



2020

TEACHERS & TEACHING
RESEARCH CENTRE
**ANNUAL
REPORT**

Acknowledgement of Country

The Teachers and Teaching Research Centre respectfully acknowledges the traditional custodians, the Pambalong clan of the Awabakal people on whose lands the Centre resides at the Callaghan Campus of the University of Newcastle.

Annual Report 2020

This Annual Report summarises key highlights and achievements of the Teachers and Teaching Research Centre during 2020. Every effort has been taken to ensure the accuracy of the information included. You can contact us at teachers-and-teaching@newcastle.edu.au

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ABOUT THE TEACHERS & TEACHING RESEARCH CENTRE

Established in 2013 and led by Laureate Professor Jenny Gore, the Teachers and Teaching Research Centre (the Centre) is located in the School of Education at the University of Newcastle, Australia. From humble beginnings with a core group of researchers and administrative staff, we are now a team of more than 40 staff and 30 casual research assistants, largely thanks to crucial funding from the Paul Ramsay Foundation and ongoing support from the University.

Researchers, Quality Teaching Rounds Advisers, PhD candidates, research assistants and professional staff all help to fulfil our research agenda here at the Centre, which aims to create positive impact for teachers and students across educational contexts. Our rigorous educational research covers the areas of pedagogical reform and teacher development, school leadership and educational reform, aspirations and equity, and STEM education.

The Centre is most known for our ground-breaking research on the Quality Teaching Model and Quality Teaching Rounds (QTR). In 2020, despite interruptions caused by the global pandemic, 737 teachers attended QTR workshops either online or face-to-face. These teachers work with approximately 30,000 students. We have also produced exciting research results and taken on important new projects, including looking into the impact of Quality Teaching in various contexts of disadvantage.

In October 2020, we were proud to launch the Quality Teaching Academy, realising a long-term vision to make our high-quality professional development widely available to teachers in Australia and around the world.

OUR VALUES

- RESPECT
- EXCELLENCE
- MAKING A DIFFERENCE
- RECOGNITION
- TEAMWORK



A MESSAGE FROM OUR DIRECTOR

Laureate Professor Jenny Gore

Since the founding of the Teachers and Teaching Research Centre in 2013, we have faced our fair share of challenges and adversity – in addition, of course, to our many achievements. Nothing, however, could have prepared us for the year that was 2020 – in all its weirdness and wonder. We started the year fresh, excited and ready for what was to come.

We were ramping up our data collection and preparing for a year of exciting new milestones when parts of our research came almost to a standstill as the world was gripped by COVID-19 in March.

Our QTR Advisers and research assistants were looking at a full calendar of school visits near and far; our academics were preparing for several international ventures; I was scheduled to be in the UK and the US several times throughout 2020. Such would have been a normal year for us.

Although none of us could have anticipated operating in this landscape, I think we have done an amazing job. We have faced unprecedented challenges. We have pivoted and we have adapted, most notably in delivering QTR workshops online to more than 400 teachers. We are also fortunate to have secured funding for research into the effects of COVID-19 on student learning in Australia, which means we can play a central role in the ongoing conversation on how 2020 has shaped the future of education.

I am enormously proud of the work we produce and every single person in the TTRC team, as well as colleagues outside our institution who are nonetheless essential to what we do here.

Despite the uncertainties of the future, with our strong values, research milestones, and community spirit, I have no doubt we will continue to thrive.

With deepest gratitude,

Jenny



TEAM OF 78

08 ACADEMIC STAFF

22 PROFESSIONAL STAFF

34 CASUAL RESEARCH ASSISTANTS

08 PHD SCHOLARSHIP HOLDERS

06 AFFILIATES



756 QTR WORKSHOP PARTICIPANTS

36 QTR WORKSHOPS

02 OPEN EDUCATION COURSES



OUTPUTS

- 01 BOOK
- 01 BOOK CHAPTER
- 26 JOURNAL ARTICLES
- 02 RESEARCH REPORTS
- 09 IN PRESS
- 18 UNDER REVIEW
- 39 IN PREPARATION
- 36 NEWS & BLOGS

2064
CITATIONS

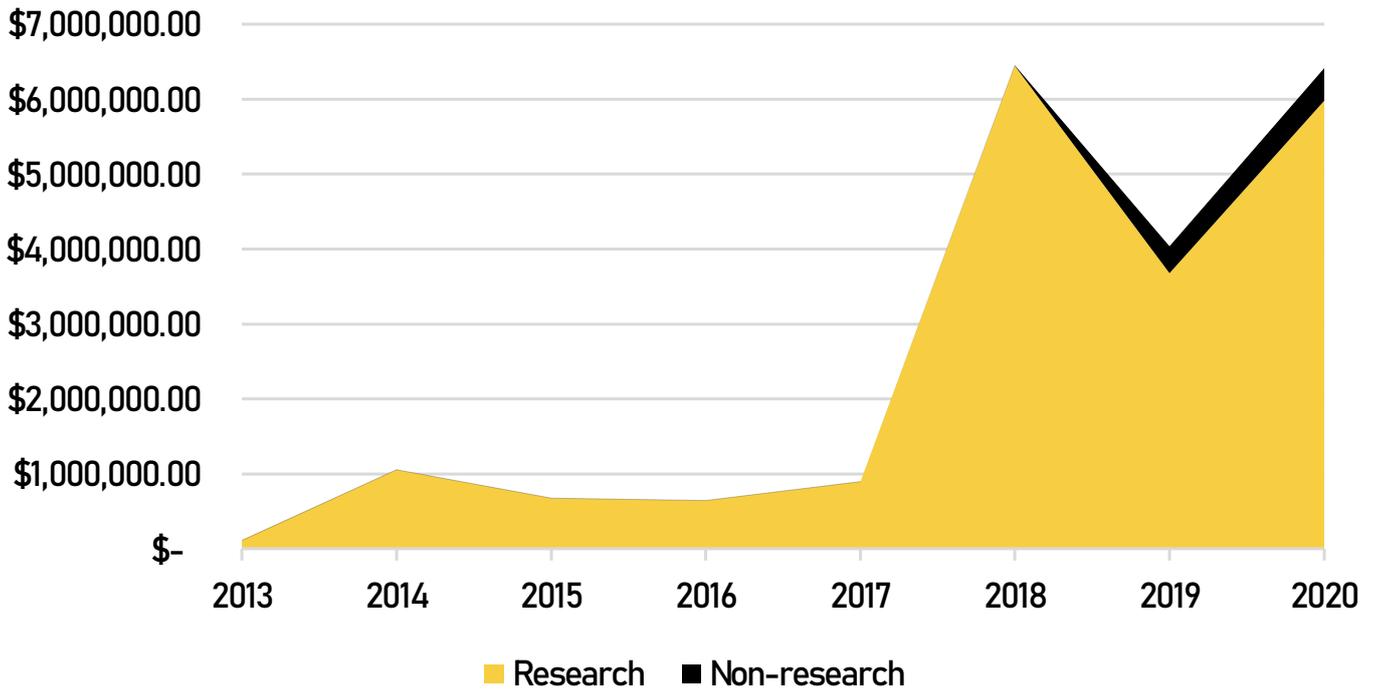
62%
Q1 RANKING

NEW RESEARCH INCOME

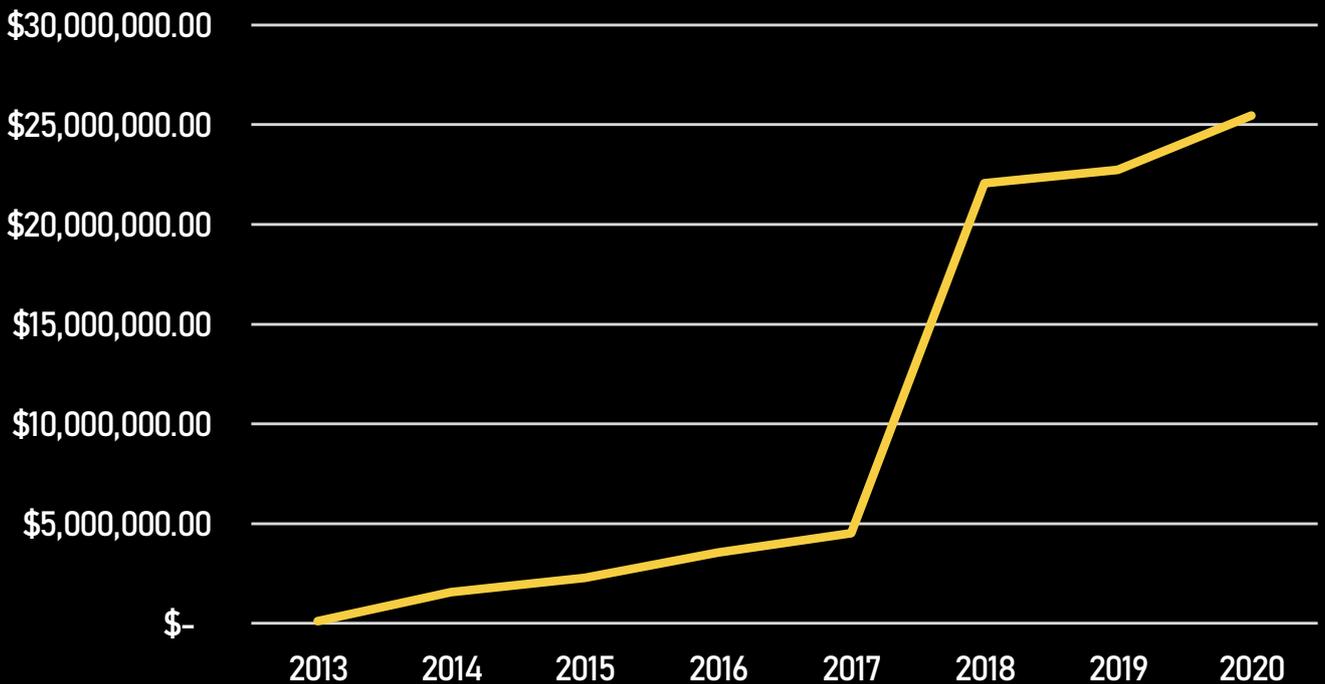
\$1.962

MILLION

Annual revenue



Cummulative awarded funding





MAJOR PROJECTS

Building Capacity for Quality Teaching in Australian Schools

Impact on student outcomes

New jurisdictions

QTR Digital

Longitudinal research

Quality Teaching Academy

Supporting Quality Teaching in Schools for special purposes (SSP)

Supporting Quality Teaching at Cessnock High School

Leadership development for formal Middle School Leaders

COVID-19 Effects on students and teachers in 2020

Aspirations Longitudinal Study

The Path Travelled

Girls in Maths

HunterWISE

Quality Teaching in Higher Education

BUILDING CAPACITY FOR QUALITY TEACHING IN AUSTRALIAN SCHOOLS

Chief Investigators: Jenny Gore, Drew Miller, Jess Harris, Elena Prieto-Rodriguez, Max Smith, David Lubans

Quality Teaching Rounds (QTR) is a high-impact, rigorously tested approach to teacher professional development, with demonstrated positive effects for teachers and students. Teachers form professional learning communities (PLCs) to collaboratively observe, analyse and improve their practice, in order to enrich student learning. QTR is relevant for teachers across all subject areas and year levels, and has demonstrated improvement in teachers' confidence and morale at all career stages (Gore & Rickards, 2020; Gore & Rosser, 2020).

Designed by Laureate Professor Jenny Gore and Dr Julie Bowe, QTR draws on the Quality Teaching Model, developed in 2002 by Gore and Associate Professor James Ladwig for the NSW Department of Education.

The Building Capacity for Quality Teaching in Australian Schools project, funded by the Paul Ramsay Foundation (2018-2022) in partnership with the NSW Department of Education, encompasses a comprehensive program of research in association with the scaling of QTR. This program includes rigorous evaluation of the impact of QTR on students and teachers in NSW and other jurisdictions, development and evaluation of the digital delivery of QTR for small schools and those in regional and remote locations, and longitudinal research on the sustainability of QTR effects.

This year, we reported results from the largest randomised controlled trial (RCT) in the history of Australian education research. We planned to conduct a second cohort of participants for this RCT and an additional RCT on the digital delivery of QTR to regional and remote schools. The COVID-19 pandemic, however, caused significant delays for these studies. Despite the disruption to the research, the project is anticipated to fulfil its aims of building capacity for quality teaching and enriching student outcomes, including for students experiencing disadvantage across multiple Australian school jurisdictions.



IMPACT ON STUDENT OUTCOMES

Academic Leads: Drew Miller, Leanne Fray
Project Manager: Wendy Taggart

QTR has demonstrated statistically significant positive effects on student learning outcomes in mathematics, teaching quality and teacher morale. Student effects were slightly greater in disadvantaged schools (Index of Community Socio-Educational Advantage [ICSEA] <1000) than in more advantaged schools (ICSEA > 1000), signalling the potential of QTR for addressing disadvantage. The analyses of qualitative data highlight positive impacts on teacher confidence, collegiality and school culture.

Data collected for this study involved 249 school visits, 791 lesson observations, 803 teacher surveys, 11,924 student surveys and 33,407 student tests.

These results are exciting and significant, not just for the project but for the field. Few studies have demonstrated significant effects of professional development on student outcomes, especially with a short-term, low-cost intervention that builds teachers' capacity for ongoing improvement and improves student achievement, with slightly greater effects in disadvantaged contexts. Commissioned to provide independent oversight of the RCT, RAND Corporation has endorsed the integrity of the research.

A cost benefit analysis conducted by Deloitte Access Economics identified QTR as a 'very low-cost' intervention with exceptional return on investment. Their modelling estimates that for each dollar spent on direct program costs, the Gross State Product uplift is between \$40 and \$150. By comparison, expenditure on higher education in Australia is estimated to return between \$3 and \$4 to the economy for every dollar invested. This result is important because of the relationship between educational achievement and equity, social cohesion and economic success.

Our research on QTR continues to be published in high-quality international journals and, increasingly, in professional platforms and mainstream media.

NEW JURISDICTIONS

Academic Leads: Jenny Gore, Sally Patfield
Project Manager: Skye Gibson, Sally Patfield

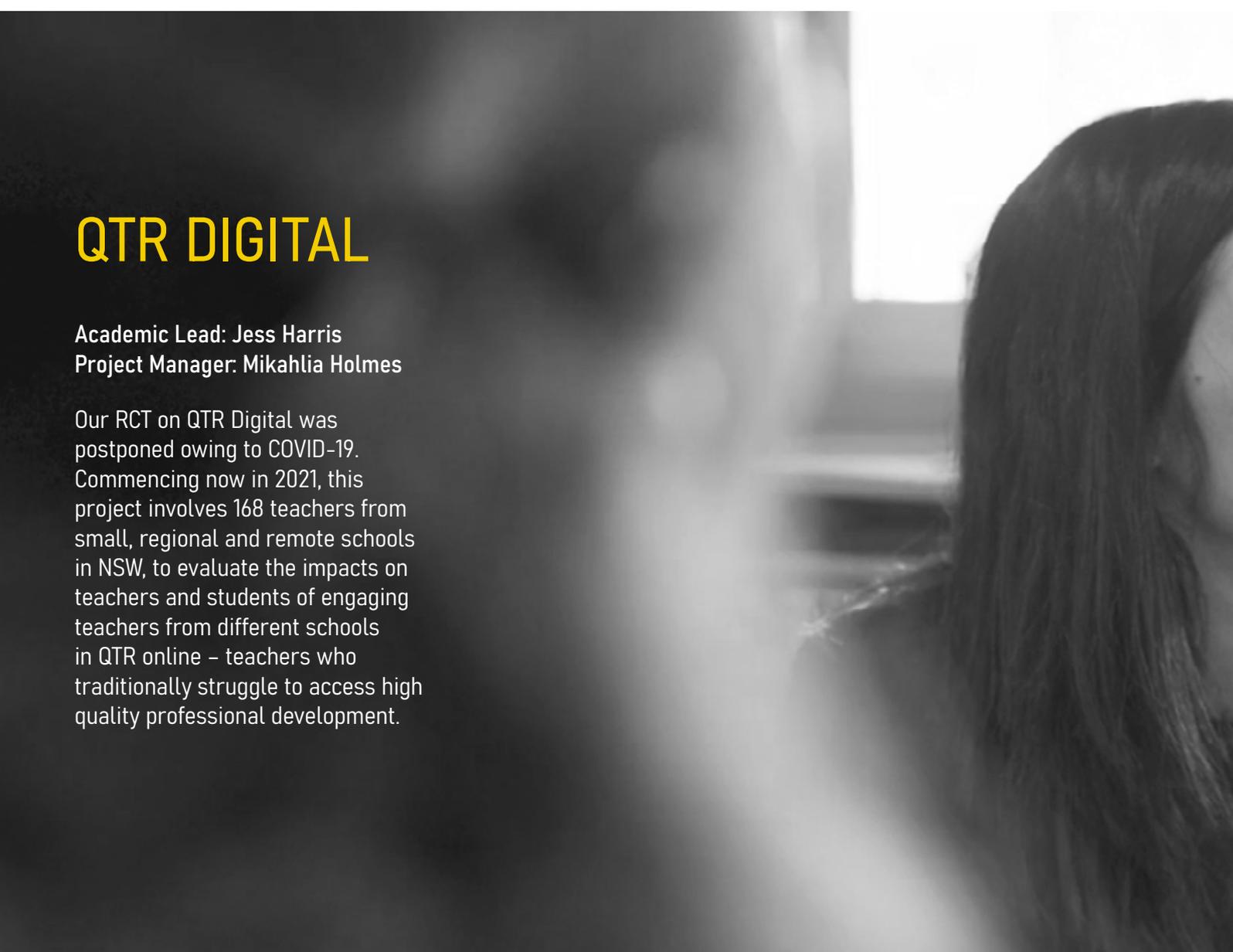
Two new jurisdictions (the Queensland Department of Education and the Victorian Department of Education and Training) have formally agreed to participate in pilot studies of QTR professional development, as part of our commitment to scaling beyond NSW. The Queensland pilot study was completed in 2020 and the Institute for Social Science Research, University of Queensland has been commissioned to conduct an independent RCT examining the impacts of QTR in Queensland in 2021. The Victorian pilot study was postponed until 2021.

Briefing meetings have also been held with representatives from the Commonwealth education department and education departments in WA, ACT and SA, signalling the exciting potential for scaling across the country.

QTR DIGITAL

Academic Lead: Jess Harris
Project Manager: Mikahlia Holmes

Our RCT on QTR Digital was postponed owing to COVID-19. Commencing now in 2021, this project involves 168 teachers from small, regional and remote schools in NSW, to evaluate the impacts on teachers and students of engaging teachers from different schools in QTR online – teachers who traditionally struggle to access high quality professional development.



LONGITUDINAL RESEARCH

Academic Lead: Drew Miller
Project Manager: Tim Kelso

The longitudinal research is designed to evaluate the sustainability of effects of QTR in schools, using regular school surveys and data linkage with the support of the NSW Department of Education. Detailed case studies of individual schools are also providing rich descriptions of the implementation of QTR in a broad variety of school settings, enriched by insights from the field of implementation science.



QUALITY TEACHING ACADEMY

As early as 2014, the Centre had a vision for a Quality Teaching Academy that would one day see QTR professional development available across Australia and worldwide.

In 2018, the Paul Ramsay Foundation's funding enabled us to begin to realise this long-held dream.

In 2019, the project leaders worked with Social Ventures Australia to draft an Action Plan that identified the core functions of the proposed Academy.

In 2020, we appointed an Executive Director, Steve Hannan, to lead the business planning for the Academy. Steve's experience teaching at TAFE and working in research management roles in the university sector over a period of 19 years has been invaluable in shaping the Academy.

In October, the Academy was launched. Its core functions are to:

- *Translate knowledge*
- *Deliver training and support*
- *Facilitate professional community*
- *Support school review and reporting*
- *Advocate for the profession*



Steve Hannan
Executive Director



Benjamin Donaghey
QTR Adviser
(Jan-Sep)



Tamaryn Curry
QTR Adviser



Natalie Hudson
QTR Adviser



Lee-Anne Rhodes
QTR Adviser



Michelle Ware
QTR Adviser





Quality teaching for every student, every day

MISSION

The Quality Teaching Academy empowers teachers and builds capacity in schools and systems to improve student learning through:

- *delivering powerful professional development*
- *translating rigorous research into practice*
- *advocating for the teaching profession*
- *connecting educators who share a vision of quality teaching*

VALUES

- *We understand and honour the complexity of teaching*
- *We see quality teaching as core to addressing disadvantage*
- *We put rigorous research at the heart of what we do*
- *We value authentic collaboration among teachers*
- *We believe in the capacity of teachers to support each other in refining practice and enriching learning*



SUPPORTING QUALITY TEACHING IN SCHOOLS FOR SPECIFIC PURPOSES (SSP) 2020-2021

Chief Investigators: Leanne Fray, Jenny Gore, Drew Miller,
Jess Harris with Carl Leonard, Judith Foggett
Academic Lead: Leanne Fray
Project Manager: Yvonne Dean

The Centre, and colleagues from the Special Education Centre, are working in partnership with Kotara School, with the aim of understanding how QTR and QTM impact the quality of teaching and student outcomes in Schools for Specific Purposes (SSP).

The project is initially planned for 15 months (with possible extension) with the first phase of data collection completed in 2020. It will provide empirical evidence on the implementation of QTR in SSPs. Findings will be reported to Kotara School and to the NSW Department of Education with the aim of informing practice in other special education settings.

The Kotara School is home to 28 primary students and seven teachers, as well as students in the NEXUS mental health unit at John Hunter Hospital. Each class is assigned a teacher and a student learning support officer (SLSO). The Kotara School also leads a Special Education Hub for others in the area.



SUPPORTING QUALITY TEACHING AT CESSNOCK HIGH SCHOOL 2020-2024

Chief Investigators: Drew Miller, Jess Harris, Jenny Gore and Leanne Fray

Academic Lead: Drew Miller

Project Manager: Yvonne Dean

The Centre has partnered with Cessnock High School, the most disadvantaged school in the Hunter region, on a four-year research project designed to track the outcomes of sustained school-wide implementation of Quality Teaching Rounds (QTR), Quality Assessment Rounds and professional development of middle leaders to support school wide initiatives. Utilising longitudinal mixed methods to assess a wide range of student and teacher level outcomes, this project offers a unique opportunity to record the effects of a sustained school-wide program built on high-quality evidence and focused on teaching and learning in the context of a disadvantaged school.

Baseline data collection for teachers has been completed, with pedagogical and assessment audits, teacher questionnaires, teacher focus groups, and leadership interviews completed during Term 3, 2020. Student data collection (using PATs and student surveys) occurred in Term 4, 2020.

The first round of QTR commenced early Term 4 with 16 teachers undertaking a one-day QTR workshop and subsequent QTR in 4 PLCs. The first Round of each PLC was attended by a QTR Adviser to ensure implementation fidelity was high. Additional cohorts of teachers will undertake QTR throughout 2021 alongside bespoke professional development for the school's middle leadership team.



LEADERSHIP DEVELOPMENT FOR MIDDLE SCHOOL LEADERS

Chief Investigators: Jenny Gore, Jess Harris, Drew Miller, Nathan Towney (Wollotuka)
and researchers from the University of Wollongong

Academic Lead: Jess Harris

Project Manager: Felicia Jaremus

Researchers from the Centre, in collaboration with colleagues from other areas of the University of Newcastle and the University of Wollongong, won a highly competitive tender for Leadership Development for Formal Middle School Leaders, funded by the School Leadership Institute of the NSW Department of Education.

Middle leaders (deputy principals and head teachers) play a pivotal role in improving student outcomes through their direct influence on teachers' classroom practice. However, they are also required to manage competing demands from above and below and navigate complex socio-political arrangements in order to lead classroom teachers and engage with the school executive.

Bringing deep knowledge and extensive experience of middle leadership, quality teaching and learning, and professional development, the project team will co-design with the NSW Department of Education a leadership development program for up to 500 middle leaders from NSW government schools per year for five years.

The program aims to support middle leaders in developing strong collaborative leadership practices in their schools including:

- leading staff and developing leadership mindsets;
- analysing data to improve teaching practice and student learning outcomes; and
- engaging in inquiry and innovation in their own school contexts.



COVID-19 EFFECTS ON STUDENTS AND TEACHERS IN 2020

Chief Investigators: Jenny Gore, Drew Miller, Jess Harris and Leanne Fray
Academic Lead: Leanne Fray
Project Manager: Wendy Taggart

The COVID-19 global pandemic resulted in unprecedented disruption to schooling for more than 90% of the world's school students. Given substantial speculation about the effects on student learning, especially for disadvantaged and vulnerable students, this study addresses an urgent need for rigorous empirical evidence of the impact of learning from home.

The Centre is uniquely positioned to contribute to the national and international conversation on the effects of COVID-19 on student learning, given comparable 2019 student and teacher data collected as part of the Building Capacity for Quality Teaching in Australian Schools project and baseline data collected in Term 1, 2020.

The study produced some of the earliest global evidence of the pandemic's impact on student academic outcomes in diverse school communities, including disadvantaged communities.

The major finding of the study was no significant differences in achievement growth between 2019 and 2020 student cohorts.

Through interviews with teachers and principals, the study also provides insights into the impact on teacher morale and student well-being. The study involved almost 4,894 students and 362 teachers from 113 primary schools.

Survey and interview data echoed widespread concern about student and teacher well-being, highlighting a need for ongoing support in this space.

ASPIRATIONS LONGITUDINAL STUDY

Chief Investigators: Jenny Gore, Max Smith, Kath Holmes,
Erica Southgate and Jim Albright
Academic Lead: Jenny Gore
Project Manager: Leanne Fray, Sally Patfield

The Aspirations Longitudinal Study was the first of its kind to seek comprehensive insight into factors that shape the career and educational aspirations of students during schooling (Years 3 to 12), attracting more than \$1 million in funding from the Australian Research Council and the NSW Department of Education.

Drawing on important findings from the longitudinal study and related studies conducted between 2012 and 2018 which generated an additional \$1.7 million, the Centre has developed several successful courses for teachers, education students and the wider community:

1. The 'Aspirations: Supporting Students' Futures' course is a free online professional development course for teaching staff, school leaders and other education stakeholders. The course is TQI accredited for 10 hours of professional learning. Since its 2019 launch, 512 teachers have completed the course.
2. The 'Understanding Aspirations for Greater Equity' online course is available as an elective for students studying at the University of Newcastle. The course, which provides a comprehensive account of student aspirations, was launched in 2020 and completed by 7 students during its first semester on offer.
3. The 'When I Grow Up: Supporting Children's Aspirations' online EdX course was launched in 2019 for parents, carers and community members to help them understand, influence and nurture the career and educational aspirations of young people. Offered for a second time in July and August 2020, the course had 1,338 participants, aged from 7 to 70 years of age, from 90 different countries around the world.





THE PATH TRAVELLED

Chief Investigators: Felicia Jaremus, Jenny Gore, Sally Patfield, Leanne Fray, Elena Prieto-Rodriguez
Academic Lead: Felicia Jaremus

In July 2020, Felicia Jaremus and colleagues won a grant for a new project, titled Aspirations, Equity and Higher Education Course Choice: The Path Travelled, which seeks to engage participants from the Aspirations Longitudinal Study to investigate which students realised their childhood aspirations, for what higher education courses, and why/why not.

Commencing in October 2020, the project will give specific consideration to students from equity target groups and to the impact of potential inequalities that have been heightened by recent national crises, such as bushfires and COVID-19. Using mixed methods, the project will provide evidence that supports the development of effective policy and institutional strategies for assisting students from equity groups to realise aspirations for various university courses in the current higher education context.

GIRLS IN MATHS

Chief Investigators: Jenny Gore, Elena Prieto-Rodriguez, Leanne Fray, Felicia Jaremus

Academic Lead: Jenny Gore

Project Manager: Felicia Jaremus

Inspired by the Aspirations Longitudinal Study, John Bowers funded a project to specifically examine the factors that influence girls' decisions to study mathematics. The gift to research was made in memory of his late wife Margaret Bowers (nee MacLeod), a dedicated teacher of mathematics to girls.

The project explores girls' mathematics-related educational and occupational aspirations. Using Year 12 subject selection data, quantitative data from the Aspirations Longitudinal Study, and interviews with students, parents, and mathematics teachers, this project examines the complex relationship between gender and school mathematics participation. The project contributes robust evidence towards understanding student participation in mathematics, demonstrating how gender continues to impact upon boys' and girls' relationships with mathematics.

Multiple reports, research papers, and a PhD thesis have been generated by the project. The latest paper in this program of work "Girls are still being 'counted out': teacher expectations of high-level mathematics students" was published by the journal *Educational Studies in Mathematics* on 1 October. The paper has attracted significant public interest since publication and already has an Altmetric score of 44. doi:10.1007/s10649-020-09986-9

HUNTERWISE

Chief Investigators: Elena Prieto-Rodriguez, Karen Blackmore, Anna Giacomini, Juanita Todd, Erica Wanless, Sarah Johnson, Regina Berretta

Project Manager: Camille Rogers

HunterWiSE is an initiative established in 2016 to develop mentorship avenues for women in STEM throughout the Hunter region, promoting positive collaboration and sharing of experiences. The project builds on a partnership between the University of Newcastle and several key regional partners.

The ongoing HunterWiSE program features two key interlinked actions aimed at increasing the number of girls and women participating in STEM. The first is a targeted school intervention, and the second is a series of networking events for female STEM professionals across the Hunter. These two actions aim to work in unison to increase interest in STEM careers among young women and to develop a positive community for females currently working in STEM in the Hunter. By using this dual approach HunterWiSE hopes to increase the number of females entering STEM pathways, and simultaneously encourage retention of women already in the STEM pipeline.

More than 200 female STEM professionals are currently active members in the HunterWiSE network, and more than 200 students have been involved in the initiative. An alumni support program launched in December 2020.



QUALITY TEACHING IN HIGHER EDUCATION

Chief Investigators: Jenny Gore, Sally Patfield, Drew Miller, Elena Prieto-Rodriguez and Leanne Fray
Academic Lead: Jenny Gore and Sally Patfield
Project Manager: Sally Patfield

This pilot study of Quality Teaching in higher education evaluated the benefits of applying the Quality Teaching Model (QTM) and Quality Teaching Rounds (QTR) process for enhancing teaching at the University of Newcastle.

The pilot study involved 26 academics working across seven disciplines at the University. Participants reported that the QTM provided meaningful professional development and had immediate implications for their teaching practice.

The Vice-Chancellor has endorsed the development of an online professional learning course available to all academic and teaching staff across the University from early 2021. The course may also become part of the University's orientation program for new academic and teaching staff.





LAUREATE PROFESSOR JENNY GORE

Jenny is Director of the Teachers and Teaching Research Centre and founder of the Quality Teaching Academy.

Jenny began her career in education as a secondary physical education teacher before commencing her highly successful academic career. Her educational and research interests have consistently centred on quality and equity, ranging across such topics as reform in teacher education, pedagogical change, and professional development.

Over the years, Jenny has held executive roles on numerous councils and advisory committees. She is a visiting professor at the University of Oxford and a Fellow of the American Educational Research Association. Her work has been widely published and highly cited, with many books, chapters and journal articles over the span of her career.

Jenny's research on Quality Teaching and professional learning is having significant impact in Australia and beyond.



DR DREW MILLER

Chief Investigator and Deputy Director

Drew's research is focused on securing optimal development of children and young people in both physical and academic settings, and finding innovative and practical ways to improve these outcomes at scale.

Drew provides significant depth of understanding and expertise in high quality evidence production and quantitative data analysis for the Centre and the Quality Teaching Academy. His goal is to make the complexities of rigorous research more comprehensible for teachers and school leaders, enabling schools to successfully implement high quality evidence-based strategies in their ongoing practice.



ASSOCIATE PROFESSOR JESS HARRIS

Chief Investigator

Jess' research spans a range of areas, highlighting her interest in the fields of school change, educational leadership and communication. She has substantial expertise in qualitative research methods, with a focus on analysing the everyday practices of teachers, students and school leaders to develop local solutions to issues in their school communities.

Jess is passionate about the practices used by school leaders, teachers, students and community members to improve schooling for all students both in Australia and internationally.

ASSOCIATE PROFESSOR ELENA PRIETO-RODRIGUEZ

Chief Investigator

With a doctorate in Computer Science and more than 15 years' experience in educational research, Elena brings together the key foundations for successful STEM education research. Her research interest is equity of access to Science, Technology, Engineering and Mathematics (STEM), and in this field she has been successful in conducting multiple projects. Elena is passionate about teacher education and professional development.



PROFESSOR DAVID LUBANS

Chief Investigator

David began his career as a PDHPE teacher before turning to academia where he has over 100 peer-reviewed publications. Having secured more than \$2 million in competitive research funding, he focuses on understanding the determinants of physical activity and the development and evaluation of interventions in school and community settings.

David is the leader for school-based research in the University of Newcastle's Priority Research Centre for Physical Activity and Nutrition and has a 20% affiliation with the Teachers and Teaching Research Centre.

PROFESSOR MAX SMITH

Chief Investigator

Max joined the University of Newcastle in 2012 following a 36-year career with the NSW Department of Education. Originally a secondary social sciences and computing studies teacher serving mostly in rural schools, Max held a series of senior departmental positions.

Max has a strong interest in quantitative research and evidence-based practice in education with a particular focus on quality teaching and equity in education and its impacts on public policy. Max is enjoying semi-retirement and contributes one day a week to the Centre.



DR LEANNE FRAY

Senior Research Fellow

A former teacher, Leanne has extensive experience in qualitative and mixed methods research and has previously worked on research projects across such disciplines as health, education, and social science. Recently Leanne has been involved in a number of major research projects including evaluating the impact of Quality Teaching Rounds on student outcomes, and a longitudinal study aimed at understanding student education and career aspirations. Her research interests include improving student access and participation in higher education.



DR SALLY PATFIELD

Postdoctoral Researcher

Sally has more than 15 years' experience working in various educational contexts, including as a teacher in NSW public schools, arts education at the local government level, and community cultural development. Sally's doctoral research investigated school students who would be the first in their families to enter higher education. Her thesis won the Ray Debus Award for Doctoral Research in Education (2019) in Australia and the University of Newcastle's Higher Degree by Research Excellence Award for the School of Education (2018).

DR FELICIA JAREMUS

Postdoctoral Researcher

With a passion for equity, Felicia's research interests include access to higher education, gender, mathematics education, and teacher education. Felicia has extensive experience with both qualitative and mixed methods research and has been involved in a number of research projects including an investigation into student participation in mathematics, a longitudinal study of student aspirations, and an investigation into the effects of Quality Teaching Rounds. Her recently completed PhD thesis explored the relationship between gender and access to school mathematics education.



EXECUTIVE SUPPORT



Samantha Brookes
Executive Officer



Tom Carey
Communications Officer



Alyce Carroll
Senior Finance Officer



Aaron Darc
Communications Officer
Casual (Jul-Aug)



Makeisha Gibb
Executive Assistant
(-Aug)



Le Hoang Le
Executive Support
Casual



Amy Lovat, PhD
Executive Assistant
(Aug-)

PROJECT SUPPORT



Wendy Taggart
Senior Project Manager



Tim Dean
Project Manager



Matthew Griffin
Project Manager
Casual (Jul-Sep)



Claire Hayes
Project Officer



Mikahlia Holmes
Project Manager



Tim Kelso, PhD
Project Manager
(Mar-)



Emily O'Shea
Project Officer



Terina Vale
Project Officer

RESEARCH SUPPORT



Yvonne Dean
Research Assistant
(Jul-)



Skye Gibson
Research Assistant/PM
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Shanaya Hedley
Research Assistant
(Mar-)



Jaslyn Ladwig
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Casual



Bernadette Rickards
Research Assistant
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Kate Smithers
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Kristina Sincock, PhD
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PHD SCHOLARSHIP HOLDERS



Jacquie Briskham
Research Assistant
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Caitlin Field
Research Assistant
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Matthew Harper
Research Assistant
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Kristina Lee
Research Assistant
Casual



Robyn Press
Research Assistant
Casual



Brooke Rosser
Research Assistant
Casual



Anthony Ryan
Research Assistant
Casual



Ran Tian
Research Assistant
Casual

PHD CANDIDATES & THESIS TITLES

The following PhD students are supervised by Centre academic staff. Many are supporting Centre activities while working on their own projects.

Kirsten Amos

Body image and the rise of social media: The role of media literacy in the “curriculum”

Jacquie Briskham

A sense of relief: Supporting casual teachers through professional development

Rory Davis

Creative visual pedagogies for learning

Nienke De Vlieger

Nutrition education and assessment methods for children: An investigation of methods, current nutrition education practices and opportunities in Australian primary schools

Hywel Ellis

Factors impacting the choice of Vocational Education and Training (VET): Perspectives of students in NSW schools

Caitlin Field

Videoconferencing in the contact zone: Technology and discourse in teacher professional development

Berit Follong

Development of a cross-curricular nutrition and portion size education program in primary schools

Matthew Harper

Life in classrooms: A pedagogical analysis of mathematics and drama as emblematic school subjects

Dr Daniel Hickmott (awarded Jan 2020)

A study of a professional learning program for primary school teachers implementing the New South Wales science and technology syllabus

Tammie Jakstas

Opportunities to enhance nutrition knowledge and culinary nutrition skills in secondary schools to enhance student diet quality and wellbeing



Dr Felicia Jaremus (awarded Dec 2020)

Rethinking gendered participation in school mathematics: Change the culture, not the girls

Brad Jones

Evaluate the effectiveness of the MASTER coaching program as a coach development tool for improving coaching practices of football coaches and for improving a range of player outcomes

Kristina Lee

The impact of QTR on teacher self-efficacy beliefs

Andrew Lyell

Educational and career aspirations in the middle years of schooling

Jason McGrath

"What if compulsory schooling was a 21st century invention?" A counterfactual study of future schooling

Arun Mehta

Teaching advanced mathematics to Australian high school students - Role of excellence in teaching and use of research-based strategies, including experiential education

Robyn Press

Teachers in transition: The effectiveness of QTR in supporting beginning teachers

Brooke Rosser

Capitalising on professional development: Investigating the impact of Quality Teaching Rounds on social capital for improved teaching

Anthony Ryan

Understanding school improvement: Investigating the implementation of professional development across advantaged and disadvantaged schools

Nicole Thew

The role of student-teacher trust in improving student engagement: Prioritising student voice in participatory action research

Ran Tian

Investigating the impact, mediators and sustainability of teacher professional development and transference to student outcomes

Raju Varanasi

Transforming school systems: The place of contemporary meta-analytics and systems

Simon Watts

An investigation of the learning attributes and meta-cognition of innovative policy entrepreneurs



LOOKING TO THE FUTURE

We are proud of what we have achieved during 2020. As we continue to grow, our focus remains firmly on our core values of making a difference, recognition, respect, teamwork and excellence. We strive to continue making ground-breaking contributions to the field.

In 2021, we are looking forward to ongoing data collection and research activities across all our programs, and we are excited to be a part of ongoing conversations about the future of education. Our research, and the work of the Quality Teaching Academy, makes a difference in teachers' and students' lives. We will continue to create meaningful and positive impact through high-quality professional development programs, research translation, school planning and leadership support, and advocacy for teachers and teaching.

Looking to the future, we will build on our Quality Teaching, Aspirations and Equity, School Leadership and Educational Reform and STEM Education bodies of work, seeking to further inform government policy. As our Quality Teaching for tertiary settings module is rolled out at UON, we envisage this program could be widely adopted across the university sector to improve student outcomes during this part of the education life-cycle.

Our long-term vision is to improve the quality of teaching and enrich student outcomes across all sectors and levels of education.





APPENDIX A

CURRENT RESEARCH PROJECTS

Chief Investigators	Description	Funding Body	Awarded (\$)
Gore, Miller, Harris, Prieto-Rodriguez, Lubans, Howley	Investigating the efficacy, complexity and sustainability of teacher change	Australian Research Council	590,742
Gore, Miller, Harris, Prieto-Rodriguez, Smith, Lubans	Building Capacity for Quality Teaching in Australian Schools	Paul Ramsay Foundation	17,100,563
Gore, Miller, Harris, Prieto-Rodriguez	Quality Teaching Rounds in NSW Government Schools	NSW Department of Education	1,000,000
Harris	School Improvement research: Emerging literature and trends	Department of Education and Training Victoria	44,473
Gore, Fray, Harris, Miller	COVID-19 Effects on Students and Teachers in NSW Government Schools in 2020	NSW Department of Education	198,736
Miller, Gore, Harris, Fray	Investigating school change: Supporting teaching, leading, assessment and learning through Quality Teaching Rounds	Cessnock High School	137,202
Jaremus, Gore, Patfield, Fray, Prieto-Rodriguez	Aspirations, equity and higher education course choice: The path travelled	National Centre for Student Equity in Higher Education	32,900
Fray, Gore, Harris, Miller, Foggett, Leonard	Supporting Quality Teaching at Kotara School	Kotara School	24,712
Gore, Harris, Miller, Towney, with UOW	Leadership Development for formal Middle School Leaders Program	NSW Department of Education	666,000
Total			19,795,328

APPENDIX B

PUBLICATIONS

Published

- Berger, N., Holmes, K., **Gore, J. M.**, & Archer, J. (2020). Charting career aspirations: A latent class mixture model of aspiration trajectories in childhood and adolescence. *Australian Educational Researcher*, 47, pp. 651-678.
- Bruner, M. W., McLaren, C., Swann, C., Schweickle, M. J., **Miller, A.**, Benson, A., et al. (2020). Exploring the relations between social support and social identity in adolescent male athletes. *Research Quarterly for Exercise and Sport*.
- Brunning, M., Fischetti, J., & **Smith, M.** (2020). Renewing the promise and potential of school-based management. *NASSP Bulletin*, 104(3), pp. 177-201.
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- de Vlieger, N., van Rossum, J., Riley, N., **Miller, A.**, Collins, C., & Bucher, T. (2020). Nutrition education in the Australian New South Wales primary school curriculum: Knowledge and attitudes of students and parents. *Children*, 7(4), p. 24.
- Eather, N., Jones, B., **Miller, A.**, & Morgan, P. J. (2020). Evaluating the impact of a coach development intervention for improving coaching practices in junior football (soccer): The MASTER pilot study. *Journal of Sports Sciences*, 38(11-12), pp. 1441-1453.
- Fischetti, J., Varanasi, R., & **Smith, M.** (2020). We know by Year 11 what mark students will get in Year 12. Do we still need a stressful exam? *The Conversation*. 27 July 2020. Retrieved from <https://theconversation.com/we-know-by-year-11-what-mark-students-will-get-in-year-12-do-we-still-need-a-stressful-exam-140746>
- Follong, B. M., **Prieto-Rodriguez, E.**, **Miller, A.**, Collins, C. E., & Bucher, T. (2020). An exploratory survey on teaching practices integrating nutrition and mathematics in Australian primary schools. *International Journal of Research in Education and Science*, 6(1), pp. 14-33.
- Follong, B. M., **Prieto-Rodriguez, E.**, **Miller, A.**, Collins, C. E., & Bucher, T. (in press). Integrating nutrition into the mathematics curriculum in Australian primary schools: Protocol for a randomised controlled trial. *Nutrition Journal*.

- Fray, L., Gore, J., Harris, J., & North, B. (2020).** Key influences on aspirations for higher education of Australian school students in regional and remote locations: A scoping review of empirical research, 1991-2016. *The Australian Educational Researcher*, 479(1), pp. 61-93.
- Gore, J. (in press).** The quest for better teaching. *Oxford Review of Education*.
- Gore, J. (2020).** Why isn't this empowering? The discursive positioning of teachers in efforts to improve teaching. In A. Brown & E. Wisby (eds.) *Knowledge, policy and practice: The struggle for social justice in education* (pp.199-216). London, UK: UCL IOE Press.
- Gore, J. (2020).** Improve teaching quality to improve student outcomes. Paper prepared for the Regional Center for Educational Planning – UNESCO, United Arab Emirates.
- Gore, J. (in press).** 'In pursuit of quality. The risky business of becoming a researcher', In D. Mayer & I. Menter (eds.), *Becoming a Teacher Education Researcher*. Critical Publishing.
- Gore, J., Patfield, S., & Fray, L. (in press).** Questioning the consensus on effective professional development. *International Encyclopaedia of Education 4th ed.* Elsevier.
- Gore, J. & Rickards, B. (2020).** Rejuvenating experienced teachers through Quality Teaching Rounds professional development. *Educational Change*.
- Gore, J. & Rosser, B. (2020).** Beyond content-focused professional development: Powerful professional learning across grades and subjects. *Professional Development in Education*.
- Harris, J., Smithers, K., & Spina, N. (2020).** More than 70% of academics at some universities are casuals. They're losing work and are cut out of JobKeeper. *The Conversation*. 15 May 2020. Retrieved from <https://theconversation.com/more-than-70-of-academics-at-some-universities-are-casuals-theyre-losing-work-and-are-cut-out-of-jobkeeper-137778>
- Harris, J. & Spina, N. (2020).** Ethical leadership shaping the everyday experiences of non-tenured early career researchers. [Paper presentation for ECER online symposium: Considerations on Early Career Researchers' Careers, Experiences, and Working Conditions]. 28 August 2020.
- Jaremus, F. (2020).** When girls do masculinity like boys do: Establishing gender heteroglossia in school mathematics participation. *Mathematics Education Research Journal*. Advance online publication.
- Jaremus, F., Gore, J., Fray, L., & Prieto-Rodriguez, E. (2020).** Grouped out of STEM degrees: The overlooked mathematics 'glass ceiling' in NSW. *International Journal of Inclusive Education*. Advance online publication.
- Jaremus, F., Gore, J., Prieto-Rodriguez, E., & Fray, L. (2020).** Girls are still being 'counted out': Examining teachers' expectations of high-level mathematics students. *Educational Studies in Mathematics*, 105, pp. 219-236.

- Jones, A., Harris, J., Spina, N., & Azordegan, J. (in press). Governing the 'good' casual academic: Institutionalised 'othering' practices. In M. Murphy, C. Burke, C. Costa & R. Raaper (eds.), *Social Theory and the Politics of Higher Education: Critical Perspectives on Institutional Research*. Bloomsbury, London. U.K.
- Lindqvist, H., & Gore, J. (2020). Rundor med fokus på undervisningskvalitet: Professionell utveckling genom kollegialt lärande för lärare. *Senaste Artiklar, Artiklar*.
- Lonsdale, C., Sanders, T., ... Gore, J. ... Lubans, D. (in press). 'Effectiveness of a scalable school-based intervention to improve children's cardiorespiratory fitness: The 'internet-based Professional Learning to help teachers promote Activity in Youth' (iPLAY) cluster randomised controlled trial.' *JAMA Pediatrics*.
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- Mosely, G., Harris, J., & Grushka, K. (in press). Locating the place of 'design' across the Australian Curriculum: A detailed analysis of three learning areas. *Australian Educational Researcher*.
- Osborne, J. A., Prieto, E., & Butler, E. (in press). Shaping our collective identity as mathematics teacher educators. In K. Beswick, & M. Goos (eds.). *The Learning and Development of Mathematics Teacher Educators - International Perspectives and Challenges*. Springer.
- Patfield, S., Gore, J., & Fray, L. (2020). Degrees of 'being first': Toward a nuanced understanding of first-generation entrants to higher education. *Educational Review*. Advance online publication.
- Patfield, S., Gore, J., & Fray, L. (in press). Disrupting the discourse of under-representation: The place of rural students in Australian higher education equity policy. In D. Farrugia and S. Ravn (eds.). *Youth beyond the city: Thinking from the margins*.
- Patfield, S., Gore, J., & Fray, L. (2020). Reframing first-generation entry: How the familial habitus shapes aspirations for higher education among prospective first-generation students. *Higher Education Research & Development*. Advance online publication.
- Patfield, S., Gore, J., & Fray, L. (in press). On becoming a university student: Young people and the illusio of higher education. In R. Brooks & S. O'Shea (eds.). *Reimagining the Higher Education Student*. Routledge, London, UK.
- Patfield, S., Gore, J., & Weaver, N. (in press). On 'being first': The case for first-generation status in Australian higher education equity policy. *Australian Educational Researcher*.

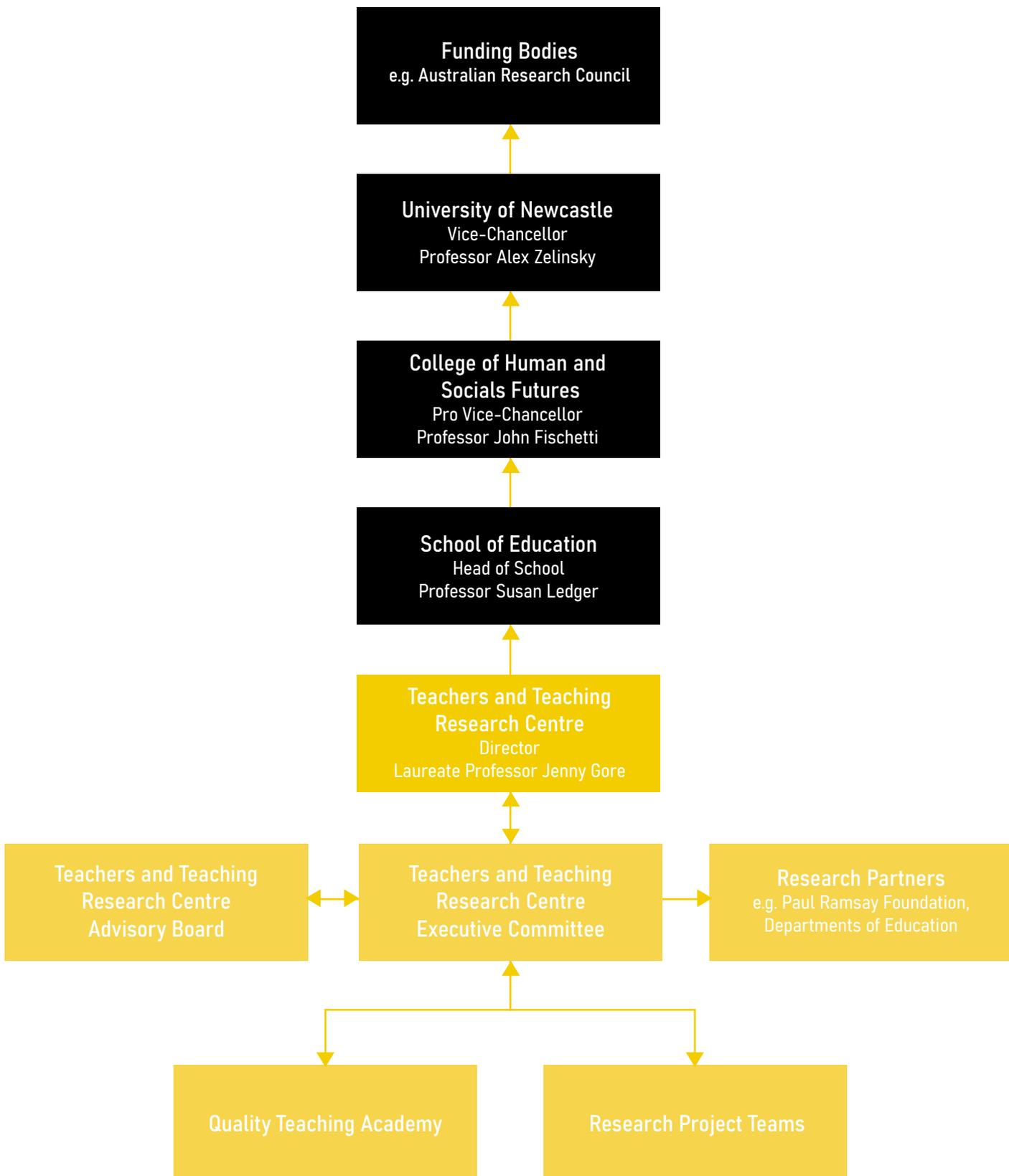
- Peralta, L., Lonsdale, C., Bennie, A., & Gore, J. (2020). An investigation of the influence of video types and external facilitation on PE in-service teachers' reflections and their perceptions of learning: Findings from the AMPED cluster randomised controlled trial. *Journal of Teacher Education*.
- Prieto-Rodriguez, E. & Portelli, C. (2020). Pre-service teacher training through university and high school partnerships: A reflection. *Reflections*, 45, pp. 22-23.
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- Prieto, E. & Holmes, K. (in press). Working mathematically and thinking computationally: capitalising on commonalities for integrated teaching. *International Congress on Mathematical Education*.
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- Prieto-Rodriguez, E., Sincocock, K., Berretta, R., Todd, J., Johnson, S., Blackmore, K., Wanless, E., & Giacomini, A. (in press). Improving girls' perceptions of stem: A high school program engaging girls and encouraging careers. *Gender and STEM*.
- Simpson, A., Cotton, W., & Gore, J. (in press). Teacher education/ors in Australia: Still shaping the profession despite policy intervention. In D. Mayer (ed.), *Teacher Education Policy and Research: Global Perspectives*. Springer.
- Spina, N., Harris, J., Bailey, S., & Goff, M. (2020). 'Making it' as a contract researcher: A pragmatic look at precarious work. Routledge, London, UK.
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- Vella, S. A., Benson, A., Sutcliffe, J., McLaren, C., Swann, C., Schweickle, M. J., Miller, A., & Bruner, M. (2020). Self-determined motivation, social identification and the mental health of adolescent male team sport participants. *Journal of Applied Sport Psychology*.
- Vella, S. A., Swann, C., Batterham, M., Boydell, K. M., Eckermann, S., Ferguson, H., Miller, A. et al. (2020). An intervention for mental health literacy and resilience in organized sports. *Medicine and Science in Sports and Exercise*.

Under Review

- Gibson, S., Patfield, S., Gore, J., & Fray, L.** (under review). Aspiring for higher education in regional and remote Australia: the diverse emotional and material realities shaping young people's futures. *The Australian Educational Researcher*.
- Gore, J., Fray, L., Miller, A., Harris, J., & Taggart, W.** (under review). The impact of COVID-19 on student learning in NSW primary schools: an empirical study. *Australian Educational Researcher*.
- Gore, J., Fray, L., Miller, A., Harris, J., & Taggart, W.** (under review). Evaluating the impact of COVID-19 on NSW schools. Teachers and Teaching Research Centre, University of Newcastle.
- Gore, J., Miller, D., Fray, L., Harris, J., & Prieto-Rodriguez, E.** (under review). Improving student outcomes through professional development: Results from a randomised controlled trial of Quality Teaching Rounds. *Teaching and Teacher Education*.
- Jaremus, F.** (under review). Saharah's story: Challenging the deficit perspective on girls' underrepresentation in mathematics.
- Patfield, S., Gore, J., & Fray, L.** (under review). Stratification and the illusion of equitable choice in accessing higher education. *Critical Studies in Education*.
- Prieto-Rodriguez, E. & Holbrook, A.** (under review). Why we should capitalise on early childhood interest in Engineering: Changes in students' interest over the school years. *Australian Journal of Engineering Education*.
- Prieto-Rodriguez, E., Sincok, K., Blackmore, K., Berretta, R., Johnson, S., Wanless, E., Giacomini, A., & Todd, J.** (under review). Structural barriers impeding individual strengths: "It's not a matter of changing women, it's a matter of changing women's value in STEM". *Journal of Women and Minorities in Science and Engineering*.
- Sincok, K., Prieto, E., Berretta, R., Todd, J., Blackmore, K., Wanless, E., Johnson, S., & Giacomini, A.** (under review). Investigating the impact of an outreach intervention on girls' STEM identity formation. *International Journal of Inclusive Education*.
- Smithers, K., Harris, J., Goff, M., Spina, N., & Bailey S.** (under review). Ethical responsibilities of tenured academics supervising non-tenured researchers in times of neoliberalism and precarity. *Journal of Education Administration and History*.
- Spina, N., Smithers, K., Harris J. and Mewburn, I.** (under review). Back to Zero? Precarious employment in academia amongst 'older' early career academics, a life course approach. *British Journal of Sociology of Education*.

APPENDIX C

GOVERNANCE STRUCTURE



APPENDIX D

TEACHERS AND TEACHING RESEARCH CENTRE ADVISORY BOARD MEMBERSHIP

Director, Teachers and Teaching Research Centre:

Laureate Professor Jenny Gore, Director, Teachers and Teaching Research Centre, University of Newcastle

At least three nominated representatives from the Teachers and Teaching Research Centre:

Associate Professor Jess Harris, Teachers and Teaching Research Centre, University of Newcastle

Dr Drew Miller, Teachers and Teaching Research Centre, University of Newcastle

Steve Hannan, Executive Director, Quality Teaching Academy, TTRC, University of Newcastle

Samantha Brookes, Executive Officer, Teachers and Teaching Research Centre, University of Newcastle

At least three representatives external to the University:

Cheryl Best, previously Executive Director, Learning and Teaching, NSW Department of Education

Professor Barbara Comber, Research Professor, School of Education, University of South Australia

Rob Randall, Director, Rob Randall Group

Vicki Forbes, Executive Officer, Victorian Association of State Secondary Principals

At least one representative from the University of Newcastle's Research and Innovation Services:

Judy Alexander, Associate Director, Research Grants, University of Newcastle

