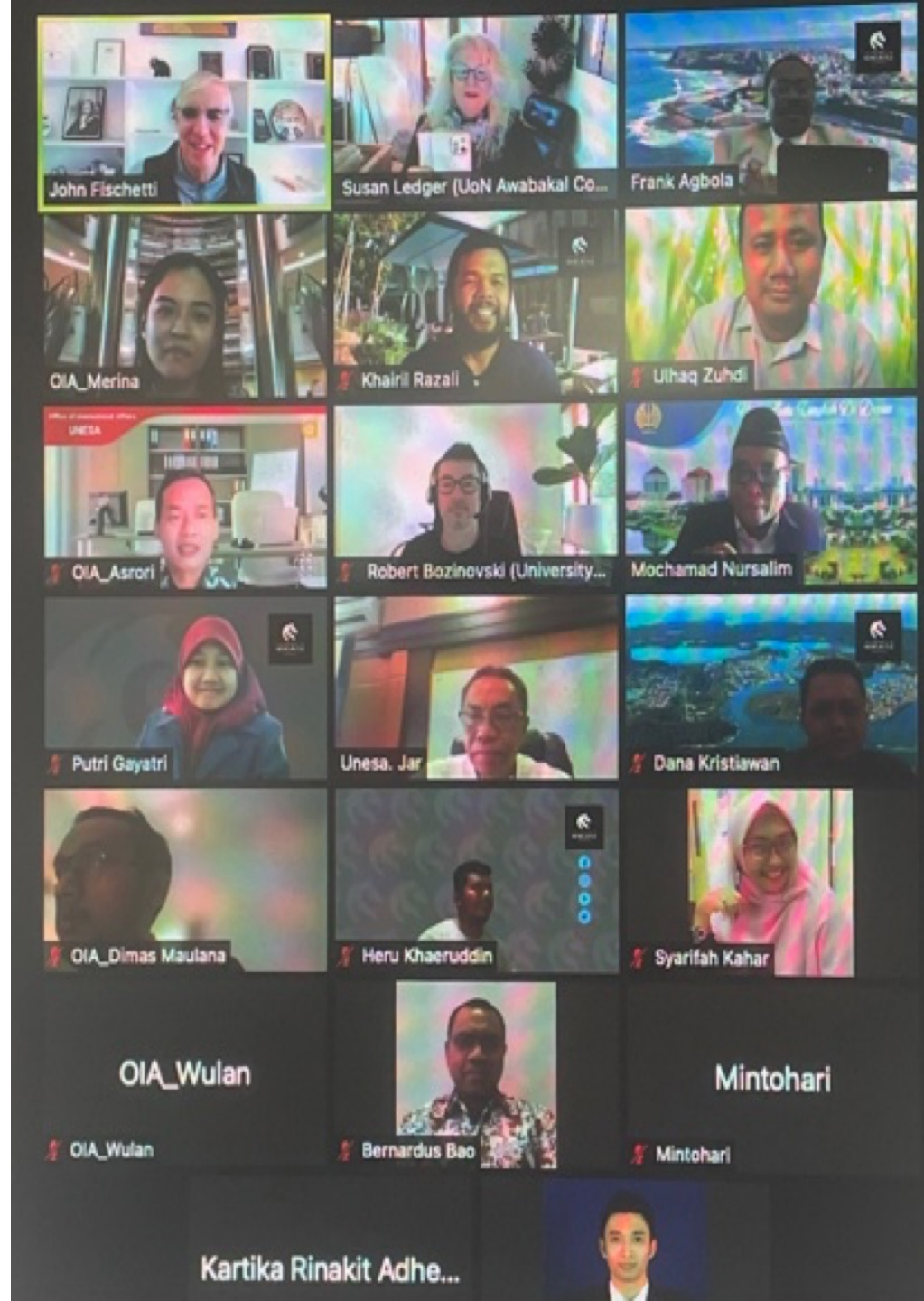
Pilot Simulation
Research
Publication
Webinars

2022

Simulation in ITE
Joint Research
Partnerships
Webinars & PL

2023

Site license for
Simulation
Joint research
Scholarship &
Partnerships
(NCP)

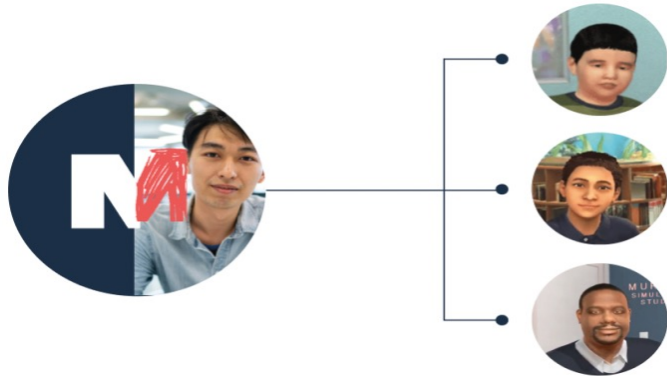




PLATFORMS

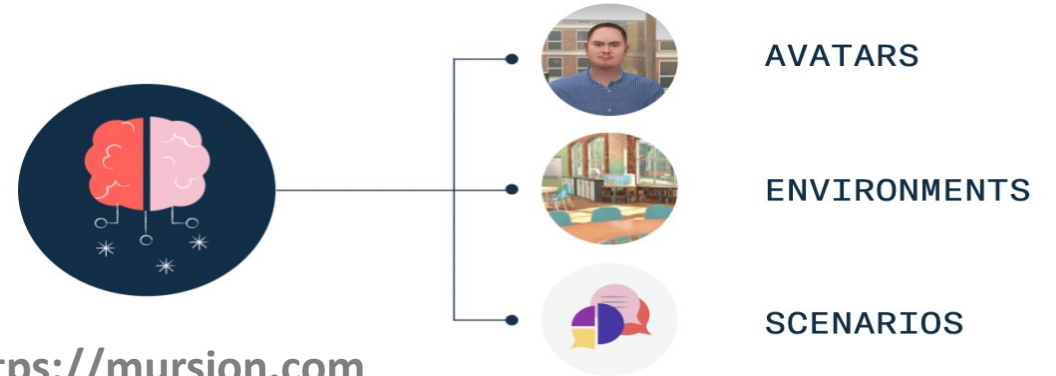
THE HUMAN (SIMULATION SPECIALIST)

- Guarantees a high level of authenticity and natural conversation
- Speaks in real time. Each simulation is unique to every user
- Provides thoughtful feedback and reflection
- Conducts an observational assessment on performance



THE AI

- Enhances scalability and reduces human cognitive load
- Seamlessly syncs nonverbal communication and voice morphing
- Collects sentiment analysis, recordings, and behavioral data
- Aggregates and anonymizes learner analytics



<https://mursion.com>

IMMERSIVE ENVIRONMENTS



TEACHER EDUCATION

Emerging
technologies will
improve the quality
of our practice.
Embrace it, be
creative and use it
to be diagnostic .



REFERENCES

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- Ersozlu, Z., **Ledger, S.**, Ersozlu, Al, Mayne, F., & Wildy, H. (2021) Mixed-Reality Learning Environments in Teacher Education: An Analysis of TeachLive™ Research. *SAGE Open July-Sept* 1-10.
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- Rappa, N., **Ledger, S.**, Teo, T., Wong K., Power, B., & Hilliard, B. (2019). The use of eye tracking technology to explore learning and performance within virtual reality and mixed reality settings: a scoping review, *Interactive Learning Environments*, DOI: [10.1080/10494820.2019.1702560](https://doi.org/10.1080/10494820.2019.1702560)