

ECU Research Week

19 - 23 September 2016



Education Research

**Engaging Minds,
Engaging Communities**

**School of Education
Edith Cowan University**

www.ecu.edu.au/research/week

FOREWORD



Research in the School of Education is driven by a strong ethos of community engagement and commitment to meeting the needs of our communities. We value and foster our extensive partnerships with education stakeholders which provide the impetus and focus for achieving our mission – namely, to conduct education research that has high social and educational impacts. Continuing Edith Dircksey Cowan’s contribution to education and Australian society, our research Institute, centres and groups have a strong focus on improving the quality of education in schools and systems and redressing educational disadvantage. Our valued partnerships with more than 600 primary and secondary schools are formed on the basis of reciprocity and mutual benefit. Academic staff members work closely with schools as colleagues providing advice on educational and professional learning issues, and many serve on school councils.

In the following pages, I am pleased to present brief descriptions of our major research centres and a cross-section of the research and evaluation projects recently conducted, or in progress, by our staff and postgraduate students. The projects are organised under broad themes (e.g. STEM education; Language, Literacy & Literature, ICT; Early Childhood Education, etc.). As there is often considerable overlap, keywords are also shown at the top of each project summary.

Please contact us if you would like to learn more about the projects described in the booklet, or are interested in a research collaboration or enrolling in a postgraduate research degree.

A handwritten signature in black ink that reads "L. Cohen".

Professor Lynne Cohen
Dean, School of Education

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EDUCATION RESEARCH CENTRES

Edith Cowan Institute for Education Research (ECIER)

Continuing Edith Dircksey Cowan's contribution to education and Australian society, the Institute is committed to conducting and supporting educational research that has high social and educational impacts. The Institute's mission is to enhance the quality of education and close the gap between high and low performing students and schools. This will be achieved through researching education and development to reform educational policy, enhance school leadership to achieve school improvement, and enhance teaching practice to improve student engagement and learning outcomes.

Fogarty Learning Centre (FLC)

The Fogarty Learning Centre conducts research into the effective teaching of all students, with a particular focus on language and literacy, by engaging with the community to provide professional development in these specific areas. It also aims to narrow the gap for students in low socio economic schools and provide clinical teaching experiences in literacy and numeracy as part of the undergraduate teacher education programs.

Centre for Schooling and Learning Technologies (CSaLT)

CSaLT, the Centre for Schooling and Learning Technologies, aims to improve learning outcomes in schools through the use of information and communications technology. By initiating and participating in research activities that support the development of teaching, CSaLT works directly with schools to improve schooling practices with the aided use of ICT to support learning, to pave the way towards a better future for generations to come.

Centre for Research in Early Childhood (CREC) Group

The Centre for Research in Early Childhood conducts research into the experiences of children, families and early childhood professionals in a range of contexts. We aim to explore and promote the crucial nature of early childhood to the future well-being of all children, particularly in relation to 'closing the gap' that exists between families and communities. We are committed to conducting our research ethically and using our research outcomes to bring about change that increases equity and access to opportunity.

Centre for Higher Education Learning and Teaching Research (CHELTR)

The Centre for Higher Education Learning and Teaching Research encourages and supports a community of scholarship of teaching and learning at ECU. We aim to enhance research informed teaching, and improve opportunities for postgraduate research, publication and research grant income. We also encourage peer support for action research, research into learning and teaching, and the scholarship of teaching, through a cross-faculty community of practice that encourages dialogue and research collaboration across all ECU faculties.

Centre for Transformational Games (CTG)

Transformational games are applications purposefully designed to create engaging and immersive learning environments for delivering specified learning goals, experiences and outcomes. The Centre for Transformational Games brings together the multi-disciplinary expertise needed to design, develop and study computer and video games as tools for changing the way a person thinks, feels, or acts.

ABSTRACTS

STEM Education

Our solar siblings

Researchers: Dr Michael Fitzgerald, Prof. David H McKinnon

Grant/Funding: Donation Based

Contact: m.fitzgerald@ecu.edu.au; www.oursolarsiblings.com

Abstract:

Our Solar Siblings is an inquiry-based project for high school level astronomy. It is an investigative data and inquiry driven curriculum replacement for the “astronomy out of the text book” approach commonly undertaken in high schools. It employs an embedded professional learning program for the teacher while the students undertake authentic astronomical analyses of data collected by professional grade astronomical telescopes. Thus, the personnel in the project provide teaching and learning support, access to research grade telescope instrumentation from the teacher’s classroom and extensive curriculum materials who would like an opportunity to undertake authentic astronomy in their classrooms with a minimum of stress and preparation.

The core of the project revolves around the curriculum materials supplied as an interactive digital eBook with all of the software, student materials, teacher guides and explanatory movie clips supplied. These materials are updated and expanded as teachers implement the project in their classrooms and supply us with feedback of their experiences. We act on this feedback to improve the curriculum materials. By providing pre-prepared and coherently structured but editable and customisable curriculum materials to the teacher, as well as professional learning support via digital technologies, such as email, Skype, and Zoom, during implementation, we minimize the teacher’s own preparation time thus allowing them to focus on providing quality astronomy education in their classroom.

Cultural sky stories

Researchers: Prof. David McKinnon, A/Prof. Geoffrey Lummis, Dr Julia Morris, Eileen Slater

Grant/Funding: Higher Education Participation and Partnerships Program (HEPPP)

Contact: d.mckinnon@ecu.edu.au

Abstract:

Cultural Sky Stories began in WA in 2015. This project uses astronomy as the context for engaging low socioeconomic primary and secondary school students in science, mathematics and technology. Astronomy is part of the Earth and Space Sciences strand of the Australian Curriculum, and an Australian flagship Super Science area. In Cultural Sky Stories WA school students and teachers learn to control online telescopes in the USA to acquire data for in-class study, including how to process celestial images and learning about how objects move within the Solar System.

This project uses a mixed-methods approach that investigates students' astronomy knowledge prior to and after the implementation of the program. Analyses of the 2015 yield a significant main effect. The Cohen's d effect size is 0.736 sigma, which can be described as 'large'. Qualitative feedback from both teachers and students also supported the project's success, with the research team attending many astronomy observation evenings at local school that were well attended by families and students.

Australian teacher astronomy research project (ATARP)

Researchers: Dr Michael Fitzgerald

Contact: m.fitzgerald@ecu.edu.au

Abstract:

To encourage cutting edge education research in science and technology at the high school level, ECIER wishes to establish the Australian Teacher Astronomy Research Project along similar lines as the NITARP project at the California Institute of Technology (Caltech), Pasadena, California. This project involves Western Australian high school teachers undertaking authentic astronomical research under the mentorship of Australian radio astronomy scientists. They will utilize existing instruments and data as the Australian Square Kilometre Array Pathfinder, the Murchison Wide Field Array begin to archive their radio astronomy data and undertake investigations in readiness for the deployment of the Square Kilometre Array in Western Australia.

The program will run over 13 months with visits to the Astronomical Society of Australia annual meeting where participants will present their research to astronomers as well as periodic WA-based research workshops. The participating educators are mandated to incorporate the experience into their classrooms and to share their experience with other teachers through professional learning delivery. Upon completion of the teachers' research experience, they will mentor other teachers and teach within the short course presented in within the *sySTEMec* cloud system currently being developed in following years. This project will build cutting edge capacity in combining real science with effective pedagogical approaches in the high school classroom.

Opening real science

Researchers: Prof. David McKinnon, Dr Michael Fitzgerald

Grant/Funding: Office of Learning and Teaching (OLT)

Contact: d.mckinnon@ecu.edu.au

Abstract:

Opening Real Science is attempting to drive a major improvement in the quality of mathematics and science learning by integrating Mathematics and Science and building the competence, skills and confidence teachers need to inspire and equip their students to ask and investigate engaging questions about the world they live in and the universe beyond. Primary and middle schooling is the focus, so that the well-documented engagement and outcome benefits of “learning by doing” will be amplified as teacher-education students progress through a series of online modules. Also, by fostering teacher initiative, a wide variety of interests are catered for, essential for serving diverse student populations in universities across the country.

Opening Real Science is led by Macquarie University (MQ) in a strategic, complementary partnership with the University of Western Sydney (UWS), Charles Sturt University (CSU), Australian Catholic University (ACU), University of Canberra (UC), University of Notre Dame (UND), CSIRO Astronomy and Space Science (CASS), the Australian Astronomical Observatory (AAO) and Las Cumbres Observatory Global Telescope Network (LCOGT), our strong international collaborator. The project brings together key experts working at the highest level and builds on previous successes in promoting transformative, authentic mathematics and science learning in schools. The project has also been endorsed by numerous external experts.

Fostering inquiry-based science learning through play in early childhood education

Researchers: Dr Pauline Roberts

Grant/Funding: ECU Early Career Researcher Grant Scheme

Contact: pauline.roberts@ecu.edu.au

Abstract:

Recent changes to government policy have seen an increased focus on STEM subjects in schools and the push for more graduates in the areas of Science, Technology, Engineering and Mathematics. What has not been fully explored, however, is how these knowledge and skills need to be developed from a young age in early childhood settings. The focus of research in this area to date either highlights that early childhood educators are not confident in teaching science to young children or focuses on developing programs that can be implemented in early years settings. Little work has been done *with* educators to enhance confidence and skills in making the most of opportunities for science in daily activities.

Funded by an Early Career Researcher Grant, this project aimed to work with practitioners in early childhood settings to identify their perceptions of early childhood science. The research then aimed to collect examples of good practice in teaching science to young children and showcase these to the educators within the early learning settings. Additional to this, the researcher worked with the educators across the year to model and implement a range of experiences with the children. The research will then re-examine the educator perceptions to identify if any changes occurred from being involved in the research.

Preliminary results show that two of the case study centres have taken some of the examples on board including one implementing 'Nature Walks' similar to those shown in the presentation to staff. There is still some resistance in the other setting, however.

This research is ongoing and currently the researcher is modelling hands-on activities with the students in the settings to demonstrate how staff can follow young children's interests to develop a science experience. The focus is making the most of spontaneous opportunities that arise and create experiences that link with the children's questions.

WA Pilbara and South West rehabilitation projects

Researchers: Prof. David McKinnon, A/Prof. Geoff Lummis, Eileen Slater,
Dr Julia Morris

Grant/Funding: Koodaideri Contracting Services Pty Ltd

Contact: d.mckinnon@ecu.edu.au

Abstract:

There is a very large area of mined land in the Pilbara and in South Western Australia. The Data Release from the Department of Mining and Petroleum reveals that there are 37,505 sites covering almost 113,000 Ha where traditional land has been damaged, with only 31,784 Ha having had some/minor remediation work done. The costs associated with that remediation are large. That said, little is known about the original state of much of the damaged country. It is thus a domain in need of research to be conducted. However, we have too few scientists to survey the land, the soils, the plants and the water in preparation for its remediation.

Edith Cowan Institute for Education Research (ECIER) researchers have identified one company in the Pilbara who is willing to collaborate with ECU to identify educational approaches that will support the research being carried out by WA scientists. In addition, negotiations have been undertaken with the WA Water Corporation and Local Government representatives in the South West where scientists at ECU have already conducted much research into rehabilitation. This project will support ongoing collaboration for real science to occur through the practical engagement of high school students in scientific investigations of personal concern to them: their damaged lands.

In 2015, ECIEER undertook a Pilot Study near South Hedland with ECU scientists who worked with Year 7 students to sample water, soils and to identify plants. At each identified site, two soil (15 sites) and water samples were taken one of which was returned to Perth while students undertook experiments in their science classrooms on the other sample with equipment supplied by ECIEER. Soil Analyses revealed that much of the DNA (70%) contained in the soils was not listed in any databases. This illustrates the unique nature of West Australian soils.

We seek to establish a strategic collaboration with schools in the Pilbara and in the South West to undertake sampling of soils and water in the two regions. Scientists at ECU have been cooperating with ECIEER staff to generate educational interventions for science teachers and their students that can be applied at scale and which meet the outcomes of the Australian Science Curriculum. Our intention is to extend and strengthen the partnerships amongst schools, local government authorities, industry, the traditional owners, and the University.

Evaluating and selecting STEM resources: Capacity building for teachers in rural and regional schools (STEMCrAft)

Lead Institution: University of Tasmania

ECU Researcher: A/Prof. Paul Newhouse

Partner Organisations: Deakin University, Southern Cross University, University of South Australia, Tasmanian Department of Education, WA Department of Education, Society for the Provision of Education in Rural Australia, Engineers Australia, Australian Council for Computers in Education, Australian Association of Mathematics Teachers, and Australian Scientific & Engineering Solutions (ASES)

Grant/Funding: Australian Maths and Science Partnerships Programme (AMSPP); Australian Government Department of Education

Contact: p.newhouse@ecu.edu.au

Abstract:

Director of CSaLT, A/Prof. Newhouse, collaborated on this project led by the University of Tasmania. The long-term aim of the project is to build capacity for rural and regional STEM (Science, Technology, Engineering and Maths) teachers using a peer support model. Project outcomes included the development of the STEM Framework and Guidelines as well as the establishment of a STEM online community of Practice (CoP). The framework aims to assist the STEM teacher to select resources suitable to their learning environment. It is specifically designed for rural and regional teachers whose resources are often limited.

Science, technology, engineering, arts & mathematics (STEAM) strategic plan and STEAM capacity building for the Northern Territory

Researchers: Prof. David McKinnon, A/Prof. Geoffrey Lummis, Dr Julia Morris,
Dr Michael Fitzgerald

Grant/Funding: Northern Territory Government, Department of Education

Contact: d.mckinnon@ecu.edu.au

Abstract:

The past two decades have seen a shift towards K-12 curricula that support the notion of integrated and applied, or 'real life', approaches to Science, Technology, Engineering and Mathematics (STEM) education. Essential to this integrated learning approach is that students have the opportunity to think critically, creatively, and innovatively in a supportive environment. The Arts learning area offers varied and novel learning opportunities that can enhance STEM education. The Arts accommodate diverse opportunities for responding to a range of expression contexts in a holistic manner.

In this project, a mixed-methods approach is being used to develop a vision and strategic plan for STEAM education in the Alice Springs region of the Northern Territory (NT). The vision and strategic plan is being constructed in light of a situational analysis that has recently been conducted by the research team (Edith Cowan Institute for Education Research - ECIER team). In consultation with key stakeholders in the NT, the ECIER team will develop a professional learning model to support the integration of STEAM learning into Alice Springs schools. It is anticipated that this model will include professional learning, resources, and initiatives to build capacity for ongoing improvement and reflection in the Alice Springs region, utilising approaches that have a track-record of success in rural and remote education.

Evaluation of The STEM Learning Project

Researchers: Dr Jenny Lane, Dr Paula Mildenhall, Barbara Sherriff

Grant/Funding: Scitech and The STEM Learning Project consortium:
Educational Computing Association of WA (ECAWA)
Mathematical Association of WA (MAWA)
Science Teachers Association of WA (STAWA)

Contact: j.lane@ecu.edu.au

Abstract:

A research team from the School of Education, led by Dr Jenny Lane, has been commissioned to conduct a three-year research evaluation of The STEM Learning Project which is being conducted by Scitech in partnership with a consortium of WA STEM education experts. The STEM Learning Project is one of the first Australian initiatives that aims to support schools to implement an interdisciplinary problem-solving approach to STEM. The evaluation of the Project will generate insights into the effectiveness and impacts of this new approach to STEM education, which will in turn inform practice, teacher professional learning and educational policy.

The following research questions will be addressed by the evaluation:

1. To what extent do teachers judge the curriculum resources to be engaging, valuable learning experiences for students, readily implementable and innovative?
2. To what extent do school leaders and teachers judge the professional learning workshops to be informative, valuable professional learning experiences and helpful in planning for implementation of STEM problem-solving tasks?
3. What opportunities do the STEM activities provide for student higher order thinking and reasoning, the development of collaboration skills, and, discipline-related understandings and skills?
4. What teaching approaches and strategies are effective in facilitating STEM-related problem solving activity?
5. What are the main barriers to implementing interdisciplinary problem-based STEM learning activities?

The research will involve surveys and interviews of teachers and school Principals who attend STEM professional learning workshops, surveys and interviews of teachers who teach with the STEM curriculum resources, video capture of sample lessons, interviews with teachers, and focus group with students who participated in the videoed lessons.

Towards ensuring a STEM workforce: Engaging industry to inspire and foster real-world STEM teacher learning

Researchers: Dr Julia Morris, Julie Boston, Prof. David McKinnon,
Dr Michael Fitzgerald, A/Prof. Geoffrey Lummis, Eileen Slater,
Dr Kuki Singh

Grant/Funding: ECU Industry Collaboration Grant
Wesfarmers Chemicals, Energy and Fertilisers (WesCEF)

Contact: j.morris@ecu.edu.au

Abstract:

Science, technology, engineering and mathematics (STEM) are seen as essential for Australia to remain competitive in the global economy. However, STEM participation and achievement are not keeping pace with projected demands for STEM skilled workers. Many teachers feel ill-equipped to deliver learning experiences that foster students' interest in STEM careers. Greater industry engagement is needed to ensure STEM is taught in ways that model real-world practice.

This project will assess the effectiveness of a professional learning model that engages industry specialists and teachers in an online community of practice and promotes authentic, inquiry-based STEM learning aligned to future workforce requirements. The project aims to assess the effectiveness and longer term viability of a STEM professional learning model that integrates industry engagement, inquiry learning approaches, authentic STEM content aligned to future STEM workforce requirements in WA, and an online community of practice.

It is anticipated that supplementing a professional learning day with an online community of practice that includes teachers of varying experience levels, university educators and industry professionals will improve the integration of STEM into learning. It is also anticipated that participating in the project will improve teachers' self-efficacy to deliver authentic STEM content in their teaching.

Exploring quality primary education in different cultures: A cross-national study of teaching and learning in primary science classrooms

Lead Institution: Deakin University

ECU Research Team: Prof. Mark Hackling, A/Prof. Karen Murcia,
Dr Khadeeja Ibrahim-Didi

Partner Institutions: Freie Universitaet Berlin
National Taiwan Normal University
National Taipei University of Education

Grant/Funding: Australian Research Council, Discovery Program

Contact: m.hackling@ecu.edu.au

Abstract:

This project investigated teaching and learning in primary school science in three different countries: Australia, Taiwan and Germany; to (a) identify discursive practices that provide opportunities for quality reasoning and learning, and (b) explore the commonalities and differences in practice that relate to the different cultural historical traditions of these countries.

In an era in which science education is seen to be critical for national wellbeing and economic growth, and student achievement is increasingly viewed in relation to international comparisons of scientific literacy outcomes such as TIMSS and PISA, we need to develop definitive understandings of the nature of quality teaching and learning in different cultural traditions, in order to inform the improvement of primary science education in Australia and internationally. The study generates such understandings through video capture of quality teaching in each country, and the development of a comparative framework of analysis which uses multiple theoretical perspectives and new research technologies to focus on (a) the framing of lesson sequences and classroom settings and (b) teacher - student interactions leading to quality learning through discourse, representation and reasoning.

New knowledge created through the research includes: richer understandings of the ways in which teachers create opportunities for higher order thinking and reasoning; the impact of context and culture on practice; and, methodological advancements in video capture and analysis.

The status of STEM education in Australia: Challenges and opportunities

Researchers: Prof. Mark Hackling, A/Prof. Karen Murcia, Dr John West,
Dr Karen Anderson

Grant/Funding: Technology Industry Advisory Council (TIAC)

Contact: m.hackling@ecu.edu.au

Abstract:

Australia's former Chief Scientist, Professor Ian Chubb, raised the spectre of our nation becoming non-competitive in the development and trade of knowledge-based products unless we take strong action to raise the standard of science, technology, engineering and mathematics (STEM) education in our schools. There has been a flurry of reviews and reports that highlight concerns about science and maths achievement standards, students attitudes towards the study of STEM subjects, declining senior secondary participation rates in STEM subjects and the number of graduates emerging from university STEM courses.

Research commissioned by the WA Government and conducted by the Edith Cowan Institute for Education Research reviewed published reports and investigated perspectives of key players from the education sector and the business community addressed two key questions: What are the most significant concerns that must be addressed? What opportunities are there for the enhancement of STEM education?

The two most significant findings from the research were: the huge impact of social disadvantage on students' participation and achievement in high level science and maths; and, the low proportion of Australian students reaching advanced achievement benchmarks compared with SE Asian countries.

A science subject portal for short courses: sySTEMec

Researchers: Julie Boston, Dr Kuki Singh

Grant/Funding: ECU Strategic Initiative Fund

Contact: j.boston@ecu.edu.au

Abstract:

The delivery of Professional Learning (PL) experiences to rural, remote and isolated teachers in schools in Western Australia is problematic. Often, costs associated with teacher release are prohibitively expensive if indeed they can be organised to release the teacher from normal duties. In addition, PL in metropolitan and regional locations can be problematic for different reasons including the restricted nature of the delivery in a short period of time. Such “hypodermic” approaches have been well researched and shown not to lead to any lasting change.

The major part of this initiative involves building School of Education capability to offer a streamlined online platform to create, deliver and easily manage Professional Learning and Short Courses. The learning management system allows for easy website integration, including online course booking and student navigation. It allows users to access the course materials on multiple devices including Mac, PC, iPhone, iPad and Android devices. The cloud-based LMS is designed to be “clean and simple”.

Student perceptions towards design and technology (D & T) in a Western Australian context

Researchers: Dr Jeremy Pagram, Dr Martin Cooper

Contact: j.pagram@ecu.edu.au

Abstract:

The number of students studying Design and Technology (D & T) education at Edith Cowan University in Western Australia has fallen over the past few years. This is despite an increasing shortfall in the workplace leading to many graduate job opportunities. In addition, the demographics of the student population in D & T varied greatly from that of education students, more generally with a very high male proportion studying D & T.

Therefore, the researchers set out to examine the perceptions of existing School of Education students towards D & T to determine if preconceived views relating to the area of D & T were discouraging study in the area. An online survey was developed and delivered via the Qualtrics commercial survey engine, with questions influenced by a paper survey used at the University of Waikato in New Zealand.

Amongst the findings is a clear indication that before entering university many students' views towards Design and Technology are biased and stereotyped and are based upon limited school experiences. In particular the perception is that, while seen as creative, design and technology is about men making things.

Supporting early mathematics learning in childcare centres

Researchers: Dr Marianne Knaus

Grant/Funding: ECU Early Career Researcher Grant

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Abstract:

Despite a growing body of research which demonstrates young children have the capacity to learn mathematical concepts, early childhood educators are still strongly influenced by dated ideas that mathematics education should be delayed until formal schooling. Such attitudes are contributing to Australia's poor rating of young children's numeracy skills as compared to other OECD countries. Negative perceptions about mathematics as well as a lack of knowledge of curriculum content and pedagogy are major factors limiting mathematics experiences in the early years. This project employed a multi-site case study approach to investigate the teaching of mathematics in childcare centres and the impact of a professional development intervention on the type and frequency of mathematics experiences for children before starting formal schooling.

Using metaphors and modalities when teaching Year 2 students computational strategies: A fine grained analysis

Researchers: Dr Paula Mildenhall, Barbara Sherriff

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Abstract:

Using a social semiotic lens within a participationist framework, this research explored a professional learning collaboration with a Year 2 primary school teacher. It focused on how the teacher and students used different metaphors within a multi-modal learning environment to teach computational strategies. This research was collaborative and involved two research cycles. Each cycle consisted of an initial collaborative professional learning session followed by the recording of three lessons using a *GoPro Hero 3* camera. The initial findings have shown that the teacher successfully taught computational strategies using a combination of metaphors through a number of different modalities (gesture, speech and concrete). It was also found that even though students understood the mathematics using one metaphor, it did not mean that they could understand the mathematics using a different metaphor. The researchers are continuing to conduct a fine-grained analysis of the interactions so that more insights into this collaboration can be produced. Once that is completed the researchers will create a set of guidelines for primary school teachers that will guide their thinking and planning into how they will use combinations of modalities and metaphors within a primary mathematics context.

Scaffolding the mathematical “connections”: A new approach to preparing teachers for the teaching of lower secondary algebra

Researcher: Dr Christine Ormond

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Abstract:

A paper published recently in the *Australian Journal of Teacher Education* discusses the results of a three-year mixed methods study into the effectiveness of a mathematics education unit taught in the School of Education at Edith Cowan University. This was written for both pre-service primary education students and re-training in-service teachers, to prepare them for the teaching of pre-algebra and early algebra. The unit was taught from 2013 to 2015 inclusively, in both on-campus and off-campus modes.

Focusing on the *Number and Algebra* strand in the Australian Curriculum, its purpose was to better prepare some novice teachers through modelling a more coherent approach to mathematics teaching. The unit’s genesis lies in the author’s belief that many mathematics teachers conduct their classes in isolated “pockets” of instruction that are not sufficiently informed by a broader, connected understanding of the mathematics. The researcher has addressed this through the preparation and dissemination of detailed documents that explore the scope and sequence of concepts in pre-algebra and algebra, from the Foundation Year of schooling to Year 10.

The unit was also prepared as a contribution to the recent call by the Australian Association of Mathematics Teachers for more targeted initiatives to combat the decrease of STEM skills in our schools. Results from the analysis of this study suggest that there may be much to be gained from this new approach.

Teaching for students' confident transition from number to algebra

Researcher: Dr Christina Lee

Supervisors: Dr Christine Ormond, A/Prof. Tony Fetherston

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Abstract:

The rapid growth of new technologies and the impact of such technologies on the workplace and in society in general require that students study mathematics in the later years of high school in order to be competitive in the marketplace. Algebraic techniques foster higher order thinking skills and if students want to successfully study the more demanding mathematics in senior school they need a considerable depth of knowledge of algebra. There are not enough students choosing to study the more challenging mathematics courses. This study focussed on the teaching of early formal algebra in the secondary school. It is the teachers' beliefs about the nature of mathematics and teaching and learning that support their approach to teaching algebra. Teachers' professed beliefs about the nature of teaching and learning of mathematics were therefore surveyed to provide a context for analysis of practice.

More specifically the study explored the teaching of algebra in three Year 7 classrooms and one Year 8 classroom in independent schools in the suburbs of Perth. This was a mixed method study and data gathered provided a comprehensive picture of the teachers' practice underpinned by their professed beliefs. The results suggest that effective practice is evident when teachers use a balance of strategies from traditional to student centred approaches linked by the use of connectionist strategies; which proved to be crucial.

It is hoped that the findings of this research provide a useful insight into the teaching of beginning algebra and the beliefs which underpin teachers' practice.

Language, Literacy & Literature

Enhancing classroom talk in the early years

Researchers: Prof. Caroline Barratt-Pugh, Dr Pru Smith, Sarah Pietrzak

Grant/Funding: Association of Independent Schools of WA (AISWA)

Contact: c.barratt_pugh@ecu.edu.au

Abstract:

Research over the last decade has shown that providing opportunities for children to interact with adults in ways that stimulate and extend their understanding is a significant part of language and thinking development. This type of interaction has been described as 'sustained shared thinking' (SST) in which adults work with children to create open-ended conversations. A professional learning action research project was undertaken by 23 early childhood teachers to explore effective ways of engaging students in productive talk. Teachers planned, implemented, recorded and analysed a series of lessons/activities aimed at engaging students in explanatory and exploratory talk. Teachers shared and reviewed their work with each other across four terms, as a means of increasing understanding and practice of productive talk.

Data collected by the teachers in conjunction with a pre and post program survey and on-going self-reflection was analysed to explore the impact of the program on teachers' knowledge, understanding and practice of managing talk in ways that create opportunities for sustained shared thinking. Findings suggest that teachers became more aware of the importance of interaction and their use of talk as a means of creating sustained shared thinking. Teachers developed their knowledge and understanding of exploratory and explanatory talk and how to match talk to the instructional purpose of their lesson/activity. They also became aware of the importance of creating a classroom environment that encouraged students to participate in talk. Thus, the classroom climate changed in ways that encouraged students to initiate and lead talk leading to an increase in student contributions at a higher level of thinking. The process of the professional learning also impacted on the teachers, as the majority indicted the importance of on-going reflection and analysis and the significance of recording talk as a means of improving their discourse practices.

Dialogic dialogue in diverse classroom communities

Researcher: Dr Anne Thwaite

Contact: a.thwaite@ecu.edu.au

Abstract:

Recent research emphasises the importance of purposeful talk in our classrooms, as opposed to teacher-centred discourse and rote learning. My project is part of a larger study, “Talking about Dialogic Teaching: Boosting literate talk through collegial conversations” (Jones & Simpson, 2016), which centres on the role of interaction in learning to be literate and emphasises teacher professional learning through dialogue. My part of the project deals with some of the diverse classroom communities found in Western Australia. The aim of the project is to help teachers translate their knowledge into activities that encourage purposeful talk by students, as part of the implementation of the Australian Curriculum.

The project involves working in classrooms and with teachers at various primary schools in Perth. During the project teachers will revisit instructional sequences in their program and identify any areas that they would like to change. They will then engage with the researcher in discussing some tools to boost talk about texts and meanings, such as dialogue strategies and interactive games. Teachers will then reteach the sequence of learning and reflect on any changes. There will also be an online discussion forum for them to share ideas with colleagues.

The results of the project will be disseminated to other teachers through conferences and professional learning. It is hoped that this project may contribute towards developing WA teachers’ knowledge of both dialogic teaching and the Australian Curriculum English.

If you would like further information about the project or may be interested in participating, please contact the researcher at the address above.

Teaching reading in Catholic schools in Western Australia

Researchers: A/Prof. Deslea Konza, Tim Emery (Catholic Education WA)

Grant/Funding: Catholic Education Western Australia

Contact: d.konza@ecu.edu.au

Abstract:

The aims of the project were to:

- support school leaders of 16 schools in the development, implementation and evaluation of an evidence-based literacy intervention.
- enhance classroom teachers' use of effective teaching strategies around reading instruction.

Project components:

- Professional learning modules for up to three school leaders from each school
- A leadership mentor for each school
- Two Teacher Conference days with over 450 attending the first day and 270 attending the second day
- Frameworks, tools and resources to support school leaders in the development and evaluation of their reading intervention. These included:
 - The Leading Literacy Learning Blueprint (Dempster, 2009)
 - The 'Big Six' framework (Konza, 2011)
 - The Literacy Practices Guide (LPG) (Konza, 2012)

Major outcomes included:

- Whole-school changes around literacy teaching occurred across most schools as a result of the PALL project
- More explicit instruction of reading now occurs in most of the schools involved
- Greater shared leadership resulted from many schools' involvement in the project
- Growth in student reading achievement occurred as a result of school involvement in the project
- The strong evidence base underpinning the PALL project was an important determinant of its success

The importance of more direct contact with the classroom teachers was a significant conclusion arising from this project. This has subsequently been built into many of the literacy projects conducted by researchers in the Fogarty Learning Centre.

Principals as Literacy Leaders: PALL Plus

Researchers: A/Prof. Deslea Konza, Dr Leanne Fried

Grant/Funding: Western Australian Public Education Endowment Trust

Contact: d.konza@ecu.edu.au

Abstract:

The aims of PALL Plus were:

1. To develop further the capacity of primary school leaders to lead reading instruction in 12 low SES schools.
2. To build teacher knowledge of reading development and the pedagogy associated with effective instruction of students who do not acquire reading skills easily.
3. To enhance the acquisition of basic reading skills in students who are at risk of not learning to read.

Pre- and post-intervention survey data were collected from the participating leaders and teachers involved to determine changes in understanding of the reading process and classroom practice. The phonological skills, alphabetic knowledge and reading accuracy, rate and comprehension of over 700 students were assessed pre- and post-intervention.

Major outcomes included:

- Substantial growth occurred in the school leaders' knowledge of the reading process
- There was some evidence of growth in teachers' knowledge of the reading process
- More explicit teaching of reading skills was implemented across the schools
- The mentor visits were important in maintaining project focus and momentum
- Statistically significant growth occurred in the phonological skills and alphabetic knowledge of the vast majority of students
- Statistically significant growth occurred in the reading accuracy of students in Years 3-7, with moderate effect sizes for students in Years 3, 4 and 5.
- Statistically significant growth occurred in the reading rate of students in Years 4 and 5, but effect sizes were small.
- On average, only small improvements were made in reading comprehension across grades, although results varied considerably across schools, and across classes within some schools
- Little progress was made by students in the lowest percentiles (1-20) apart from the phonological development of Pre-primary students.

Kimberley PALL Plus

Researchers: A/Prof. Deslea Konza, Dr Susan Main

Grant/Funding: Kimberley Region WA Dept. of Education

Contact: d.konza@ecu.edu.au

Abstract:

This project has involved the development, delivery and evaluation of five Principals as Literacy Leaders (PALL) professional learning modules that have been adapted for leaders of nine remote schools in the Kimberley district. These schools serve mostly small Aboriginal communities in the Fitzroy Valley and Kununurra areas of Western Australia.

The aim, as with previous PALL projects, is to build the knowledge and capability of school principals to lead explicit reading instruction in their schools. This project also includes school visits by a literacy mentor each term for two years to directly support classroom teachers, which in some cases includes the principal, to implement a literacy intervention, and so ultimately develop the literacy skills of their students.

Principal and teacher knowledge of the reading process and evidence-based instruction of reading was assessed early in 2014 and will be assessed again in October this year. Student achievement data in the areas of oral language, phonological awareness, letter-sound knowledge, sight word knowledge and Reading Recovery reading levels have been collected twice yearly in 2014-2016. The latest results are currently being entered, after which final data analysis will begin. Data collection has been extremely patchy reflecting the high rate of student transience. Data for 275 students in total have been collected, but more than one data set has been collected on only 156, and just 49 students have been present during all data collection periods.

In summary, preliminary data reveal that results in three schools are positive across the school, three schools have some positive results but it is highly variable across the classes, and students in three schools have made no discernible progress. Unsurprisingly, the results are correlated with student attendance and teacher stability. Seven of the nine schools also experienced leadership changes, with one school having four leadership changes within a single year, which also had an impact on student performance.

Yorke and Mid North–Roxby Downs area school literacy project

Researchers: A/Prof. Deslea Konza

Grant/Funding: South Australian Department of Education and Child Development

Contact: d.konza@ecu.edu.au

Abstract:

The aims of the project were to:

- build teacher understanding of the key elements of the reading process, and how these skills are developed in beginning reading
- develop in teachers effective reading instruction using a synthetic phonics approach
- accelerate the early reading skills of junior primary students using a synthetic phonics approach

Five joint professional learning days were spaced across one year with 37 teachers and 14 school support officers (SSOs). A/Prof Konza provided feedback to teachers implementing the recommended strategies during school visits. Pre- and post-project measures were taken of teacher and SSO literacy knowledge and practice, and of student achievement in oral language, phonological awareness and alphabetic knowledge.

Major outcomes for the teachers included:

- A highly significant increase in teacher and SSO understanding of the reading process and how to teach it.
- Positive changes in
 - Synthetic phonics instruction
 - Use of explicit teaching
 - Opportunities for student practice of core knowledge and skills
 - Classroom organisation, reflecting a better understanding of how to focus children's attention
 - Use of correct literacy terminology by teachers, SSOs and students
 - Focus on oral language and vocabulary development
 - Monitoring of student work and use of data to inform teaching

Major outcomes for 452 students included:

- Statistically significant gains in oral language in all year levels
- Statistically significant development of phonological skills in all year levels except Year 1 with moderate to large effect sizes
- Highly statistically significant progress in development of early letter-sound knowledge with moderate to very large effect sizes for students in Reception, Year 1, Year 2 and Year 3
- The growth in letter-sound knowledge and blending of Aboriginal students was consistent with that of their peers.

The Thornlie literacy project

Researchers: A/Prof. Deslea Konza, Dr Susan Main

Grant/Funding: Yale Primary School, Thornlie Primary School,
South Thornlie Primary School, Thornlie Senior High School

Contact: d.konza@ecu.edu.au

Abstract:

The Thornlie Literacy Project aims to develop the capacity of school leaders and classroom teachers to implement targeted reading intervention programs that are appropriate for their school contexts. This will be achieved through the development of the school leaders' knowledge of how effective reading intervention can be implemented and supported in their schools, and classroom teachers' knowledge of the reading process and evidence-based reading instruction.

Supporting the principals as they lead a reading intervention will develop their capacity to be instructional leaders in their schools. Deeper knowledge of the reading process and how to teach reading most effectively, especially to students who do not make progress easily, will enhance the classroom instruction of the teachers involved now and wherever they may teach in the future.

Improved reading achievement for the students will support their broader academic progress and reduce the likelihood of the negative consequences of poor literacy, such as failure to complete secondary school, poorer vocational and economic outcomes, and poorer community integration. All members of a community benefit when the reading skills of its young people improve, as they are more likely to contribute positively throughout their lives, and less likely to engage in anti-social and illegal behaviours.

Enhancing teaching through professional learning: Case studies of professional learning to improve reading instruction for Year 2 students with reading difficulties

Researchers: Dr Susan Main

Contact: s.main@ecu.edu.au

Abstract:

Reading is internationally recognised as a mediating factor in the life outcomes of individuals, but there are some children who experience more difficulty than their peers in acquiring reading skills. These children are at risk of poor life outcomes if they do not receive appropriate instruction. Research demonstrates that professional learning is an effective way of enhancing teachers' knowledge and practice and, therefore, the purpose of this study was to evaluate the efficacy of a professional learning program designed to improve teachers' pedagogical content knowledge (PCK) and practices in reading instruction.

The research utilised a mixed-method approach to data collection including case study methodology. Case study teachers were selected from a broader group of participants in a multi-school professional learning project. Six teachers in three schools, two per school, volunteered to take part in the research. Data were drawn from the overall professional learning program to provide contextual information for the case studies, and the researcher conducted classroom observation and interviews with the case study teachers over 18 months to determine whether changes to pedagogical content knowledge resulted from their involvement in the Project.

This research highlighted some of the multiple factors that influence how teachers engage with and enact information from professional learning. These influences include teachers' beliefs about reading teaching and learning, such as philosophical beliefs about how reading should be taught and pragmatic beliefs about the best way to teach children experiencing difficulties with reading. Of particular note were the individual factors that influenced how one individual's response to professional learning differed from another. These included the perceived relevance of the information on the basis of the teacher's prior experience, self-efficacy, learning orientation and existing PCK. Contextual factors such as the resources in the school and the learning environments were also relevant to how teachers engaged with professional learning.

Early childhood educators' perceived and actual metalinguistic knowledge, beliefs and enacted practice about teaching early reading

Researchers: Dr Lorraine Hammond

Contact: l.hammond@ecu.edu.au

Abstract:

Results of influential reports on early literacy have drawn attention to the need for early childhood educators to take up a more explicit, teacher-directed approach to beginning reading. Positive classroom results however are in part dependent upon teacher knowledge, and this study investigated the relationship between early childhood educators' linguistic knowledge, beliefs and enacted practice about teaching reading. Results indicate that while early childhood educators believe knowledge about teaching reading is 'very important' to their role, their understanding of literacy precursor skills was generally low. When observed teaching beginning reading, most participants demonstrated some capacity to plan and teach in an explicit way; however, their enacted practice was inconsistent with their teacher knowledge results. This suggests the ability to reflect on the sound structure of spoken words and apply this knowledge to learning to read is a different skill to planning instructional sequences to teach these literacy precursor skills explicitly.

Knowing and teaching: The impact of teachers' knowledge on students' early literacy achievement

Researcher: Dr Janet Hunter

Supervisors: Emeritus Prof. Judith Rivalland, Emeritus Prof. William Loudon,
Prof. Mary Rohl, A/Prof. Jan Gray

Contact: j.hunter@ecu.edu.au

Children in rural and remote schools typically underperform in measures of literacy achievement (e.g., NAPLAN) from as early as year three. Data collected over time indicate that as children get older, the gap increases between those students who meet the national benchmarks and those who do not. Indigenous children are overrepresented among students who are underperforming in measures of literacy achievement. This study sought to explore the conditions surrounding this phenomenon and to tease out the complexities present in rural and remote contexts that might contribute to this underachievement.

One remote and six remote-rural schools in Western Australia were the focus of the study. Both qualitative and quantitative approaches were used to collect data over three years. Qualitative data were collected using an ethnographic approach, through classroom observations and informal and formal interviews with students, teachers, school leaders, support staff and some parents. Quantitative data were collected from children through a range of early literacy assessment tasks. Around 60 children were assessed each year for three years. Approximately half of the children each year were Indigenous and half non-Indigenous.

The study indicated that barriers to children's academic success may exist at a number of levels. First, many children enter such schools with limited knowledge to support the development of school English literacy, therefore particular attention needs to be paid to this during their first years of schooling. While all children are likely to make progress in developing school English literacy, for many children the extent and rate of progress is dependent on focussed and knowledgeable teaching. Second, such schools are typically staffed by teachers in the early years of their career, who need support to develop their pedagogical, content and cultural knowledge to the degree necessary for successfully teaching early literacy in such contexts. Additionally, the relative remoteness of the context in which they are working often makes it difficult for them to access ongoing professional learning and support. Third, school leaders are typically in their first position in that role, with the consequence that they may be less able to support new teachers at the classroom level. There needs to be available a range of measures at every level, that can be tailored to fit the needs of a particular school at any given time.

Coaching teachers to teach explicitly

Researchers: Dr Lorraine Hammond, Dr Wendy Moore

Grant/Funding: ECU Industry Collaboration Grant;
St Helena's Catholic Primary School

Contact: l.hammond@ecu.edu.au

Abstract:

In terms of achieving better academic outcomes, there are three critical issues that occupy the attention of education academics, policy makers, and the general public: what should be taught, the best way to teach it, and how to ensure that effective instructional techniques are employed as typical pedagogical practice in classrooms (Donnelly & Wiltshire, 2014; Hattie, 2009; NSWDEC, 2015). With regards to the first issue, we make the assumption that functional literacy and numeracy underpin academic achievement, but are not otherwise concerned with the 'what' of school curricula. It is the other two issues – the best way to teach and the best way to get teachers using effective teaching methods – that were the focus of the study described in this paper.

The findings of this study are consistent with previous research suggesting that explicit instruction methods deliver strong improvements in student outcomes. The study also provides evidence that instructional coaching is a highly effective method of achieving robust, embedded changes in teaching practice. We describe a model of school capacity building which was designed to embed effective teaching methods in a sustainable 'whole school' manner and provide a case study of this model. The model was trialled and evaluated by the teachers and administrators at a large suburban primary school. Change in pedagogical practice was assessed through quantitative and qualitative data analysis drawn from records of classroom observations, coaching transcripts and interviews.

Redevelopment of the Kimberley Literacy Profiles

Researchers: A/Prof Deslea Konza, Dr Susan Main, Dr John West

Grant/Funding: Kimberley Region WA Department of Education

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Abstract:

This project developed from a request from the Kimberley Executive Director to redevelop the Literacy Profiles that schools in the region had been using. It contained guidelines for assessment of the component skills of reading and recommended teaching strategies. The revision was not designed to replace the existing document, which contained a great deal of useful information, but to add components to ensure consistency with the research evidence regarding how to teach reading most effectively.

The new package is under development and includes:

- A scope and sequence that details the specific alphabetic knowledge and sight words that need to be taught to support independent reading;
- Specific guidelines for the explicit and systematic teaching of this information;
- References to resource materials to support teachers as they develop new classroom practices;
- An explanation of how alphabetic knowledge contributes to the development of fluent and meaningful reading; and
- Suggestions for the explicit teaching of oral language, phonological awareness, vocabulary, fluency and comprehension.

This has been a collaborative effort with literacy teachers within the Kimberley region. Tools and strategies have been used by teachers who have reported on their usefulness for planning and programming. The redeveloped Kimberley Literacy Profiles will be available for teachers in November.

The effect of a professional development model on early childhood educators' direct teaching of beginning reading

Researchers: Dr Gemma Scarporolo, Dr Lorraine Hammond

Contact: l.hammond@ecu.edu.au

Abstract:

Traditionally, professional development for teachers usually consisted of an isolated solitary workshop and presentation by an expert. However, research over the last 15 years has reported that in order for professional development to be effective; in terms of changing teachers' knowledge or instructional strategies, it needs to be conducted considering the following factors: teachers' existing knowledge and experience, teachers' attitudes towards the professional development, school administrative factors, opportunities for classroom-based follow-up and gathering data concerning student achievement to measure the impact or effectiveness of the professional development. Coaching incorporates these elements and so can potentially improve the chances of sustainable changes to teachers' knowledge and instructional practices. Results from this study indicate that an evidence-based professional development model for teaching beginning reading which included a workshop, classroom observations and coaching significantly improved participants' instructional practice over the course of one year while implementing *Let's Decode* (Formentin 1993), a semi-scripted, explicit and direct approach to teaching phonological awareness and systematic decoding instruction.

The Kiara College literacy project

Researchers: Dr Susan Main, A/Prof. Deslea Konza

Grant/Funding: ECU Industry Collaboration Grant
Kiara College

Contact: s.main@ecu.edu.au

Abstract:

National literacy assessment data indicate that approximately 30% of students fail to meet minimum standards for reading. By secondary school, these students are reading three or more years below grade level and have difficulty comprehending secondary texts, thus markedly impairing their chances of success. The recently introduced requirement for all WA students to demonstrate a minimum standard of literacy and numeracy to qualify for secondary school graduation is placing increased pressure on secondary schools to address the literacy difficulties of their students. However, lack of training for secondary teachers in teaching reading and the time required to improve the reading skills of students who have experienced consistent and long-term reading failure creates challenges for secondary schools.

The purpose of this research is to evaluate the implementation and efficacy of the Direct Instruction *Reading Mastery* program in a Secondary context. Specifically, the research seeks to determine the impact of the program on students' reading skills; the strengths and limitations of implementing this program in a secondary school; and, whether using this program has an impact on teachers' knowledge of literacy constructs.

There has been considerable research identifying the negative impact on the life outcomes for individuals with poor literacy skills and their over representation in the justice system. This research provides the opportunity to identify effective approaches to improve the reading skills of secondary school students, leading to improved outcomes for these students. Ensuring all students attain the literacy skills necessary to be successful contributors to the community will ultimately benefit the whole country.

The synergistic effect of teaching a combined explicit movement and phonological awareness program to preschool aged students

Researchers: Dr Deborah Callcott, Dr Lorraine Hammond, Dr Susan Hill

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Abstract:

While movement is critical to young children's development, there is an ongoing debate about the time devoted to teaching movement in early childhood classrooms. Nevertheless, research has established a link between specific precursor motor skills and early literacy development. This study investigated the synergistic effect of practising specific movements through daily actions and songs alongside the explicit teaching of phonological awareness and phonics in 400 preschool children (aged between four and five). Results indicate that students who received the combined intervention of explicit phonological awareness and movement were the only group to perform significantly better than the control group on measures of phonological awareness, invented spelling and spelling. An interesting outcome was that the literacy/movement group and not the movement group made significantly larger gains for the movement measure. These findings suggest that teaching pre-primary aged children early literacy and movement in tandem is more beneficial than teaching either in isolation.

Utilising voice recognition software to improve reading fluency of struggling adolescent readers

Researcher: Dr Peter Count
Supervisors: A/Prof. Deslea Konza, Dr Jeremy Pagram
Contact: pcount@our.ecu.edu.au

Abstract:

Approximately 15-20% of secondary students in Australia experience reading difficulties. For many, the cognitive effort required to decode words or the lack of automaticity in the elements that contribute to fluent reading prevents effective reading comprehension. Because reading comprehension is of critical importance across the curriculum, students with difficulties in this area are at significant academic risk.

One effective method of improving reading fluency is 'repeated readings'. The purpose of this study was to examine whether the use of repeated readings delivered via a home-based program employing voice recognition software (VRS) could improve the reading fluency and self-perception as readers of adolescent students experiencing reading difficulties. The intervention was designed to overcome the problems associated with delivering a repeated reading program within a secondary English classroom. These problems relate to the amount of time required to conduct such a program within the constraints of the existing curriculum, and the reluctance of students to participate in a program that would draw attention to their reading difficulties.

A treatment group participated in a home-based repeated reading program using VRS over a 20-week period and their results were compared to a comparison group who participated in a more traditional school-based repeated reading program. Reading fluency, comprehension and reader self-perception were measured before and after the intervention. Data were analysed using descriptive statistics and case studies.

The intervention reported in this study resulted in improved reading rate, accuracy and comprehension for both the home-based treatment group and a school-based comparison group, with evidence of larger gains in the treatment group. The students' perceptions of themselves as readers, however, did not show significant gains.

Making a difference: The evaluation of Better Beginnings across Western Australia

Researchers: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett, Dr Yvonne Haig,
Dr Natalie Leitão, Dr Karen Anderson, Cindy McLean

Grant/Funding: Department of Culture and The Arts (State Library of WA)

Contact: c.barratt_pugh@ecu.edu.au

Abstract:

Language and literacy are fundamental to early childhood development and learning and research suggests that there are positive connections between shared book reading and early literacy learning. Involvement in shared book reading has been found to facilitate language and vocabulary development, increase young children's motivation to participate in literacy activities and to support positive child–parent relationships. The State Library of WA (SLWA) has developed and implemented a series of state-wide family literacy programs, known as Better Beginnings, delivered to parents/carers and children aged birth to nine years. Families receive a Reading Pack that contains a children's book and resources to support shared book reading and singing nursery rhymes and songs. The local library offers weekly activities to support early literacy, including Baby Rhyme Time and Story Time. The Centre for Research in Early Childhood (CREC) group has evaluated each program over time using qualitative and quantitative methodology involving parents/carers, children, librarians, community health nurses, senior Aboriginal women and Aboriginal corporation workers (in remote Aboriginal communities), teachers and stakeholders.

Detailed information about the Better Beginnings programs is available on the SLWA website: <http://www.better-beginnings.com.au/programs>

The findings from each program are described in the following pages.

Evaluation of Better Beginnings (Cont.)

Birth To Three Years

Parents with newborn babies receive a Reading Pack from their community child health nurse or from their local library. They are encouraged to join the local library and go along to the library activities. Key findings include increased confidence and engagement by parents/carers and children in book sharing practices, reinforcement of the importance of literacy-based tasks and additional family members involved in shared literacy practices. The research team also found that over time many of the children developed a love of books and concepts of print, increased frequency of shared book reading and routines. Library membership also increased, as did the number of books in homes. The program has become an integral part of the role of the local librarian and the community child health nurse.

Read To Me I Love it!

This is an Indigenous family literacy program developed for families with children up to five years old living in remote communities. It evolved from findings from the Birth to Three program which indicated there was a need for culturally and linguistically appropriate resources and distribution strategies in remote communities. The main findings show there are a number of factors that affect the implementation, impact, sustainability and community ownership of the program. The findings produced implications for practice and policy regarding effective programs for remote communities and for researching across cultures in ways that Indigenous voices are heard and honoured.

Four to Five Years

Schools and Community Kindergartens are invited to participate with their local public library to receive a free Reading Pack for every Kindergarten aged child, delivered to the school by the local librarian. The program includes a manual for teachers involved in the program to help make links between home and school. Key findings include an increase in how often parents/carers and other family members read with their child, an increase in how often their child asks to be read to, and development of parent/carer confidence and their child's enjoyment in sharing books. The majority of teachers indicated that they were very supportive of the program and reported that it had significant outcomes for parents/carers and children and created a positive link between home and school, supporting not only literacy but also language development and numeracy.

Evaluation of Better Beginnings (Cont.)

Books-To-Go with the Book Cubby

This program is part of the Better Beginnings Creating Books in Communities program based on a model developed by Kids Own Publishing (a not-for-profit arts organisation). Children and families are encouraged to engage with books and stories by creating their own, facilitated by a community artist. Better Beginnings has been working with communities and children to capture their stories about their homes, families, pets and communities. Key findings include positive engagement with and ownership of the book making activity for parents/carers and children, stimulated by the artist in residence. Parents/carers and children became more confident in using their community language to produce the book and were very proud to present the book to the local library and Book Cubby collection which travels to community libraries across Western Australia.

Hairy Tales of Heroboy

This program was designed to encourage children aged six to nine years to read for pleasure, while developing and strengthening family reading and making links between home, school and libraries. The program was made up of a range of activities based on *Hairy Tales of Heroboy*. Teachers and students were invited to be involved in the program by their local library. Findings indicated that students, teachers and parents were very supportive of the program in that it elicited a high level of interest and engagement in reading and fostered links between home and school and the local library. In addition, it was noted that the program encouraged struggling readers, encouraged family members to read and increased local library membership.

Better Beginnings Literacy Modules

The literacy modules were developed as a result of feedback from librarians involved in the evaluation of each Better Beginnings program. Librarians indicated that there was a need for ongoing professional development, easily accessible training materials and specific information about early literacy. All Better Beginnings librarians across Western Australia were invited to complete an online survey about their professional development needs, the Better Beginnings State Library team were interviewed about their perceptions of what was needed and an audit of current professional development programs and materials was undertaken. Based on analysis of the data, four online, interactive modules are nearing completion, these consist of information and activities linked to the delivery and rationale for Better Beginnings focusing on learning, talking, literacy and diversity. A pilot version of the first module was sent to Better Beginning librarians for review, which informed the final version of all four modules.

Evaluation of Better Beginnings (Cont.)

Read!3

Adults who had *'lost the reading habit'* or who were emerging readers were encouraged to take up the Read!3 challenge. The program involved libraries connecting with adults in their communities and encouraging their participation. Adults were challenged to read three items in three months and complete a reading diary. Upon completing the diary, they received a certificate of completion and the opportunity to submit their details into a prize draw. Libraries connected with adult readers through a wide range of community groups, education providers, literacy programs, local businesses and on-going library activities. Three key findings emerged: First, collaboration and a shared understanding of Read!3 between service providers/community groups and the librarians was vital to reaching and engaging the adult readers. However, this also led to new relationships and the strengthening of ongoing relationships. Second, the participant readers found the challenge easier to meet when incorporated into ongoing everyday activities they were involved in. Third, the potential prize and a certificate of completion were well received incentives to take up the challenge.

Sing With Me

This is a pilot program available in 2016 through participating public libraries. The program introduces children to developmentally appropriate books and language activities (including songs and rhymes), supports parents as their child's first teacher, raises awareness of the value of reading together, and links families to the range of free services available at their local library. Some 85-90 librarians across WA involved in the program will be invited to take part in the evaluation. A smaller sample will be sourced from libraries in nine communities, involving a total of 12 libraries. The sample will comprise 12 librarians, 240 parent/carers (20 per library) and 18 outreach workers (2 per community - drawn from Child Health Nurses, Child Care Educators, Playgroup leaders and other key program deliverers). More detailed case studies will also be conducted of a sub-sample of 24 parents/carers (two from each library). The evaluation will seek to identify the implementation, perceptions and outcomes of the program by all participants. Watch this space!

The Alphabeticus project

Team: Martin Meader, Mark Higham, Sara Darling (Alphabeticus)
A/Prof. Deslea Konza, Dr Susan Hill (ECU, Education),
Ann Marie Mullaney (ECU, Planning, Quality & Equity Services)
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Abstract:

The Alphabeticus Project is a unique children's entertainment and educational venture aimed at fostering children's interest and motivation to learn to read and write. The heart of the project is the story of the (fictional) land of Alphabeticus which aims to create a sense of magic and wonder about the alphabet to help encourage and promote the journey of empowerment for kids and adults through literacy. The project has multiple components, including the following:

- Feature film *'The Way to Alphabeticus'*: A Muppet-style, family adventure film which will inspire children to discover the magic and power of the alphabet. Script development and initial storyboard have already been completed with funding from Screenwest and several leading figures from the film and entertainment industry have expressed interest in collaboration for the roles of director, film score composition, post production, costume/set design, and voicing of puppet characters.
- Educational resources: Evidence-based literacy resources for teachers and parents to improve understanding of children's language development and effective teaching of reading;
- Decodeable texts: Engaging books and 'raps' for beginning readers based mostly on words that children can decipher using the phonics skills they have been taught plus some irregular 'sight' words taught separately.
- Educational games: A series of games and apps to help children and adults learn or practice specific literacy skills. (e.g. Alphabeticus Solitaire – an online game to learn the letter names and order of the alphabet).
- Research: Formative and summative evaluation of the educational resources, texts and games will be conducted. It is also anticipated that The Alphabeticus Project will generate funding to support high quality, longitudinal research on the effectiveness of synthetic phonics approaches to the teaching of reading.

Parents as children's teachers (PACT)

Researchers: Prof. Caroline Barratt-Pugh, A/Prof. Deslea Konza, Belinda Nelson, Cindy McLean, Dr Jenny Davis

Grant/Funding: ECU Industry Collaboration Grant; East Hamersley Primary School, Greenwood Primary School, City of Stirling, The Library Board of WA

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Abstract:

This project supported the development, implementation and evaluation of the Parents as Children's Teachers (PACT) pilot program, for parents with children 0-3yrs. The aim of the program was to facilitate parent-child interaction through a year-long school-based program delivered at two metropolitan schools. The program provided space, time, structured and unstructured experiences and professional input to support parents to interact in ways that enhance their children's language learning and development. This was significant in that an increasing number of young children in a local government area in the northern suburbs have been identified as developmentally 'at risk' in the area of language skills. As language skills are the foundation of later school success, evaluating the programme was considered to be important as a means of not only documenting outcomes but also sharing findings with the wider education community.

Both quantitative and qualitative data were collected from multiple sources. Most telling were the reflective journals maintained by the staff delivering the program, parent interview data, video data of parent-child interactions and the focus group interviews with principals and staff responsible for its development and implementation.

A number of key findings were identified which included how the input, routines and experiences planned as part of the program supported and encouraged parent-child interactions and language development. These experiences and professional inputs contributed to enhancing parent knowledge and efficacy in talking with their child and supported transition to kindergarten. Resourcing by way of funding for consumable resources, space and furniture on the school site and qualified staff were factors identified as key considerations if such a program is to be both effective and sustainable into the future.

Creating texts with twenty-first century early learners

Researchers: Prof. Caroline Barratt-Pugh, Janet Fellowes, Amelia Ruscoe

Grant/Funding: Association of Independent Schools WA (AISWA)

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Abstract:

The purpose of this project was to investigate Western Australian pre-primary educators' understanding, beliefs, practices and self-efficacy in relation to teaching young children (5 - 6 year olds) to write. It also aimed to determine the degree to which the educators' knowledge development in regard to teaching young children to write might positively influence children's enthusiasm for, and engagement with, the writing experiences of the classroom.

Pre-primary is an important time for children's learning about written communication. With the right learning environment, experiences, and interactions with teachers, pre-primary children will likely *emerge* as writers; that is, they will demonstrate the knowledge, skills and understandings foundational to further writing development and to eventually become a competent writer. Important to this is teachers having the knowledge and understanding to create the experiences and environment that support learning and writing development. However, research suggests that experiences of writing are scant for many children in the years before formal schooling, and that teachers remain concerned about how to best cater for emergent writing (Gerde, Bingham & Wasik, 2012; Fang, 1999; Freeman & Hatch, 1989).

The project involved 24 early childhood educators from Western Australian independent schools. It comprised a four-day professional learning seminar carried out incrementally over the best part of a year. The data collection was integral to the seminar days and involved an initial educator questionnaire about the teaching and learning of writing and a series of focus groups at the conclusion. Additionally, the participants carried out their own action research.

Overall, the project achieved positive outcomes in terms of the established aims. The evidence suggests that the participants developed in their knowledge and understanding of early writing and made effective modifications to classroom practices so as to progress student understanding, knowledge and skills in written communication.

Reflective practice with teachers of early writers

Researchers: Prof. Caroline Barratt-Pugh, Janet Fellowes, Amelia Ruscoe

Grant/Funding: Association of Independent Schools WA (AISWA)

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Abstract:

The project was a collaborative venture between AISWA and the Centre for Early Childhood Research Group. It built on the success of the 2013 project, *Creating Texts with 21st Century Early Learners* and invited teachers to design and implement an action research project to explore effective ways of facilitating early writing. Teachers worked with the research team through a series of workshops, which included the detailed analysis of writing samples from their students. Data collection included classroom based writing samples, action research plans, learning journals and an initial survey about their needs, knowledge, understanding and practices in relation to teaching and learning early writing. The wealth of data gave insight into the process and outcomes of the project.

The project outcomes were positive in that each teacher made some level of adjustment or addition to their classroom practices in such a way as to enhance their students' motivation for writing and their writing development. Most noteworthy was the attention given to the topic of the communicative nature of written texts and feedback given to students about their writing. Many teachers reported adopting new practices or changing features of the writing environment so as to cultivate this understanding with their students. Several talked about the benefit to children's engagement with writing when they repositioned their teaching emphasis from the skills of writing to the idea that written texts are about meaningful communication created for a particular purpose aimed at a specific audience. The significant change in student motivation and enthusiasm for writing as they initiated and took ownership of their work was also identified as an important outcome. Finally, many teachers expressed some surprise about how creating authentic and purposeful writing activities with an emphasis on meaning, also met the demands of the Australian Curriculum. They concluded that intentional teaching about specific aspects of writing in conjunction with opportunities for students to create meaningful texts had led to significant changes in student attitudes and outcomes.

Writing in the Western Australian kindergarten classroom

Researcher: Janet Fellowes (PhD candidate)

Supervisors: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett

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Abstract:

This research project focuses on the teaching and learning of writing in Western Australian kindergarten classrooms. The aim is to determine the relationship between the kindergarten educators' knowledge and beliefs about beginning writing, their classroom practices and the consequences (learning, engagement and attitude) for the children they teach.

It would seem that the design of learning programs for kindergarten children (four and five year olds) is not a simple task. Where once play-based pedagogies were easily and without opposition put into practice, today's early childhood educator must deal with a range of pressures that regularly conflict with the principles on which play as a learning context for young children is based. Furthermore, Rogers and Graham (2008) emphasise the need to advance the teaching and learning of writing suggesting that, despite its relevance to people's life, it is not receiving appropriate attention in schools and teachers are not always employing effective instructional practices. According to Fisher (2012), a significant issue is that the classroom writing context is unfittingly influenced by curriculum, in that the teaching of writing utilises a fragmented, skills-based rather than holistic approach.

This research will involve the development of case studies whereby the story of each of a range of kindergarten educators will be developed and analysed. Data will be collected largely by means of questionnaires, surveys, classroom and document observation.

It is anticipated that the research will provide insight into the current understanding, views and practice of educators in regards to the teaching and learning of writing with young four and five year old children and on how these factors shape the children's learning.

Remembering rhetoric: Recalling a tradition of explicit instruction in writing

Researchers: A/Prof. Brian Moon

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Abstract:

The teaching of writing is a source of anxiety for many English teachers and their students. These anxieties cluster around the competing desires to develop high level writing skills on the one hand while promoting creativity and enjoyment on the other.

This research project considered two modern approaches to the teaching of writing and compared them with the long tradition of classical rhetoric, which has been used to train writers and orators for thousands of years. The study found that modern approaches tend to avoid direct instruction in content and style, focusing predominantly on sentence-level grammar and text structure. This is in contrast to the classical tradition, which emphasised explicit instruction in content, style and structure through the use of compositional formulae, commonplaces and hierarchical taxonomies.

The study concluded that modern fears surrounding explicit instruction in writing arise from a range of misperceptions about writing and about subject English. It was suggested that modern writing lessons might be improved by teachers having closer acquaintance with the traditions of explicit instruction found in classical training regimes. Such knowledge would furnish teachers with an additional array of instructional techniques, adding to the choices available for teaching writing.

This research culminated in the publication of a two-volume textbook set, to support the teaching of writing on classical lines in secondary English classrooms.

The literacy skills of secondary teaching undergraduates

Researchers: A/Prof. Brian Moon

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Abstract:

The Australian Government has recently established new standards for graduating teachers, to ensure that those entering the profession have literacy and numeracy skills that put them in the top thirty percent of the population. The new standards apply to all teachers, including those graduating as secondary specialists.

This study tracked the literacy skills of secondary teachers across the range of curriculum specialisation areas. Because the capacity of teachers to support general literacy and to teach discipline-specific literacy skills depends upon their personal literacy competence, participants were assessed on their personal competence, not on their specialised knowledge. A series of diagnostic tests was used, consistent with the proposed professional standards.

Over 200 undergraduate teachers were tested in spelling, vocabulary, and punctuation over a three year period. The results revealed that a significant number had deficiencies in personal literacy competence that could affect their future teaching effectiveness and which would rule them out of the top thirty percent target range for graduates. For a small number of pre-service teachers, the prospect of successful remediation so late in their academic career appeared poor.

The findings add weight to the Government's emphasis on the literacy skills of teaching graduates. They also highlight the need for Universities to monitor admission standards and provide ongoing feedback and support to students in initial teacher education courses—especially in the light of new compulsory testing of education graduates.

Characteristics of prospective secondary English teachers: Implications for initial teacher education

Researchers: A/Prof. Brian Moon, Barbara Harris

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Abstract:

Teacher quality, teaching standards, and admission to teacher education courses are currently topics of intense national debate and policy development in Australia. There has been much speculation about the academic performance of those who choose teaching as a career, their motivations for entering the profession, and their subsequent effectiveness in the classroom.

This study aimed to contribute to the debate by building a profile of the characteristics of prospective secondary English teachers. The study drew together enrolment data and responses to post-entry surveys at one institution over a six year period. The findings revealed that English majors entering initial teacher education courses have strong emotional investments and are driven by their love of their subject and by past encounters with inspirational teachers. These factors overshadowed others such as starting salaries, job security, and past academic achievement in determining career choice. The study also suggested that beginning teachers' perceptions of their strengths and weaknesses provide insights into their own experience of how English is currently being taught in our secondary schools.

When viewed in the light of graduation rates for the cohorts included the study, the results suggest that the dominant motivations and expectations of prospective English teachers may not prepare them for the reality of teaching English in secondary schools. This has implications for initial teacher education courses, in terms of their recruitment and preparation of secondary English teachers.

Student literacy needs and support in the B.Ed. Primary

Researcher: Dr Anne Thwaite

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Abstract:

As from next year, all pre-service teachers entering their degrees will have to pass a national Literacy (and Numeracy) test in order to qualify as teachers. In a trial last year, the national pass rate for literacy was 92%; however this trial was voluntary and one would expect a lower pass rate for a compulsory test. Apart from this, Primary teachers need a basic Knowledge About Language (KAL) in order to carry out their work, particularly in teaching children to write and read. My previous research and experience indicates that only a small minority of pre-service teachers have explicit KAL on entry to our program, and that many of them have high needs in the area of literacy.

This project aims to investigate B.Ed. Primary students' perception of their own literacy needs and to track those who have indicated that they have needs in this area. As a pilot study this semester, all First Year Primary students on the Mount Lawley campus have been surveyed about their needs. Those who have indicated that they wish to participate in the study will now be interviewed, monitored and tracked to gain more specific information about their needs, their interactions with the support available to them and their progress.

It is hoped that the study will assist in identifying students who are at risk in this area and in helping them access appropriate support. This pilot study is intended to be a model for a wider study next year. The ultimate benefit should be to increase students' knowledge and understandings about language, not only so that they can pass the national Literacy test but also so that they can become effective teachers of language and literacy.

Second language teachers as language analysts: Identity negotiation in teacher education dialogues

Researcher: Arman Abednia (PhD candidate)

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Abstract:

A review of the literature on second language (L2) teacher professional identity suggests a major focus on teachers' pedagogical roles and lack of due attention to the language analysis component of L2 teaching. This component, instead, has been the focus of studies on teacher language awareness (TLA), where TLA is treated mainly as teacher knowledge and sporadically, if at all, linked to identity. The present study addresses this gap by exploring how teacher learners enrolled in a L2 teacher education program in Australia negotiate their professional identity as relating to their role as language analysts. Classroom conversations were analysed using Conversation Analysis (ten Have, 2007), Discourse Analysis (Fairclough, 1999, 2003), Zimmerman's (1998) identities in talk, and Communities of Practice (Lave & Wenger, 1991; Wenger, 1998). This analysis shows that the classroom conversations served as a site of struggle between descriptivism, which views language as having a dynamic nature and as composed of changing patterns, and prescriptivism, which tends to disapprove of language changes and encourages adherence to universal standards and fixed rules. As such, these conversations provided a productive space for critical appraisal of prescriptivism and enactment of the identity of a L2 teacher as a descriptivist language analyst. Some constraints, however, were also identified in terms of how the observed interactional dynamics may have impacted the teacher learners' development of a sense of membership in the L2 teaching community.

Exploring Chinese primary EFL teachers' beliefs about effective teaching of English reading in China and their impact on teachers' instruction

Researcher: Meina Luo (PhD candidate)

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Abstract:

As the English curriculum in China shifts towards a more constructivist approach, there is the need to ensure that Chinese English as a foreign language (EFL) teachers have the knowledge and beliefs to align with these curriculum changes. Teachers' beliefs are significant, as they have been shown to impact on the instructional practices selected by teachers (Basturkmen, Loewen, & Ellis, 2004; Johnson, 1992; Pajares, 1992). Previous studies have indicated that little is known about Chinese EFL teachers' beliefs about effective teaching of reading in primary schools in China and the possible implications for practice.

To address this gap, the proposed research aims to investigate Chinese primary EFL teachers' beliefs about effective teaching of English reading and the impact of these beliefs on their instructional practices, particularly focusing on teaching procedures, materials, activities, assessment and the arrangement of the classroom environment. This research will adopt a multiple-case study methodology. Using purposeful sampling, approximately four to six Chinese EFL teachers in public primary schools in Zhejiang Province of China will participate in the research. Mixed methods will be used to collect data from surveys, interviews, classroom observations and documentation, and within-case and cross-case data analysis will be adopted.

It is expected that the potential benefits of the research will provide useful implications for designing teacher development programs, and the potential outcomes of the teachers' improved instructional practices will benefit students in the long run.

The effects of learning lexical chunks on the English writing proficiency of Chinese-speaking business undergraduates

Researcher: Qin Chen (PhD candidate)
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Abstract:

Chinese-speaking business students at Australian universities face many challenges. One of these is the need to master the forms of writing and formulaic English expressions that are standard in business environments.

This study investigates one strategy for improving student achievement in this area: developing student awareness and command of lexical chunks in business genres. First identified by Michael Lewis in 1993, lexical chunks have become a focus of attention in language teaching and learning in China, especially for English as a Foreign Language (EFL) acquisition. The method replaces the teaching of individual vocabulary terms with a focus on the formulaic phrases used in particular communicative contexts.

This study aims to measure the effects of instruction in lexical chunks on the English writing proficiency of Chinese speaking Business undergraduates. It will examine what aspects of writing, if any, are improved by acquiring knowledge of lexical chunks, and consider to what extent students can transfer their knowledge of chunking to new fields and genres in business communication.

Quantitative surveys, qualitative interviews, and graded writing tasks will be used to measure the effect of formal instruction provided to the participants, who will be drawn from Chinese students studying business in Western Australia. The findings will contribute to knowledge about methods of English language instruction in Australian business schools, and will be of interest to education providers and to language teachers generally.

Impacts of a changing policy on primary English teaching in Vietnam

Researcher: Quynh Tram Dang (PhD candidate)

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Abstract:

In response to the critical problems of English language teaching and learning (ELT) and the urgent need for English competency for national development, in 2008, the Vietnamese government approved the National Foreign Language 2020 Project (NFLP 2020), which was expected to comprehensively reform foreign language education, and more particularly ELT across the country. An aspect of the project was to make English language learning compulsory from Year 3 primary level to the end of schooling. Further, a new curriculum and teacher standards were introduced. Given its essential role in setting up a good start for students' English language learning in the higher levels, primary English education was not achieving this basic goal well. Both the learners' confidence for oral communication and inspiration for their lifelong English learning were not achieved as it should. In the ongoing reform, the teachers – the key factor of the innovation – are being placed under considerable pressure to implement the new curriculum with pedagogical changes in their classrooms in order to be compliant with these new policies.

This study will be conducted in the north mountainous region of Vietnam which features a high density of ethnic minority (EM) people and has educational conditions with a range of factors that might inhibit the ELT innovation. A multi-case study will be employed. Three schools located in three contexts (urban, semi-mountainous, and remote mountainous areas), applying the new curriculum in different phases of the project, will be selected to be the cases. Multiple sources of data will be collected through interviews, document analysis and class observation. The study aims to explore teachers' interpretation and implementation of the new curriculum. It will also attempt to reveal the change, if any, in teaching practice and pedagogy to develop young learners' oral communication competence. It will present the voice of the teachers in this educational context on what support they need to implement the new curriculum effectively.

English proficiency of Vietnamese business graduates: Expectations of government, private universities and employers

Researcher: Le Tien Tung (PhD candidate)

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Abstract:

English is a global language and is widely used as an official language in multinational companies (Kam, 2002). Therefore, being proficient in English will be an advantage in acquiring employment in multinational companies where the working environment is multilingual, professional and highly competitive.

Vietnam, as a dynamic developing country in Asia, has attracted substantial foreign investment in the last two decades. As a result, a number of multinational and foreign companies have been established, creating numerous employment opportunities for young Vietnamese people, especially for university graduates. These foreign companies originate from a range of countries. Therefore, English has become the common language and employees are required to have good communication skills in English within these workplaces (Roshid & Chowdhury, 2013).

The aim of this study is to investigate the influence of English proficiency on the employability of business graduate students from private universities in Vietnam who seek employment in foreign companies. To gain insights and understand the nature of the issues, qualitative methods will be employed. The qualitative data will be collected through interviews, focus group discussions and document analysis. Informants will include university managers, senior business students, graduated business students who have sought employment in foreign companies and managers and human resources staff from these companies.

It is expected that the findings from the study will contribute to understanding the role of English proficiency and its influence on employability of the business graduate students. Understanding the business employers' perceptions of graduate students' English proficiency, and the factors affecting these perceptions will support private universities and their undergraduate business students to better prepare for future employability in foreign companies. The findings may also contribute to the refinement of recruitment and selection processes deployed by foreign companies in Vietnam.

Pre-service teachers' perceptions of preferred children's literature texts for classroom use

Researchers: Helen Adam, Maree Hays

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Abstract:

Children's literacy development is an important aspect of both the Australian Curriculum (ACARA, 2010) and the Early Years Learning Framework (EYLF) (2009), where the use of quality, inclusive children's literature can contribute to children's learning and social and emotional development (Fleer & Raban, 2005; Halsall & Green, 1995; Swinson, 1985). However, considerable disparity in the benefits of book sharing for children from the dominant culture compared to those from minority groups has been found (DETYA (Department of Education, Training and Youth Affairs), 2000e; Fleer & Raban, 2005; Siraj-Blatchford & Taggart, 2000). The use of culturally appropriate resources and the promotion of positive role models from individuals' own cultural backgrounds are recommended as ways to address this inequity (DETYA (Department of Education, Training and Youth Affairs), 2000e; Fleer & Raban, 2005; Siraj-Blatchford & Taggart, 2000).

This study utilises two in-class anonymous surveys of pre-service teachers regarding children's literature texts they have used, seen recommended throughout their course or would select for use themselves. Data is to be compared with other research regarding children's books selected and used in classrooms and in teacher education programs.

Data will be collated and analysed to determine the nature of the texts, the frequency of recommendation or use and the qualities of the texts. This data will be compared to the literature regarding the nature of children's texts to benefit the learning and development of *all* children. Recommendations will then be made to inform teacher educators when designing units that utilise or promote children's literature as part of their content and outcomes.

Investigating the use of children's literature to support principles of diversity in child care settings

Researcher: Helen Adam (PhD candidate)
Supervisors: Prof. Caroline Barratt-Pugh, Dr Yvonne Haig
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Abstract:

Since Australia became a signatory to the United Nations Convention on the Rights of the Child in 1989, the importance of recognising, valuing and respecting a child's family, culture, language and values has been increasingly articulated in educational policy. Diversity and inclusion are now central themes guiding the principles and quality measures of early childhood education and care as encompassed by the National Quality Framework, including both the National Quality Standard and the Early Years Learning Framework (Early Childhood Development Steering Committee, 2009).

A significant body of research suggests that children's literature can be a powerful tool for extending children's knowledge and understandings of themselves and others who may be different culturally, socially or historically (Boutte, Hopkins, & Waklatsi, 2008). This quality gives the use of children's literature the potential to be a valuable resource in promoting diversity and inclusion in early childhood. On the other hand, research suggests that if a narrow selection of children's literature is used, then the impact may be negative (Boutte, Hopkins, & Waklatsi, 2008). Therefore, it would seem that if literature is to be used to promote a positive view of diversity and inclusive practices, quality, inclusive literature needs to be used in appropriate ways. There is currently insufficient research, particularly in Western Australia, into the use of literature in early childhood education and care settings.

This study has focused on the use of children's literature in the kindergarten rooms of 5 Western Australian long day care centres. Data collected included audits of all children's books, interviews with practitioners and video based observations of book sharing sessions. Outcomes suggest that children's books and associated practices currently in use in these centres are potentially counterproductive to achieving goals of equity. The study highlights, in line with previous research, particular concerns in relation to the portrayal of Indigenous groups who are often represented in children's texts in superficial or distorted ways perpetuated by ethnic stereotypes. This could potentially lead to long term impacts on the positive social, emotional and academic development of children from minority groups as well as the attitudes of all children, leading to stereotypes and prejudices that could carry over into adulthood.

A cross-cultural study of gender equity in children's literature

Researchers: A/Prof. Laura Harper (University Salve Regina Newport, Rhode Island), Helen Adam

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Abstract:

This project builds on collaboration between ECU and the University of Salve Regina, Newport, Rhode Island, USA to identify how children's literature reflecting diversity, particularly that related to culture and gender, is used in early childhood classrooms. Given the dearth of studies in this area, the project will make a significant contribution to the development of theory, policy and practice related to the selection, use and impact of diverse literature in early childhood.

This is a cross-cultural study examining the children's books found in kindergarten rooms of long day care centres and primary schools (in Perth, Western Australia and in Rhode Island, USA). The purpose of the study is to identify children's literature that inhibits or fosters gender equity with an added focus on the impact of cultural background and race.

It is anticipated that the outcomes of this study will lead to recommendations for policy and practice in the selection and use of children's literature within education settings, including that used by Teacher Educators in teacher education courses.

Continuity and change in English: Investigating the content of new Australian resource books for English

Researchers: Shannon Wells (MEd candidate)

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Abstract:

Education in Australia is engaged in widening debates about the performance of Australian schools, teachers and students. As such, the current decade has seen significant reforms to English curricula at both National and State levels. The new English courses have sought to reshape the subject by emphasising three core content strands: literature, language, and literacy. Primarily, the goal of these revised curricula is to address areas of concern and improve student achievement through a more systematic teaching about the English language. Subsequently, this has seen a reorientation towards teaching and learning practices that provide a stronger focus on language and literacy skills, and a more purposeful and systematic study of texts in a variety of modes and genres.

In response to these new curricula, major education publishers in Australia have released revised textbooks for English that purport to engage with the implementation of the new curriculum. This research study asks whether new resources are adhering to established narratives of English, or are attempting to provide a fresh perspective on preexisting models. It asks whether curriculum change in English is being assisted or hampered by current teaching materials, conceptual frameworks and assumptions about the nature and scope of the subject.

The study investigates a sample of newly published resources, analysing both the content and the underlying ideas and pedagogical assumptions about the teaching of English. An analytical matrix is used to categorise the content and quantify the proportions of rhetorical, ethical, and aesthetic instruction. These findings are then interpreted according to historical functions of English as a school subject and the prevailing discourses of English.

The project aims to provide insights that will be of value to classroom teachers, curriculum specialists and policymakers concerned with the teaching of English in our secondary schools.

Information & Communications Technology (ICT)

Authentic digital representation of creative works in education: Addressing the challenges of digitisation and assessment

Researchers: A/Prof. Paul Newhouse, Dr Jeremy Pagram, Dr Pina Tarricone,
Dr Martin Cooper, Dr Alistair Campbell, Dr Lisa Paris, Zina Cordery

Grant/Funding: Australian Research Council, Linkage Project;
School Curriculum and Standards Authority, WA

Contact: p.newhouse@ecu.edu.au

Abstract:

The research team from the Centre for Schooling and Learning Technologies (CSaLT) collaborated with the School Curriculum and Standards Authority on this three-year project. The study set out to investigate the representation of student practical work in digital forms for the purpose of summative assessment and online marking using the comparative pairs method. In a number of senior secondary courses in Western Australia, such as Visual Arts and Design, for the purposes of summative assessment, students submit a physical portfolio of artefacts and/or documents that take various forms dependent on the chosen context.

In essence this study looked at the use of digital portfolios, which may include representations of artefacts and process information, for summative assessment purposes. The first phase explored the potential of representing practical work in the two courses for the purposes of summative assessment while the second phase explored whether it was feasible for students to create and submit such representations. The third phase focused solely on the online scoring of Visual Arts for the purposes of moderation and standard setting.

Assessing e-portfolios of practical production: An investigation of marking methods in visual arts and design

Researcher: Hendrati Nastiti (PhD candidate)

Supervisors: A/Prof. Paul Newhouse, Dr Jeremy Pagram

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Abstract:

Assessment of school practical tasks has always been considered to be problematic. This type of assessment is often subjective in nature, which could potentially affect the reliability and accountability of the assessment result. This is especially important in high-stakes assessment such as the Western Australian Certificate of Education (WACE) examination. Based on Thurstone's Law of Comparative Judgment, this study aimed to investigate the suitability of the Comparative Pairs judgments method as an alternative scoring method for practical production tasks. Through this investigation, this study sought to engage in a discussion of assessment methods that are authentic, formative, and multimodal; as has been made possible by the development of Information and Communications Technology (ICT).

This study was conducted within a three-year collaboration project between Edith Cowan University School of Education and the School Curriculum and Standards Authority (SCSA) of Western Australia with funding from an Australian Research Centre (ARC) Linkage Project grant, Edith Cowan University and SCSA. A total of 157 secondary school students in either the Visual Arts or Design courses participated in this study, as well as 20 experienced assessors from both subjects.

Digital forms of assessment for externally set tasks in senior secondary courses: Pilot project

Researchers: A/Prof. Paul Newhouse, Dr Jeremy Pagram, Dr Pina Tarricone

Grant/Funding: ECU Industry Collaboration Grant (commencing)
School Curriculum and Standards Authority, WA

Contact: p.newhouse@ecu.edu.au

Abstract:

The aim is to investigate the use of digital forms of assessment to improve the authenticity of externally set tasks that are used for moderation in the general forms of senior secondary courses in Western Australia. Specifically the project will work with the School Curriculum and Standards Authority to trial alternatives to the existing 1-hour written tasks in up to three courses where practical production/performance is a major component. Task outputs would be in digital form, uploaded to a repository and judged by teachers using online tools. The results will inform assessment for many such courses in the future.

Programmable digital toys and free play in Foundation to Year 2

Researchers: Dr Martin Cooper, Zina Cordery, A/Prof. Paul Newhouse

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Abstract:

This study aimed to investigate the ways that young children (4 to 7 years old) interact with familiar discrete programmable digital toys in a free play setting. As such it was designed to connect with the Digital Technologies subject in the Australian Curriculum, in particular through the content descriptors associated with Processes Skills and Knowledge and Understanding. The study was implemented in two phases in consecutive years involving teachers and students in two early childhood classes. Researchers worked with the teachers to provide the children with opportunities to use two types of digital toys. The children were observed as they interacted with these toys and their interactions analysed using a checklist of behaviours. It was found that without some intentional teaching the students did not demonstrate 'programming skills'. However, they did demonstrate motivation, engagement, and increased proficiency with the devices.

Using pairs for moderation in an undergraduate Education unit

Researchers: Dr Pina Tarricone, Dr Martin Cooper

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Abstract:

The aim of this study was to investigate the use of pairwise comparisons judgements for moderation purposes in an undergraduate Education unit. This study addressed the problem of effectively and efficiently assessing student digital essays. The project included an evaluation of the use of the No More Marking website to moderate a written assignment from the EDU1009 unit using pairwise comparisons. The assignments were uploaded by students to the Blackboard learning management system, then we readily downloaded these PDF files and batch uploaded them to the No More Marking system. The group of assessors then logged into the system and were presented with pairs of assignments to compare and select the better. This process was easily completed by all assessors and then scores and reliability measures were downloaded. Some unreliability in scoring was identified, but unless this method replaced the existing analytical scoring method it was concluded that it was not worth the extra effort in using both methods.

Transforming exams across Australia: Processes and platform for e-exams in high stakes, supervised environments

Lead Institution: Dr Matthew Hillier, The University of Queensland

ECU Researcher: A/Prof. Paul Newhouse

Partner Institutions: Central Queensland University, University of Tasmania, The Australian National University, Macquarie University, Monash University, RMIT University, and University of South Australia

Grant/Funding: Office for Learning and Teaching, Innovation and Development Grant (ID15-4747)

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Abstract:

This project will address a national gap in the pedagogical sophistication of high stakes supervised assessments by: (1) developing guidelines for students, educators and administrators to effectively prepare and undertake e-exams and (2) building an e-exam platform for supervised, bring-your-own laptop settings that provides a 'whole computer' environment, computer marked questions and secure electronic response reticulation. As a comprehensive tool set for ICT enhanced high stakes assessment, the innovation is designed to be open, modular and as technology neutral as possible, making it applicable sector wide. E-exams will provide a greatly expanded pedagogical landscape for assessing students in ways consistent with the information rich contemporary society, while opening the opportunity to leverage learning analytical techniques to enhance our knowledge of student engagement in high stakes supervised assessments. Validation will take place via a national action research project across multiple institutional settings with an associate partner program helping to embed e-exams practice beyond the core project team.

Multimodal digital assessment using iPads within the school environment: Enhancing formative and summative assessment, and student and parent involvement

Researcher: Dr Alistair Campbell

Grant/Funding: ECU Early Career Researcher Grant

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Abstract:

The project developed and explored, in collaboration with teachers and Aboriginal Education workers, the re-design and digitisation of the complete assessment cycle. Assessment tasks; both formative and summative, were captured in multi-modal form as evidence of student achievement. The apps under development will enhance and improve the educative value and quality of student feedback (feed-forward) and thereby enhance student empowerment and engagement in learning. The ability to collect evidence once, and assess and present this in multiple forms was significant, as information for different audiences is seamlessly on demand; e.g. a portfolio of student achievement. The apps have the added ability to enhance moderation seamlessly within and between schools.

Digital enhancement of dance assessment

Researcher: Maria Gamble (PhD candidate)

Supervisors: Dr Jeremy Pagram, Dr Renee Newman, A/Prof. Paul Newhouse,
Dr Alistair Campbell

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Abstract:

This research aims to examine the use and effects of digital technology in supporting and enhancing practical dance assessments in a senior secondary course. With technology at the forefront of the professional dance world and current strive in education to embed technology into the teaching and learning environment, uncovering the need for and effects of digital technology in assessment is a logical progression. With regard to current teaching standards, teachers should be able to design, assess with and implement, ICT into their practice. This research agenda therefore seeks provision of embodiments such as digital literacy and effective use of ICT whilst exploiting the recent investments made in Australian schools to increase digital resources and infrastructure. By aligning assessment further with the underpinning goals and intentions of the course, pedagogy could then begin to inform assessment.

It is hoped that the project will professionally benefit the participants and their use of ICT in Dance. The app created facilitates both formative and summative assessment, enabling an online, reflective, interactive process of feedback and learning with teachers, students, peers and examiners.

A mixed method, qualitative and quantitative research design will be used to gain perspective and understanding of using digital technology to facilitate the current WACE Practical Dance Examination and the marking of it. The results will then be compared to the live mode of assessment and the comparability and reliability of markers scores, between the live and digital modes of assessment will be measured. By utilising digital technology as an enhancement, it is intended that skills such as metacognition; (where high order thinking will be enabled for students understanding and analysis of for example, creative processes and performance) will also be captured and assessed, possibly alleviating the persistent problem of low mean average scores in certain parts of the examination.

Digital enhancement of the complete practical dance examination could just be the central motif to challenging the entire notion of the final, on the spot examination and its fairness.

EdFutures Snapshot Studies WA

Researchers: Prof. Peter Twining, A/Prof. Paul Newhouse, Dr Martin Cooper

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Abstract:

The Centre for Schooling and Learning Technologies (CSaLT) worked on an international project with Prof Peter Twining (Open University, UK); EdFutures Snapshot Studies. The aim of this research was to seek new insights, ask questions and find out what is happening in particular school settings where mobile technology strategies have been introduced. Whilst there is no intention to be able to generalize from these specific instances to schools in general, it is expected the research will help to inform decision making about the implementation of mobile technology strategies in other comparable contexts.

Our Snapshots studies involved two new government schools and a long established elite private school that had similar visions for learning with digital technologies. The two government schools had 1 to 1 strategies, but had found that their chosen tablet PC was not robust enough, and had concluded that the current policy was not sustainable. They were debating the merits of BYOD (Bring Your own Device) or BYOT (Bring Your Own Technology) strategies in the light of constraints and the nature of their clientele. The private school, unlike most of its peers, had not had a 1 to 1 strategy but was planning to do so using iPads. However, it appeared that they already had an informal BYOT strategy.

Nanocity: Nanotechnology game

Researchers: A/Prof. Karen Murcia, Dr Martin Masek, Julie Boston,
A/Prof. Paul Newhouse

Grant/Funding: ECU Industry Collaboration grant
Department of Industry, Innovation, Climate Change, Science,
Research and Tertiary Education (DIICCSRTE)

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Abstract:

This project was conducted in collaboration with the Centre for Transformational Games to develop a playable section and two trial sections of an online game. The project involved the design and trial of a virtual reality transformational game aimed at promoting the study of nanotechnology among secondary science students. Nanocity is a prototype game purposefully designed to create an engaging and immersive learning environment. The game was tested with 87 lower secondary students in two Western Australian schools. After the experience these students were surveyed and some participated in focus group interviews. These data along with observation of the students using the game provided evidence that the experience was not only engaging but had a transformational effect on the attitudes and perceptions of students towards nanotechnology as a field of study and work. These results supported the suggestion that transformational games can be used to support the learning of students in science and in particular improve their attitudes and perceptions of future engagement with science.

Bring your own digital device

Researchers: Dr Martin Cooper, A/Prof. Paul Newhouse, Dr Jeremy Pagram

Grant/Funding: ECU Strategic Initiatives Fund

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Abstract:

This project investigated the possibility of moving to a Bring Your Own Digital Device (BYODD) policy with Education students. Students would be supported to use these devices within their courses and also take them on teaching practice. The goal of the Bring Your Own Digital Device Project (BYODD) in 2012 was to begin an investigation into whether it would be a useful idea to have a policy in the School of Education that students should bring a digital device to university for their studies. Although smart-phones are the most pervasive of mobile technologies they were not included as part of this study as they were considered inadequate as a student's only device for university use.

Teaching Teachers for the Future (TTF): Building the ICTE capacity of pre-service teachers in Australian universities

ECU Representative: A/Prof. Paul Newhouse

Partner Organisations: All 39 teacher education institutions in Australia; Australian Institute for Teaching and School Leadership (AITSL), Australian Council of Deans of Education (ACDE), Australian Council for Computers in Education (ACCE), and Education Services Australia (ESA)

Grant/Funding: Australian Government Department of Education, Employment and Workplace Relations - Information Communication Technology Innovation Fund

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Abstract:

This 18-month national project involved all 39 teacher education institutions in Australia. It aims to effect systematic change in the Information and Communication Technology in Education (ICTE) proficiency of graduate teachers across Australia by building the ICTE capacity of teacher educators and developing online resources to provide rich professional learning. Practical support of education reforms at the national level was realised through the project's production of a range of resources, concepts and networks for professional development that will continue to impact on future curricula for teacher education as well as the skills and knowledge of future teachers.

Culture Pad: Linking Indigenous communities to schools and education through the use of mobile and online technologies

Researchers: Dr Jeremy Pagram, A/Prof. Paul Newhouse, Dr Alistair Campbell, Dr Martin Cooper, Jan Clarke (AISWA), Barbara Bynder

Grant/Funding: ECU Industry Collaboration Grant
Association of Independent Schools of WA (AISWA)

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Abstract:

Information and communications technologies (ICT) are seen as crucial in improving education opportunity and outcomes for children in remote communities. Yet these technologies are often viewed with suspicion by Indigenous communities in allowing access to material seen as potentially damaging to local culture such as gambling and pornography. This project investigated an ICT strategy that forged strong links between the community and school via Aboriginal Education Workers (AEW). The resulting iPad applications were driven by the AEWs and designed to engage Indigenous children in literacy learning activities aimed at preserving local Indigenous culture through the use of mobile and online technology. The results so far demonstrate how technology can be more effectively integrated into remote schools.

Higher education students' use of technologies for assessment within Personal Learning Environments (PLEs)

Researchers: Lynnette Lounsbury (Avondale College of Higher Education), Dr Paula Mildenhall (ECU), Dr David Bolton (West Chester University, Philadelphia), Dr Maria Northcote (Avondale College of Higher Education), Dr Alan Anderson (University of New England)

Grant/Funding: Avondale College of Higher Education

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Abstract:

Higher education students use a wide range of information and communication technologies for personal and study purposes, collectively known as a Personal Learning Environment (PLE). The ways in which students use technologies to prepare and complete assessment tasks, however, has not been researched as much as their general use of technology. The research study focused on approximately 100 university students' use of specific technologies within their Personal Learning Environments (PLEs). The first phase of the study was designed to discover the technologies and devices being used by students for university assessment tasks. The results showed that students definitely preferred technologies that were portable and available across variable hard technologies and their primary concerns were for freely available connectivity, particularly in the form of power-outlets and Wi-Fi. When it came to soft technologies, students were most likely to use online library databases and search engines. Interactivity was important to the students, along with flexibility, though innovation was not, and students were less likely to use new technologies that came with a "steep learning curve", particularly when they were planning and executing assessment tasks. They appeared to be less reliant on the institution's hardware (e.g., printers and desktops) and software (such as the institution's LMS). The findings from this study allowed the researchers to develop a deep understanding of students' PLEs and how educators may be able to interact with and guide students' choices to create a broader PLE for assessment purposes.

An international examination of university student ICT ownership and use for study in both Thailand and Australia

Researchers: Dr Jeremy Pagram, Dr Martin Cooper,
Dr Vijitra Vonganusith (Sakon Nakhon Rajabhat University,
Thailand), Dr Yuwanuch Gulatee (Nakhonphanom University,
Thailand)

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Abstract:

This research was the second iteration of an ongoing project being carried out between universities in Western Australia and Thailand and examined students' ownership and use of information and communication technologies (ICT). It is critical that modern universities understand their students' ICT capabilities in terms of hardware ownership, software facility, and preferences in order that online course and content delivery may be tailored to deliver effective, usable and engaging learning resources. In addition, with universities placing greater focus upon attracting students from beyond the borders of any one country through e-learning, it is equally important that we understand these basic capabilities more globally. In this second iteration data was collected at two Thai universities as well as in a university in Western Australia. The objective being to both inform the individual institutions, and to provide comparative data. In particular the study gathered information concerning students' self-perceived software skills and frequency of use, hardware ownership and frequency of use, access to and location of Internet use, preference for various types of online learning materials, and access and use of university email and university online learning environments. An online survey consisting of both Thai and English language versions was used, that fed respondent data into a common database for analysis.

Teacher educators' and pre-service teachers' preparedness to use ICT: A Western Australian perspective

Researcher: Huifen Jin (PhD candidate)
Supervisors: Dr Jeremy Pagram, Dr Martin Cooper
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Abstract:

With the ongoing development of the Information and Communication Technology (ICT), a wide variety of devices, software and apps are available that could be used in education. As a result, universities and schools are adopting different policies and strategies for integrating these new technologies. As they are a key element in the implementation of educational innovation, teacher educators and pre-service teachers need to be confident in using ICT effectively in teaching and learning.

This study proposes to investigate how teacher educators use ICT in teacher education and perceptions of pre-service teachers towards integrating ICT in their future teaching practices. A mixed methods design, that includes both quantitative and qualitative methods, will be employed in this research. Through conducting surveys and semi-structured interviews, the study will examine teacher educators' and pre-service teachers' ICT ownership and self-perceived skills along with perceptions of ICT use within the classroom. Document analysis will be used to examine the current institutional ICT policies and infrastructure support for teacher educators and student teachers at two of the largest teacher education providers in Western Australia.

It is anticipated that this research will have significant benefits for both teacher educators and pre-service teachers. The research outcomes will have both practical implications for current in-service teachers and students as well as having policy implications for pre-service teachers and future teacher education.

Using human computer interactions (hci), infrared eye tracking and data analytics to enhance teachers' professional vision and classroom observations

Researcher: Dr Jenny Lane

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Abstract:

The “Tips to Professional Growth Project” (TIPS 2) Phase 3 aimed to investigate ways to develop teachers' professional vision in terms of their skills of observation and reflection on classroom practices. All teachers need to reflect on their own teaching and engage in some form of classroom observation and peer review. Video is being used to facilitate this process in many schools. Research indicates that teachers and school administrators need tools to structure their observations and reflections and that experts view and reflect differently to novices. This study used a mixed methods approach incorporating qualitative and quantitative methodologies. The research tools included Human Computer Interface (hci) data analytics, a research-based taxonomy and videos of classroom practices.

A small group of teachers ranging from experts to novices viewed short videos of classroom teaching and engaged in professional reviews and reflections. Infra-red eye-tracking technologies were used to record participants' pupil corneal reflections while data analysis tools were used to analyse teachers' optical behaviours while viewing and reflecting on videos of professional practices under controlled conditions. Tobii X2 eye tracking technology was used to track teacher gaze and related visual behaviours. Two tests were undertaken. In test one the teachers' observations, reviews and reflections were unguided. In test two the participants were introduced to a research-based taxonomy of effective teaching practices with a common language and set of codes. In both tests the participants' viewing behaviours were recorded using the Tobii X2 Eye Tracker. In addition the teachers' post viewing reflections were audio recorded. Audio recordings were transcribed then analysed and coded.

Initial findings have indicated marked differences in teacher behaviours in the two tests. The findings revealed a number of strategies and tools that can be used to scaffold, refine and enhance teachers' professional vision and their reflective skills when using video for classroom observations.

TIPS2-PHASE 3: Supporting teachers using new video technologies to record, reflect and review teaching practices

Researcher: Dr Jenny Lane
Grant/Funding: Makybe Rise Primary School
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Abstract:

The project aimed to explore and extend the body of research which indicates that the use of digital video to capture classroom teaching combined with a peer view and reflection processes can provide an effective way to support teachers as they modify their teaching practices and align with professional standards (ISTE, 2008; Tripp & Rich, 2011; Lane, 2014). The use of videos of classroom practice has limitations because it can be disruptive, time consuming and expensive to have an additional person available to film classroom practice. To address these challenges, this research utilised a self-tracking video device (Swivl) to record the classroom teachers. Each teacher wore a small remote 'marker', allowing the video device to automatically track and record the teacher (video and audio) over a ten-metre radius. The research aimed to investigate how the classroom video obtained using this device can be used for classroom observation, supporting both individual reflection and peer review in conjunction with a customised observation framework and digital analysis tools and a cloud-based portal.

Video mentoring to improve workplace learning

Researcher: Dr Jenny Lane

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Abstract:

This project seeks to investigate how videos, mobile phones and a web-based tool can be implemented to allow preservice teachers to video record their classroom practice and upload it to a secure portal in the cloud. This is an important and timely initiative to update current practices to provide a more efficient, equitable and cost effective experience for students in the School of Education engaged in workplace integrated learning (WIL).

The School of Education (SoE) at Edith Cowan University (ECU) places 4500 students in Early Childhood, Primary and Secondary School settings each year to undertake their workplace integrated learning (WIL). These professional experiences are core to the Teacher Education courses and are a requirement for accreditation with the Teacher Registration Board. The project investigates how technology can be used to improve the mentoring and supervision aspects of their classroom practice.

Initial findings indicate that by using this system we can have more than one person view and comment on the video clips of the student teaching, thus giving the students richer input and a fairer assessment process. Student participants have reported that this use of multiple sources of evidence removes individual bias and “personality clashes” in the supervision process. In addition, the project is developing a video library that will provide a rich source of resources for our teaching programs.

Mobile video collection in preservice teacher education placements

Researchers: Christopher Dann (University of the Sunshine Coast), Dr Bill Allen,
Dr Alistair Campbell

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Abstract:

One of the more demanding tasks faced by teacher educators and mentors is providing high-quality feedback for preservice students during their professional learning. The limited formative assessment currently available impacts on their professional learning. This project investigated how iPhones® and iPads® have been used by preservice students, supervising teachers and teacher educators to provide formative assessment to preservice teachers on practicum. A purpose-built website and iPad® application manage communication between preservice teachers, school supervisors, university academics and the university's professional experience unit. The app links captured images, video and written data with assessment criteria. Data from an action research project showed improvement of practicum experiences for mentors and preservice teachers. Results indicate that there is strong support for the use of mobile devices as a means to support supervising teachers in their decision-making processes. Importantly, preservice teachers have welcomed the opportunity to receive powerful visual feedback as part of an on-going formative feedback process.

Trailblazer: A framework for context aware multimodal learning

Researchers: Dr Martin Masek, Dr Mark Brogan, A/Prof. Peng Lam,
A/Prof. Karen Murcia, Julie Boston

Grant/Funding: ECU Industry Collaboration Grant
The National Trust of Australia (WA)

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Abstract:

A key outcome of the project was the development of a software framework, Trailblazer, which was designed to allow non-technical experts to craft learning experiences around places of interest. Visitors or learners to the place of interest can then experience these activities through their mobile device (phone or tablet). Key to the framework has been the use of the mobile device camera and GPS sensors, together with the use of Augmented Reality (AR) based on data from these sensors. The visitor sees virtual content overlaid on a view from the device camera, this content being used to guide the visitor and enhance their educational experience.

The framework includes a web-based editor where the authors of these experiences construct sequences of tasks, having the ability to interweave text-based information with 3D virtual models, videos as well as questions to encourage the visitor or learner to reflect and engage with the material. Such a framework is of particular significance as its accessibility by non-technical experts enables acceleration of research into applications of AR and minimises barriers to practical implementation.

To demonstrate the framework we created two activities at Tranby House, a heritage museum located on the banks of the Swan River, Western Australia, and received promising feedback from the Year 5 audience. In future work we are aiming to explore a wider set of activities and also to enhance the architectural framework with a wider array of functionality.

Choose your own adventure: Game-based differentiated learning

Researchers: Dr Martin Masek, A/Prof. Peng Lam, A/Prof. Phillip Hingston,
Julie Boston

Grant/Funding: ECU Industry Collaboration Grant
St Stephen's School

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Abstract:

Concepts from the Australian primary school mathematics curriculum on fractions were used as core elements to design three computer games. In each game the concepts were presented in the form of tangible puzzles, rather than abstract math problems, customized to a difficulty level based on student capability. The games were integrated into a single virtual game world, known as Abydos, as individual locations in that world and a fantasy story set in ancient Egypt was used to help build a compelling experience. Five year 6 classes were used to evaluate the game over four weeks. Three of the classes were provided with the games and two served as a control. Participants completed a diagnostic test prior to the trial, and again at the end, designed to assess competence in the fractions concepts targeted by the game. Results show that on average students who had access to the game scored higher than control group students. In particular, looking at just students who had a lower level of fractions skills to begin with, a greater improvement was seen in those that had access to the game.

Transformational games: A way to engage adolescents in nutrition education?

Researchers: Margaret Miller, Dr Martin Masek, Julie Boston, Samantha Baker

Grant/Funding: Healthway Exploratory Research Grant

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Abstract:

The recently developed Western Australian Curriculum (WAC) specifies food and nutrition education outcomes in Health and Physical Education (HPE), Technologies and Science to develop students' nutrition literacy. However, the success of these outcomes being achieved depends largely on approaches used to engage and motivate students (Archambault, Janosz, Fallu & Pagani, 2009). Transformational games offer such opportunities, since adolescents readily engage with electronic games (Barab, Pettyjohn, Gresalfi, Volk & Solomou, 2012).

The aim of this mixed methods study is to assess the feasibility, acceptability and impact of adapting an existing transformational game, *NanoCity*, to incorporate real world nutrition problems aimed at Year 7-10. Significant focus will be given to determining a set of requirements and design elements, which will allow players to develop nutrition literacy skills. Nutrition content will be derived from the *Refresh.ED* food and nutrition teaching resources project, developed by Edith Cowan University (ECU). Findings will then be used to prototype the mechanics of a game and teaching materials, which will be trialled with a set of classes. It is anticipated the results from this project will lead towards the development of a full functioning, comprehensive transformational game which contributes towards improving adolescent nutrition literacy.

Learning to play: What online games can teach

Researcher: Pauline Bellamy (PhD candidate)

Supervisors: Prof. Caroline Barratt-Pugh, A/Prof. Glenda Campbell-Evans

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Abstract:

Advancement in information communication technologies (ICTs) and the flexibility of the Internet are creating new and diverse environments in which to engage in meaningful learning experiences. Whether approached individually or in collaboration, ready access to ICTs affords the opportunity for the learning of skills, the broadening of knowledge and the creation and sharing of information and artefacts in ways that have previously been unavailable. Due to this, many call for a review of the way learning is approached in contemporary educational settings. In seeking to address this call, research investigating the use of ICTs to optimise learning outcomes has focused on observing learner engagement with ICTs. However, little research has been directed to the exploration of learning from the perspective of the learner.

Taking a phenomenological approach, this study will explore learning in an online digital environment – an online game, from the learner’s viewpoint. Data collected using audio recordings of conversations with participants and field notes will be used to tell the story of participants’ lived experience of learning in these environments. Taking such an approach will enrich and broaden understanding of the nature of learning in an online digital environment. The findings from this research project will be of interest to educators and those involved in the development of educational programs and learning opportunities.

Impact of collaboration on intercultural communication competence through Web 2.0 technologies in the primary school classroom

Researcher: Rebecca Duyckers (PhD candidate)

Supervisors: Dr Martin Cooper, Dr Jeremy Pagram

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Abstract:

The rapid expansion of the social web (Web 2.0) allows teachers to provide rich learning experiences to develop students' intercultural communication competence through synchronous and asynchronous web tools. The Melbourne Declaration and the Australian Curriculum highlight intercultural understanding as a key competency and capability for students to be successful in the twenty-first century. Through students' interaction with tools and each other, the extension of human capabilities is promoted.

The aim of this study is to identify the intercultural communication competence that primary school students develop through participating in an intercultural collaborative online project using Web 2.0 tools, and the effectiveness of these web tools when collaborating with a remote school in a different country that speak a different language. This study is conducted in two phases. Phase One is being conducted between a metropolitan school in Australia and schools in Barcelona, Spain. Phase Two is being conducted with the same school in Australia and a remote school in Thailand. The students from the school in Thailand speak Thai while the schools in Spain speak English as a second language and conduct weekly lessons in another learning area, such as Science, to improve their English speaking and writing skills.

Phase One employs a mixed methods approach to collect data exercising both quantitative and qualitative methodologies. Phase Two utilises qualitative data through student collaborative responses, teacher interviews and a student focus group interview. Qualitative methods from both phases of the study will be analysed to identify the effectiveness of the web tools when collaborating on a learning task with students from different countries.

The findings from the proposed research will provide insight into intercultural understandings and strategies to promote them using technology in the classroom. The use of Web 2.0 tools to communicate and collaborate to complete a learning task requires the students in Thailand and Australia to use Google Translate. The findings from this phase of the study will examine the technical and practical limits of cutting-edge cross-cultural collaboration tools available for use in schools.

The effect of cognitive training on the working memory and academic achievement of middle primary students

Researcher: Natalie Brown (MEd candidate)

Supervisors: Dr Mandie Shean, A/Prof. Paul Chang

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Abstract:

A large number of students in Australia are considered to have general learning difficulties and demonstrate low academic achievement. Early identification of students at risk is essential, not only for outcomes based education but also for timely implementation of effective intervention programs. Intervention programs aimed at improving learning strategies can be effective tools for teachers and parents. Working Memory ability has been widely investigated and is considered an effective predictor of a child's future achievements in school. Working Memory is a cognitive construct, belonging to a set of mental processes which make up our executive functions. Working Memory enables us to store and manipulate information and plays an integral role in our learning process.

This study aims to investigate the effects of cognitive training on academic achievement, focussing on middle primary students. The intervention program to be implemented is an adaptive computerised program designed to improve learning strategies through training Working Memory. This study will aim to determine whether learned strategies will transfer to academic achievements. Also under investigation is the question of whether training Working Memory alone is adequate in producing improvements in learning or whether training several cognitive functions simultaneously might be needed in order to produce effective transfer gains to learning outcomes.

Metacognition conceptual learning and online research tool

Researcher: Dr Pina Tarricone

Grant/Funding: ECU Early Career Researcher Grant

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Abstract:

This research aimed to increase knowledge of metacognition by developing and making available an online interactive learning and research tool. Metacognition is knowing and regulating learning processes. It is essential for learning and problem solving to occur. There is a lack of understanding of metacognition and its importance for learning and teaching. The aim was also to validate the taxonomy of metacognition, which is the conceptual framework of the tool (Tarricone, 2011). An evaluation of the effectiveness of the cognitive tool to help learn about metacognition was provided by teachers and academics. The online questionnaire analysed preservice teachers' knowledge and understanding of their metacognition. The questionnaire was measured using item response theory/modern test theory methodology.

Using ICT to foster collaborative writing skills for EFL university students in Vietnam

Researcher: Thi Thu Lan Nguyen (PhD candidate)

Supervisors: Dr Jeremy Pagram, Dr Alistair Campbell

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Abstract:

The development of ICT has changed most aspects of life, and its diffusion into education was inevitable. Vietnam is a developing country where English and ICT (Information and Communications Technology) have been highly appreciated as two of the most important skills in the industrialisation and modernisation of the country. These skills help facilitate the country's integration into the globalised world. Thus, the use of ICT in English language teaching and learning has received a lot of attention by both policy makers and researchers.

In this study, the possibilities of using ICT in fostering EFL (English as a Foreign Language) university students' collaborative writing in a Vietnamese context will be examined. Teachers' and students' readiness for ICT-supported collaborative writing, their attitudes and perceptions, and the supporting/inhibiting factors to using ICT in collaborative writing will be investigated. An applied case study using both sources of quantitative and qualitative data will be employed in the methodology of the study. It is hoped that the study will result in significant findings and implications useful for teaching practice which can then be disseminated to other learning contexts in Vietnam.

Early Childhood Education

The Child and Parent Centres initiative in Western Australia

Researchers: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett,
Dr Anna Targowska, Dr Susan Teather, Dr Marianne Knaus,
Lynn Whiteside, Dr Elizabeth Stamopoulos

Grant/Funding: Department of Education WA

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Abstract:

This research provided an overview of the key factors that impact on the development, implementation and outcomes of integrated service provision in relation to the Child and Parent Centres initiative in Western Australia. It addressed the Australian and international literature on the importance of the early years and the role of integrated service delivery for young children and their families. Evidence and understandings that underpin the Child and Parent Centres initiative are presented and considered in both the national context for early years and the Western Australian setting. The potential and pitfalls of the selected model are considered, which the authors argue need to be addressed to expand and enrich the Child and Parent Centre initiative.

Findings suggest that although there is no single accepted definition or model, effective integration has multiple layers and multiple dimensions. This requires integration at the levels of government policy, governance, leadership, organisational culture and ethos, and professional practice and teamwork levels. Good governance, underpinned by a shared vision is characterised by high-level collaboration that integrates different organisational cultures to establish a coherent and comprehensive strategic plan. Leadership plays a vital role in creating unity and shared understandings across diverse disciplines based on a strong sense of collective ownership. Finally, professional practice and teamwork involves working collaboratively to achieve shared outcomes through the emergence of multi-disciplinary, inter-disciplinary and trans-disciplinary work. Together these elements have the potential to provide the best outcomes for children, families and communities.

The association between supported playgroups and transition to school

Researchers: Dr Marianne Knaus, Judy Warren

Grant/Funding: ECU Faculty of Education and Arts Small Grant

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Abstract:

Engaging with families to develop positive and respectful relationships is considered as a high priority in early childhood education. Programs that involve families, educators, and support professionals working in partnership, have potential to incorporate smooth transitions into the compulsory years of school. Research has shown that when children from disadvantaged families participate in playgroups, better social and emotional outcomes are realised. This study was carried out at a supported playgroup currently operating in a metropolitan Western Australian school. The playgroup operates in a low socio-economic context targeting families with children aged birth to three years that offers social and educational opportunities for families in a supportive environment. The findings of this research offer insights into the importance of the formation of relationships between parents, children and the school community when transitioning children to school.

Investigating the role of a supported playgroup and the transition to kindergarten

Researchers: Dr Marianne Knaus, Judy Warren

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Abstract:

The transition to kindergarten is a period of change that can be challenging for many children and their families. While there is wide recognition for the need to support children before and during periods of transition, there is little research on the role of how supported playgroups assist children and families. This research tracked a cohort of children who attended a supported playgroup located on school grounds and their transition to kindergarten the following year. The study was conducted at a metropolitan school in a low socioeconomic suburb of Perth, Western Australia and included data from the children, families and school staff. The social and emotional development and learning dispositions of the kindergarten class were observed in the early weeks of the new school year. Interviews with the families and school staff examined perspectives on how the children transitioned into kindergarten. The supported playgroup and the relationships formed between all stakeholders were instrumental in the smooth transition to the kindergarten program.

Embedding a play-based teaching and learning program in junior primary classes in Western Australia

Researchers: Dr Marianne Knaus, Dr Jenny Jay (AISWA)

Grant/Funding: Early Childhood Australia

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Abstract:

A play-based curriculum is highly regarded in early childhood settings as fundamental pedagogical best practice that promotes learning and development as recommended in the Early Years Learning Framework. The formalisation of the early years of school and pressure on schools to improve literacy and numeracy outcomes based on NAPLAN results to measure school and education system success has resulted in the decreased use of play-based pedagogies for children in the early years of school. This research project investigates the success and challenges experienced in one school that has made a considered decision to embrace play based learning pedagogy across the junior years of primary school. Using qualitative methods including interviews and focus groups, the study will examine the experiences of the participants.

The pushes and pulls of pedagogy in the early years: Competing knowledges and the erosion of play based learning

Researchers: Dr Lennie Barblett, Dr Marianne Knaus, Prof. Caroline Barratt-Pugh

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Abstract:

In Western Australia early childhood educators have been asking whose agenda does early childhood knowledge serve and for what purpose? This has come to the forefront of debate as play as a pedagogical tool is disappearing from programs for four and five year old children in favour of early academics through a pushdown curriculum. Such a trend was confirmed from research conducted with 200 Western Australian early years' educators (mainly teachers) to discuss their most concerning early childhood pedagogical issue. This research identified the educators' most significant concern, which was the erosion of play based learning and the tension about the use of play as a legitimate pedagogical tool in early year's programs. The analysis revealed competing knowledge about current moves in early childhood education. The knowledge shared by educators has implications for quality learning and teaching in the early years and impacts on children, educators, parents and schools and in particular, early childhood pedagogy.

An investigation into the emergence and effectiveness of Child Australia's integrated service delivery model

Researchers: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett,
Dr Natalie Leitão

Grant/Funding: Child Australia

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Abstract:

This study investigated a new model of service delivery implemented by Child Australia, which was created to achieve a more holistic approach. The new model of delivery has entailed a move from two service delivery models, namely the Inclusion Support Agency (ISA) and the Professional Support Coordinator (PSC), to one fully integrated service delivery model, that is, the Child Australia Integrated Program. This move was unique across Western Australia and introduced a new approach to service delivery. This research used a mixed method research design. Staff and service users were invited to complete an online survey and individual semi-structured interviews with participants were held to obtain additional qualitative data.

Four elements that were central to the effective delivery of the new Child Australia Integrated Program emerged from the study: *consultative leadership, investing in staff training and development, developing strong relationships, and flexibility and cohesiveness of delivery*. These key elements created an increased and sustainable quality of service delivery and improved outcomes for Services and ultimately families and children. The findings of the study are of value in refining future development of the Integrated Program and informing other organisations that may be in the process of adopting an integrated service delivery model.

Evaluation of the KindiLink pilot

Researchers: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett,
A/Prof. Trudi Cooper, Dr Marianne Knaus, Dr Graeme Gower

Grant/Funding: Department of Education WA

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Abstract:

KindiLink is a play-and-learn initiative for Aboriginal three year old children who attend with a parent/carer at 37 selected schools developed and funded by the Department of Education Western Australia. KindiLink provides six hours a week of high quality play-and-learn sessions for children and parents/carers at the participating schools, at no cost to families. KindiLink aims to boost children's learning in the year before they start Kindergarten and to forge strong and supportive links between home and school. Parents are supported to be actively involved in the play-and-learn activities with their children. The KindiLink teachers and assistants work alongside families to help them prepare their own children for success at school. KindiLink focuses on developing the social, emotional, language and cognitive capabilities of Aboriginal children (Department of Education, 2016).

The Centre for Research in Early Childhood Group is undertaking an evaluation to investigate the impact of the KindiLink pilot on the social, emotional, language and cognitive capabilities of Aboriginal children upon entry into Kindergarten. The research team will also be exploring how effective KindiLink is in improving school attendance, building the capacity and confidence of parents/carers and building productive relationships between the family, the school and the community. Both quantitative and qualitative data will be collected to capture the complexity of the KindiLink program and the contexts in which it is being delivered. ECU protocols for culturally and linguistically appropriate data collection methods and participatory research will inform all aspects of the research process and outcomes. Watch this space!

Intentional teaching and play-based learning as pedagogical practices: Kindergarten and pre-primary teacher understandings

Researcher: Amie Fabry (PhD student)
Supervisors: Dr Lennie Barblett, Dr Marianne Knaus
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Abstract:

The introduction of the Early Years Learning Framework in Australia (EYLF) has set a new benchmark for early childhood education and care. Within the Framework exists a number of pedagogical practices that are necessary for quality provision. However, there appears to be a lack of cohesion in teacher understanding surrounding the practices of play-based learning and intentional teaching. The literature shows that teachers are struggling to find the balance between meeting curriculum outcomes, being intentional in their teaching and providing opportunities for child-centred learning through play.

This study follows a phenomenological approach to investigate the lived experiences of Kindergarten and Pre-primary teachers in their understanding of these two practices. Semi-structured interviews were used with 8 teachers from Independent and Catholic Education schools. Results suggest that the teachers have different understandings of these practices influencing the way that they are implemented and the role that teachers take in supporting children's learning. As a consequence, children who are in the same stages of schooling are having vastly different educational experiences.

The EYLF has been produced in the best interests of young children, to support and ensure universal high-quality education and care. The findings from this study, however, suggest that this is not the case and contribute to the discussion of high-quality practice in early childhood education and care. Further to this, these results highlight the need for educators to reach a shared understanding, which is a crucial step towards universal access to quality education programs for all children.

How interaction with outdoor environments transforms young children's thinking

Researchers: Julie Wren, Claire Hall

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Abstract:

Those who work with young children appreciate that the outdoor environment plays a key role in supporting learning. Outdoor environments offer children unique and dynamic experiences. These environments shape how children come to know the world and enrich their meaning-making by encouraging them to explore, construct and express. Knowledge is mediated in social contexts and embodied through gesture and movement, and through the imaginative use of objects and spaces only found outdoors. The outdoors offers children opportunities for independence, control and mastery over their environment to suit new contexts. They achieve this through a complex set of processes: the body and mind work in unison to elaborate and expand existing concepts; develop new ways of thinking (without merely replicating what is already known); and arrive at new ways of making meaning.

This research project focused on naturalistic observations of children in two early childhood settings. Findings from both show how young children's embodied interactions with their outdoor environments fostered emergent ways of social and multimodal learning. The environments ignited their imagination bringing about new ways of thinking, feeling and perceiving—extending their meaning-making. Findings show how children's meaning-making is agentic and embodied. Meaning-making emerges through children's unfolding actions as they adapt their outdoor environments to suit their intentions: transforming their environment, transforms their thinking. The inextricable intertwining of body and mind provides children with experiential awareness. Awareness is ephemeral and evolving, emerging from actions that lead to unexpected happenings and further experiences.

At a time when education disembodies what children know and how they make meaning, our paper opens possibilities for thinking about the emergent ways young children interact with their outdoor environment. It is envisaged that the findings from this project will inspire an invigorated respect for embodied learning.

Supporting the development of attached relationships in early childhood settings

Researcher: Nadia Wilson-Ali (MEd candidate)

Supervisors: Prof. Caroline Barratt-Pugh, Dr Marianne Knaus

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Abstract:

Since its development in the early 20th century by John Bowlby, attachment theory has impacted the way in which personality and relationship development is understood. The first year of life is considered a critical period for attachment development between an infant and primary caregiver, and with Western Australian families increasingly using formal care for their infants and toddlers, the use of attachment theory to inform practice is becoming a priority area of focus within education and care settings. The impact of non-maternal care on children's attachment development has been long debated in the literature, and it is proposed that in the absence of their primary caregivers, children need the security of an attached relationship with a consistent educator in order to feel safe, secure and supported.

Focusing on early childhood educators working directly with infants and toddlers, this study will explore educators' perceptions of attachment, and how they support the development of attached relationships within their settings. Using a mixed method approach, the study aims to answer the following research questions:

1. What are early childhood educators' perceptions of early attachment?
2. How do early childhood educators support the development of attached relationships?
3. What are the outcomes of their attachment practices?

Investigating teacher preparation and planning for HASS implementation in Early Childhood Education from 2017

Researcher: Jane Loxton (MEd candidate)

Supervisors: Dr Christine Cunningham, Dr Marianne Knaus

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Abstract:

Over the past decade, early childhood teachers have experienced a number of changes to mandated policies, frameworks and curriculum learning areas. . Increased pressure to improve numeracy and literacy benchmarks has been at the expense of other curriculum areas, in particular, time spent teaching the Humanities and Social Sciences (HASS). A new HASS curriculum learning area has been developed for the early childhood years which covers extensive content in two integrated strands; Knowledge and Understanding, and Humanities and Social Sciences Inquiry Skills. Its full implementation is scheduled for the beginning of 2017. So it is timely to investigate the following research questions:

- Prior to 2017, how were the Humanities and Social Sciences taught in early childhood education?
- What preparation was done in 2016 to become familiar with the Humanities and Social Sciences Knowledge and Understanding, and Humanities and Social Science Skills strands in the HASS curriculum?
- What challenges do early childhood teachers face when planning, teaching and assessing the updated HASS Curriculum in 2017?

The Arts, Humanities & Social Sciences

Thinking about visual arts: Exploring student engagement and assessment in responding to artworks and artists

Researchers: Dr Julia Morris

Grant/Funding: ECU Early Career Researcher Grant

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Abstract:

Visual arts education plays an important role in facilitating students' acquisition of literacy and critical thinking – skills that are increasingly necessary to succeed in the competitive global lifeworld (Barton, 2013; Campbell & Parr, 2013; Newfield, 2011). Creative arts skills are central to the fostering of creativity, design, innovation, artistic and cultural leadership (Australian Government, 2013). Successful implementation of the new Australian Curriculum in visual arts is therefore important to Australia's aspirations as a creative, productive nation.

This project is exploring how senior secondary school students engage with the responding component of visual arts education, which requires them to critique their own and other artists' practice. This research has two key objectives. The first objective is to develop a prototype for an online diagnostic assessment instrument to measure students' current engagement in the area of responding. The instrument is being developed into an online format where it can be administered by teachers, with the statistical output analysed by the program and results presented back to the teacher in a clear and concise summary. This allows teachers to develop educational programmes based on data, regardless of their knowledge and experience of statistical analysis. The second objective is to develop a website for teachers that includes educational design, professional learning support and resources related to visual arts responding, all of which are being created and trialled through case studies in this research. The website will be an ongoing resource for the communication of research findings and resources. It is anticipated that the prototype of the diagnostic instrument could be housed on this website platform in the future.

Teacher as artmaker project (TAP)

Researchers: Dr Julia Morris, A/Prof. Geoffrey Lummis, A/Prof. Wesley Imms (University of Melbourne), Ms Gina Grant (University of Melbourne)

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Abstract:

The Teacher as Artmaker Project (TAP) is a unique project for visual art education, providing longitudinal data on teachers' participation in art production, their perceptions of their personal teaching quality, and expectations of retention in the teaching profession. This information will inform better teacher training and professional development for future generations of art educators. Prior to 2016, all participants were sampled from with the University of Melbourne. The Melbourne participants complete an annual survey once they graduate, regardless of their career pathway. A number of volunteers from that group also agree to participate in an annual art exhibition that provides participants with the goals, motivation, and support group to maintain an active art practice during the early years of their teaching career.

This year, Edith Cowan University (ECU) is establishing a Western 'hub' for the research. Final year ECU Bachelor of Education (Secondary) students are participating in TAP, collecting data directly at the completion of their course and also hosting an inaugural art exhibition that celebrates their graduating class and begins the motivation to maintain their active art practice during their transition from pre-service to in-service teacher. These data will allow cross-case analysis between the Bachelor degree and University of Melbourne's Master of Teaching. The TAP also promotes cross-Institutional art collaboration, as each University will have a video-link between the two creative research art exhibitions, further enhancing collaboration to promote unique exhibition experiences for both artists and audiences.

Creating community space at Girrawheen Senior High School

Researchers: Dr Julia Morris, A/Prof. Geoffrey Lummis

Grant/Funding: Higher Education Participation and Partnerships Program (HEPPP)

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Abstract:

The Creating Community Space Project is a collaborative community partnership that includes Girrawheen SHS staff and female Aboriginal students (years 7-12), Edith Cowan University (ECU) visual arts educators and pre-service teachers, local community leaders, as well as industry partners. The project is designed to use the visual arts as a vehicle to enhance the sense of community and self-efficacy with female Aboriginal students. The project will engage secondary female students in science, technology engineering and mathematics (STEM) subjects through the visual arts. The project aims to transform an unused facility on the school grounds as a site specifically for female Aboriginal students, as the male Aboriginal students are already part of a successful Clontarf Academy on the school grounds.

The female students are integral to the creative processes associated with the visual redevelopment the exterior and interior of the facility. In this process they are making a series of artworks that will transform the space and be part of a public exhibition. The creative processes will include visual design and technology, as part of an interdisciplinary approach to learning where the visual arts are used as the vehicle through which to other literacies. During this process, the students are being mentored by ECU staff and pre-service teachers, building a sense of community that extends beyond the school. The female students are also leading the project, whereby their feedback is being used in an action research approach to improve and extend the program.

It is anticipated that the redeveloped space will promote a sense of ownership among the Aboriginal female students and the wider school community, as the students' artworks will be integral within the design of the space. It is also anticipated that creating a supportive environment through the space will promote positive school culture.

Artworks in residence: Surfacing young children's multi-modal meaning making

Researchers: Julie Wren (PhD candidate)

Supervisors: Prof. Susan Wright & Dr Marnee Watkins (University of Melbourne)

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Abstract:

To identify how young children explore, construct and express meaning, artworks were displayed in a kindergarten classroom to provoke the children's interest and encourage the expression of their thoughts, feelings, and perceptions. The artworks were created by professional Western Australian artists. Each week, for five weeks in total, several artworks 'resided' in the classroom. They were displayed by theme, reflective of the children's interests. Artworks included paintings and sculptures (static, moving and sound-producing). Children had volition about when they viewed the artworks and who they viewed them with. The familiarity of their classroom enabled them to access resources (e.g. toys, art materials etc.) as well utilise indoor and outdoor spaces when responding to the artworks.

The researcher was in the classroom each day, capturing data through naturalistic observations and the use of one mobile and three static cameras. The teachers and parents became vested co-researchers by also observing and videoing the children. The teachers and researcher met weekly to share data. The parents regularly emailed the researcher their observational notes and photos from out-of-school time. The collaborative approach to collecting data provided diverse perspectives.

By developing trust and through the implementation of ethical practices, the researcher was able to immerse herself with the children in their playful and imaginative activities and enter the children's inner world. This showed how children's meaning making was socially mediated, transmediated across multiple modes, involved their interpretation and creation of signs and symbols, and how their responses to the artworks changed over time. An explicit intention of the study was to surface the children's voices.

This research provides insights into young children's competence and sense of agency as active and meaningful participants of their own lives. Engagement with the artworks enabled individuals to transform their understanding of themselves, their world and their relationship to their world. Consequently, children tackled increasingly complex concepts, knowledge and skills. This may inspire, challenge and provoke thinking about pedagogical practices.

Interplay: A study of pre-service drama teachers and the practicum – experiences, beliefs, expectations and managing

Researcher: Dr Christina Gray

Supervisors: A/Prof. Peter Wright & Robin Pascoe (Murdoch University)

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Abstract:

The practicum is internationally recognised as a valuable component of teacher education. It is an opportunity for pre-service teachers to develop teaching skills in authentic ways, pursue professional inquiry into practice, and be mentored by experienced teachers. It is also fraught with challenges and the literature identifies the practicum to be overwhelming and stressful for pre-service teachers. While extensive research has been conducted into the practicum generally, little research focuses on the practicum experience for pre-service drama teachers. This research is key to better understanding the issues and challenges of the practicum so as to improve pre-service drama teachers' experience, better induct them into the profession, and retain them in this demanding field.

The study was designed in three phases using a bricolage of qualitative methods. In Phase 1, the perceptions of 19 pre-service drama teachers were revealed through focus groups. Phase 2 involved field work and analysed multiple data sources (participant observation, formal and informal interviews, journals, lesson plans, lesson reflections, practicum evaluations) to investigate five participants' lived experience of the practicum, providing depth to key issues and challenges. Phase 3 employed in-depth interviews capturing participants' reflections on school drama as key to their beliefs and values. These data were then developed into a series of narrative portraits communicating key influences on these emergent teachers.

The research highlights the complexity and emotionality of practicum through intersections of experience, dynamics, beliefs and aspirations. A key finding is that pre-service drama teachers are vulnerable during practicum and a consequential lack of belonging and inadequate preparation causes considerable stress. Furthermore, the interplay between beliefs about drama teaching and the practicum experience is significant. When beliefs and practicum experiences were in harmony, participants had a more positive practicum with improved self-efficacy; conversely, disharmony saw participants experience culture shock and stress. The study concludes with implications for pre-service drama teacher practice and suggestions for further research.

I see a spark and blow on it: Drama practice in Year 1 and the new Australian Curriculum in the Arts

Researcher: Christine Lovering (MEd graduate)
Supervisors: Prof. Caroline Barratt-Pugh, Dr Lennie Barblett
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Abstract:

New educational directives have an effect on the practice of teachers in schools. The introduction of an Australian Curriculum and subsequent changes to the Arts curriculum, provided the impetus to investigate Year 1 teachers' perspectives of, and practices in drama, and ascertain teachers' knowledge and preparedness for curriculum implementation. As one of the five arts subjects, drama has been included in the primary school curriculum in Western Australia since 1997, however, its inclusion and the teaching of drama has not been consistently realised. Teacher perspectives and beliefs about specific Learning Areas influence their planning and practice; often this is related to past experiences.

Data collection instruments were generated based on previous research and state curriculum documents. The data from the initial questionnaire provided an insight into Year 1 teacher perspectives and practice and the new Arts curriculum. The subsequent semi-structured interviews were conducted to augment the questionnaire data. The study found that the teachers' use of drama was variable. Whilst teachers valued and used drama, lack of time and knowledge were primary impediments to the use of drama and existing perspectives about drama affected the decision to teach drama. Teachers' lack of knowledge restricted their drama practice and consequently this resulted in limited drama experiences for their students. A foundation for the implementation of drama in the new Arts curriculum with recommendations for possible professional development and support for drama practice are provided.

Empathy in the classroom: A drama based program developing empathy in adolescents

Researcher: Scott Corbett (MEd candidate)
Supervisors: Dr Mandie Shean, Dr Christina Gray
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Abstract:

Empathy can have a significant impact on situational and dispositional pro-social behaviour in adolescents. Empathy is positively related to moral development, healthy relationships and problem solving skills; whereas empathy is negatively related to bullying behaviour, aggression, and victimisation. The practice of Creative Drama, in particular the work of Dorothy Heathcote and Bruce Burton, has informed drama programs that foster empathy in participants. With this process, combined with the Actor Training system of Constantin Stanislavski, and the Forum Theatre model developed by Augusto Boal, drama can be utilised to increase empathy in adolescents.

The purpose of this study is to understand which elements of the drama processes being explored best work to increase empathy in adolescents. The study will take the form of a ten-week drama based program intervention (The Empathy Program) conducted at one secondary school in the Perth metropolitan area.

A constructivist, mixed methods approach will be utilised to frame the study. Data will be collected through structured self-response surveys for the students in both experimental and control groups, as well as semi-structured written reflections completed by the students in the experimental group after each week of the intervention.

It is expected that the results will provide an insight into ways in which empathy can be enhanced through drama. It is also expected that the findings will support schools in addressing objectives of the Melbourne Deceleration of Educational Goals for Young Australians (2008) and the General Capabilities section of the National Curriculum.

‘Making’ and ‘responding’ to music: The impact of a skills-based class music program upon lower secondary students’ perceptions of class music, and resulting retention rates

Researcher: Dr Geoffrey Lowe

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Abstract:

Class music, as a largely elective subject in secondary schools, suffers from documented low retention rates. Among the reasons cited are a poor philosophical fit between class music programs and student expectations and interest. The Australian Arts Curriculum (AAC) espouses a practical approach to class music, based upon the ‘strands’ of making and responding. This paper reports on the impact of a newly developed skills-based class music program, built around the ACC core principles of making and responding, upon student perceptions of class music and their motivation to continue, across the critical early years of lower secondary school (years 7 – 9) where retention is particularly problematic. The program is now into its third year of operation in a major secondary school in Perth, Western Australia, and in that time, retention rates have improved dramatically. This study, involving over 280 students across years 7 – 9, employed expectancy-value theory to measure student perceptions of importance, interest and usefulness of the teaching program, as well as expectancies for success and perceptions of the difficulty of the subject. Using the expectancy-value findings, this paper unpacks potential reasons why this program has been successful in reversing declining retention rates, and makes general recommendations for class music programs accordingly.

The impact of technologies upon pre-service teachers' self-efficacy to teach music

Researcher: John Heyworth (PhD candidate)

Supervisors: Dr Geoffrey Lowe, A/Prof. Paul Newhouse

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Abstract:

Generalist classroom teachers are being given more responsibility for delivering effective music education in schools. How confident and competent are they to teach music? The time allocated to music education in tertiary institutions is diminishing. This is potentially leading to both low competence and low confidence to teach music among pre-service generalist primary teachers. Technology may be of assistance in building pre-service teachers self-efficacy for teaching music within these course time constraints. This study is investigating the use of digital looping technology to build pre-service teachers' knowledge of and efficacy for teaching music in primary schools.

Music for life: A self-reflective study on childhood experiences formulating music education perspectives and philosophies

Researcher: John Heyworth

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Abstract:

Lifetime experiences in music, whether good or bad, can still have a positive influence in developing inclusive approaches to music teaching. This study was a self-reflective look at how such childhood to adulthood experiences helped shape an approach to music teaching that enabled successful music making in the general classroom.

Music has the power to be a social and interactive subject. It includes communal singing and various levels of group music making. School choirs, instrumental ensembles, and musical theatre are all examples of musical activities that draw groups and communities together. In the words of Pound and Harrison (2003), “music has traditionally played a strong role in supporting group cohesion.” My experiences in childhood and adulthood have given me valuable lessons for the importance of including all students in collective music making. Reflecting on past experiences helped me develop meaningful music experiences to meet my students’ needs.

Ancient Chinese observatories proposed in Australia

Researchers: Jill Thompson-White, Lynda Nutter (Secretary of the Australia-China Friendship Society of Western Australia (Inc.))

Contact: j.thompson@ecu.edu.au

Abstract:

In 2003 A.D., Nutter visited a registered Aboriginal Heritage site (file 4335) in the Helena Valley near Perth, W.A. while researching Aboriginal elder Jubaitch; described as the last full-blood of the Kangaroo tribe of Perth (Carter, 2005). As there was no tradition of dry wall building among local Aboriginal people, this site's structures raised the questions: what was the site's purpose, and who built its structures? In 2015, Nutter concluded the site was one of four Yuan Dynasty astronomical observatory locations in Australia, constructed to observe the A.D. 1275 transit of Venus from southern hemisphere 'sister sundial' locations by visionary multicultural teams under Chinese leadership.

Nutter's historical document review methodology required intelligent reading of data. Analysing the perspective of historical documents' authors or illustrators unlocked each document's social production; intention and/or meaning as well as motivation - along with information lost in translation. Each historical document's credibility, provenance and veracity were all checked from varying perspectives.

Her research has been followed by Thompson-White since 2003. In 2015, when dimensions, features, trigonometry and other spatial relationships between the four Australian sites and four others located within China's ancient territories seemed to confirm Nutter could reveal an alternative history of astronomy and cartography, Thompson-White commenced co-writing and co-presenting with Nutter to present the findings.

Thompson-White and Lynda Nutter presented *China's Ancient and Intimate Relationship with Australia* at the Higher Education Forum (HEF) 2016 Global Symposium on Social Sciences at Beijing, China. Between December 7th to 9th Nutter and have been accepted co-present a paper *Ancient Chinese Observatories Revealed in Australia* at the International Australian Studies Association (InASA) *Re-Imagining Australia: Encounter, Recognition, Responsibility' Conference* in Fremantle.

By December they hope to have two publications critiqued by colleagues on the research. One is ready for publication.

Multiculturalism, Muslim women and media representations in the Netherlands and Australia

Researcher: Fleur van den Heuvel
Supervisors: Dr Debbie Rodan, Dr Christine Cunningham
Contact: fvandenh@our.ecu.edu.au

Abstract:

This is a cross-school collaboration PhD project between the School of Arts & Humanities and the School of Education.

The aim of Fleur's research is to explore media representations of Muslim women in Australia and the Netherlands. Both countries have a different but well-known history of multiculturalism, so in context of the Australian and Dutch multicultural heritage, this research explores how the media, and in particular television documentaries, present information and images of Muslim women to society.

Fleur is using a multi-modal methodology to answer these questions:

1. How are Muslim women represented in Australian and Dutch multicultural media expressions?
2. How does media power operate in representing Muslim women?
3. Do the representations of Muslim women in the selected Australian and Dutch television documentaries contribute to closing the dichotomy between 'us' and 'them'?
4. How do Australian and Dutch audiences perceive media images of Muslim women?
5. How do Australian and Dutch audiences read images of Muslim women in the selected television documentaries?

Health & Wellbeing; Health & Physical Education

Engaging with the positive: Identifying and harnessing the coping strategies of experienced teachers

Researchers: Dr Christina Gray, Dr Geoffrey Lowe, Dr Peter Prout

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Abstract:

This project sets out to identify and harness the positive attributes and subsequent coping strategies of long-term and later-career teachers in Western Australia (WA). How do many long-term teachers, particularly later-career teachers, maintain their positive outlook and not succumb to the pressures of teaching? What are the coping strategies by which they survive and thrive? More importantly, can these strategies be identified and promoted, especially for re-engaging disenchanted long-term teachers, and nurturing the next generation of beginning and pre-service teachers?

Identifying and utilizing the coping strategies of effective long-term and later-career teachers is of great importance given reported high departure rates from the profession (up to 40% of teacher graduates in some studies), and the disruption caused by absenteeism, disengagement, poor performance and loss of corporate knowledge along with the constant need to induct and assist new teachers. Other costs include increased healthcare costs and mental health claims for education systems and sectors. Thus, identifying, acknowledging and utilizing the positive coping strategies of effective experienced teachers is of benefit not just to the teaching profession but to the wider WA community.

This project is guided by two broad research questions:

1. What positive coping strategies do effective long-term and later-career West Australian teachers utilize to maintain positive capacity for teaching?
2. What role can education systems and sectors play in promoting positive coping strategies to support all long-term and later-career teachers in WA in building and maintaining a positive capacity for teaching?

Addressing the teacher exodus: Enhancing early career teacher resilience and retention in changing times

Researchers: Prof. Bruce Johnson, A/Prof. Rosie Le Cornu, Dr Judy Peters, Dr Anna Sullivan (University of South Australia); Prof. Barry Down, Dr Jane Pearce (Murdoch University); Dr Janet Hunter (ECU)

Grant/Funding: Australian Research Council Linkage Project (LP0883672)

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Abstract:

Ewing and Smith (2003) report that between 25% and 40% of beginning teachers in countries in the Western World are 'burnt-out' and are likely to leave the teaching profession in the first 5 years. Ramsay's Report into teacher education in NSW (2000) also identified an upward trend in early career teacher resignations in Australia. As teachers' work has continued to expand and increase in complexity, the public profile and standing of the profession has fallen (MCEETYA, 2003). For these and other reasons, many Western nations are experiencing difficulties attracting new teachers and in keeping them once they are in the profession (Moon, 2007). The problems around teacher retention are exacerbated by the age profile of the teaching population. 'It is projected that by 2010, more than half of those teaching in schools will have less than five years' experience since graduating from their teacher education programs (Daily Telegraph, 30 Jan. 2007, p.7).' In view of this crisis, there is a need to better understand the experiences of early career teachers and to investigate, in new ways, how the problem of teacher attrition can be addressed.

This qualitative research project is a collaboration between the University of South Australia, Murdoch University, Edith Cowan University and eight stakeholder organisations including employer groups and unions in South Australia and Western Australia. It aims to investigate how early career teachers negotiate and deal with systemic and local challenges to their personal and professional wellbeing during their first years of teaching. The findings will be used to inform support materials for use by systems, schools and teachers.

Sixty beginning teachers from the two states were interviewed at the beginning and end of the year. Towards the end of the year interviews were also held with one or more members of leadership teams in their schools. Data were also collected from a series of Roundtables held in each of the two states and attended by representatives from stakeholder groups. A grounded theory approach (Bernard, 2000) was used to identify conditions which were seen to support early career teacher resilience. The stories that were collected from early career teachers and the conditions which support early career resilience informed a framework of support for novice teachers which was then successfully trialed in schools the following year.

NAPLAN – no worries. Transforming NAPLAN thinking

Researchers: Dr Shane Rogers, Dr Lennie Barblett, Dr Ken Robinson

Grant/Funding: Association of Independent Schools of Western Australia (AISWA)

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Abstract:

Concerns have been raised about the impact Australia's national standardised testing, the National Assessment Program-Literacy and Numeracy (NAPLAN), may have upon the wellbeing of students, parents and teachers. A study of Year 3 and Year 5 students, their parents, their teachers and leaders of 11 Independent Schools in Western Australia sought to describe the level and extent of emotional distress associated with NAPLAN reading and mathematics.

A survey developed for the study included measures of self-reported emotional distress, worry, confidence, high stakes beliefs, and attitudes associated with the testing. Findings suggested that there was lower than expected negative impact on wellbeing from the testing in our sample across all surveyed groups. Interviews with the school leaders revealed that the sample schools all placed a strong emphasis on social and emotional wellbeing of children supported by their school communities, providing a possible explanation for our somewhat surprising results. Although the extent of emotional distress is less than expected, children who reported that they were moderately to highly distressed performed less well on NAPLAN.

The results show that the distress associated with NAPLAN is not extensive, but is still concerning. It is important to note that confidence was found to act as a buffer against emotional distress during testing. Although there was a generally low level of distress, parents and teachers considered that NAPLAN transparency and accountability, usefulness for individual students, and clarity of communication of results could be improved. We provide recommendations for how emotional distress can be minimized during NAPLAN, and how the profile of the testing could be improved with parents and teachers.

Food for Learning: Impact of the WA ‘Healthy Food for All’ strategy in low SES schools

Researchers: Dr Matt Byrne, Dr Graeme Gower, Dr Karen Anderson

Grant/Funding: ECU Industry Collaboration Grant
Foodbank WA

Contact: m.byrne@ecu.edu.au

Abstract:

In an effort to support school age children from disadvantaged backgrounds in WA, Foodbank WA has developed a Healthy Food for All (HFFA) strategy that is a comprehensive, state wide school and community based strategy that consists of the School Breakfast Program, Food Sensations nutrition education initiative and the Choose to Move physical activity initiative. The Regional Strategy Project provides dedicated support to schools in regional WA. Foodbank WA's health promotion initiatives are developed in consultation and collaboration with the target group, health professionals, funding agencies and stakeholders to match the conditions and needs of high priority at-risk populations, including low SES schools, across the state.

Quantitative data included over 350 student surveys, over 30 teacher surveys, 8 surveys from non-teaching staff, and school attendance and behaviour data. Qualitative data included individual interviews with 37 teachers, 6 Aboriginal and Islander Education Officers (AIEOs), focus group interviews with 111 students incorporating Years 3-12, researchers' field notes of observations and interviews with Foodbank staff and presenters.

In each of the five schools studied there were positive improvements to the schooling experience of students and their knowledge and understanding of nutritious food and physical activity. The year-long pilot study has developed a model of engagement that illustrates the opportunities afforded by each of the HFFA initiatives to positively impact the schooling experience of students and develop their knowledge and understanding of nutritious foods and physical activity. The research was profiled at the 2015 Dieticians Association of Australia National Conference. In addition, as a result of the project, in partnership with the Telethon Kids Institute, ECU School of Education won a competitive tender to evaluate the impact of Foodbank WA's School Breakfast and Nutrition Education Program over the next three years.

WA Adolescent Cooking and Food Literacy Program 'Fuel Your Future'

Researchers: Dr Matt Byrne, Dr Karen Anderson, Dr Graeme Gower,
Prof. Donna Cross (Telethon Kids Institute), Prof. Gary Partington

Grant/Funding: Foodbank WA
Department of Health Western Australia

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Abstract:

For some adolescents, engaging in practical skills and knowledge relating to cooking and other aspects of food literacy is a difficult undertaking because of the disadvantaged circumstances and situations in which they find themselves. To support adolescents from disadvantaged backgrounds, Foodbank WA has received funding from The Department of Health WA (DoH) to develop and implement the WA Adolescent Cooking and Food Literacy Program (WAACFLP) known as Fuel Your Future. The program is a new and unique community based program that utilises innovative approaches to engage adolescents and provide practical skills and knowledge relating to cooking and other aspects of food literacy.

Consistent with our deep commitment to working with industry and community organisations to conduct research with high social impact, ECU School of Education welcomed the opportunity to work with Foodbank WA to investigate the effectiveness of the WA Adolescent Cooking and Food Literacy Program. The study investigated the potential of the WAACFLP to positively engage and impact on participating adolescents' practical skills and knowledge relating to cooking and other aspects of food literacy.

The findings provided information relevant to the reach, suitability, and effectiveness of the program. There was clear evidence that the program encouraged attendance and participation of some adolescents. Case studies indicate that the program was suitable for a range of adolescent audiences including: youth groups, school groups, young parents' groups, and adolescents with intellectual disabilities. There was substantial evidence of positive changes in adolescents' food literacy through improvements in participants' perceptions of their knowledge, attitudes, skills, and abilities at many of the sites, and improvements in adolescents' level of confidence at all of the sites. The research provided key insights into engaging adolescents from disadvantaged backgrounds in learning, namely, cooking and food literacy.

Evaluation of Foodbank WA's School Breakfast and Nutrition Education Program

Researchers: Dr Matt Byrne, Prof. Donna Cross (Telethon Kids Institute),
A/Prof. Amanda Devine, Margaret Miller, Dr Susan Hill,
Dr Therese Shaw (Telethon Kids Institute),
Dr Karen Anderson, Dr Graeme Gower,
Hon. Prof. Gary Partington

Grant/Funding: Department of Education WA
Department of Health WA
Department of Regional Development WA
Foodbank WA

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Abstract:

In September 2015, ECU's School of Education and School of Medical and Health Sciences, in partnership with the Telethon Kids Institute (TKI), won a competitive tender to conduct an independent longitudinal evaluation of the *School Breakfast and Nutrition Education Program* (SBNEP). The SBNEP is jointly funded by the Western Australian Departments of Education, Health, and Regional Development and is delivered by Foodbank WA under a contracted Service Agreement. The program is specifically targeted at schools that have a low Index of Community Socio Education Advantage (ICSEA) and/or a significant subset of students at risk of disadvantage.

Schools registered with the School Breakfast Program (SBP) receive breakfast food products free of charge and are eligible to access the Food Sensations (FS) nutrition education lessons and resources. More than 400 schools and 17,000 students access the SBP each year. The participating schools are distributed across metropolitan, provincial, remote and very remote geolocations of WA.

The evaluation seeks to determine the extent to which the SBNEP has delivered the intended outcomes and impacts and provided value for money. Given the breadth of the intended SBNEP outcomes and complexity of school contexts within which it operates, the research team is using a mixed methods design that draws on both qualitative and quantitative data in order to provide a nuanced understanding of the impact on students and broader school community. The findings will inform the design and delivery of programs aimed at improving nutritional and well-being outcomes for students from disadvantaged backgrounds, including Aboriginal students. As school food programs are delivered in many different countries, the findings will also contribute to the international literature on the effectiveness of school feeding programs in increasing children's capacity for learning and building a greater sense of community cohesion.

Holistic parental engagement toolkit to improve child health, wellbeing, and education in Mirrabooka, WA: A design thinking approach

Researchers: Dr Christopher Kueh, Dr Mandie Shean, Jorgen Mackie (The Smith Family), Dr Stacey Waters (Australian Research Alliance for Children and Youth)

Grant/Funding: ECU Industry Collaboration Grant
The Smith Family

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Abstract:

Parental engagement in children's learning is a key factor in children's health, wellbeing and education outcomes and an important vehicle for reducing the effects of disadvantage. However, low SES communities typically face greater barriers to parental engagement, and top down strategies to address this are rarely successful. Through collaboration with The Smith Family and the Australian Research Alliance for Children and Youth (ARACY), this project will employ Design Thinking principles and cross-disciplinary expertise from design, education and community psychology to develop a community-driven, shared understanding of parental engagement and 'toolkit' of strategies for families, education providers and community support agencies.

Perceptions of self-esteem: Sources, beliefs and practices

Researcher: Dr Mandie Shean

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Abstract:

High self-esteem in young people is linked to more successful outcomes, including better academic achievement, greater social success and increased general well-being. Due to the perceived importance of self-esteem there has been a strong movement over 30 years to artificially boost self-esteem. Recent research has indicated that artificially boosting self-esteem by increasing the intensity and having the wrong focus has a negative effect on self-esteem, challenge seeking, performance and mastery goals (Baumeister, 2005; Brummelman, Crocker, & Bushman, 2016; Dweck, 2007). Despite this evidence, there is a persistent belief that using these methods in programs and with young people with low self-esteem is the best way to increase their self-esteem and improve their outcomes.

There were two aims in the current study. The first was to ascertain the focus of key self-esteem programs in Australian schools and to contrast their focus with current research. The second aim was to identify parent and teachers' beliefs and practices around young people's self-esteem. The study is being conducted in a western context (Perth, Western Australia) with over 100 parents and teachers. The findings will provide insight into current views and contrast these views with best practice in self-esteem research. This research will provide a basis for parent and teacher education and provide better guidelines for current self-esteem programs.

Current theories relating to resilience and young people

Researcher: Dr Mandie Shean

Grant/Funding: VicHealth (Victorian Health Promotion Foundation)

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Abstract:

To provide a basis for understanding resilience and developing interventions aimed at improving mental wellbeing, a critical review of current resilience theories resilience was conducted on behalf of VicHealth. The most prominent resilience researchers/theorists were included in the review, namely Michael Rutter, Norman Garmezy, Emmy Werner, Suniya Luthar, Ann Masten, and Michael Ungar. For each researcher a background was included, followed by their definition of resilience, empirical underpinnings of their theories, and key elements of their theories were discussed. Comparisons were then made between each theorist to identify points of convergence and divergence. Key points of divergence included that resilience is not a special trait, that risk and protective factors are not bipolar, cumulative risks have a greater negative impact, and turning points are evident in much of the resilience research. The theorists all call for attention to interventions and biological influences on resilience yet little has been accomplished in these areas.

Limitations in resilience research include ambiguity in terms and measurement, the emphasis on quantitative methodology, the absence of young people's voices, and the lack of interventions to test theory. It was recommended that culturally relevant measures of positive outcomes be utilised in future research, and that both targeted and universal interventions are implemented so that current theory can be tested. Theories of resilience will be of little value if these theories are not tested and implemented in various populations.

Creating an understanding of the UV Index amongst pre-service teachers

Researchers: Dr Donna Barwood, Dr Danielle Brady, Andrew Jones;
Mark Strickland & Sally Blane (Cancer Council)

Grant/Funding: Cancer Council of Western Australia

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Abstract:

In Australia, the UV Index is used as a measure of solar ultra violet intensity and is advertised locally, through various media outlets to promote sun safe behaviour. Despite this availability, skin cancer remains the most common cancer in Australia and the most significant cancer for the age range of 12-24 years. Research is indicating that the UV Index is not well understood especially that it is unrelated to temperature. In conjunction with the Cancer Council of Western Australia, this study aims to critically examine the UV knowledge and sun safe behaviours of pre-service teachers of health education preparing for employment in Western Australia secondary schools. This study will utilise pre and post-intervention data to measure any change in the pre-service teachers' understandings of UV knowledge and willingness to adopt sun safe behaviours. This study will also examine three health education lesson plans prepared by the pre-service teachers to account for their ability to utilise the UV concept in the development of lessons. Insights from this study will be used to improve the teaching of sun safe concepts and behaviour to secondary students through curriculum and to support pre-service teacher understandings of curriculum.

What we know, what we do and what we could do: Creating an understanding of the delivery of health education in lower secondary government schools in Western Australia

Researcher: Dr Donna Barwood

Supervisors: A/Prof. Tony Fetherston, Dr Christine Cunningham

Contact: d.barwood@ecu.edu.au

Abstract:

Within lower secondary government schools in Western Australia (WA), Health Education (HE) is timetabled as a separate, discipline-based subject belonging to the Health and Physical Education (HPE) learning area. Globally, this subject is heralded as making significant contributions to supporting and strengthening the health and wellbeing of children and young people. In WA, the use of ‘filler teachers’ is a common occurrence in the delivery of HE. This situation is not exclusive to HE nor to WA as it is reported nationally and internationally as problematic with implications for practice. This mixed-methods study critically examined the prioritising of HE in WA schools with the purpose of continuing previous WA-based research and responding to a gap in datum pertaining to the qualifications of teachers delivering HE. The study obtained questionnaire responses from 75 teachers delivering HE in lower secondary government schools across the state with nine teachers interviewed after the first round of quantitative data collection. Insights from the study raise questions as to whether schools and universities in WA prioritise the teacher enough to position HE as a key site to positively enhance young people’s health.

Lost in translation? The “integration of theory and practice” as a central focus for senior schooling Physical Education Studies

Researcher: Andrew Jones (PhD candidate)

Supervisors: A/Prof. Paul Newhouse, Prof. Dawn Penney, Dr Ken Alexander

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Abstract:

In February 2007 a new senior secondary Physical Education Studies (PES) was introduced in Western Australia (WA). The course was one of some 50 new courses that were developed in conjunction with the introduction of a new Western Australian Certificate of Education (WACE). Notably, the rationale for PES claimed that the “integration of theory and practice is central to studies in this course” (Curriculum Council of WA [CCWA], 2009, p. 2). Focusing on the initial years of implementation this study explored curriculum change and reform within the Health and Physical Education (HPE) Learning Area and specifically, in the context of PES in Western Australia (WA), to consider the extent to which this significant course intention has been realised.

Accordingly, the study investigated the discourse(s) that formed PES in WA, before using this as a backdrop to examine the notion of integrated theory and practice in “enactment” (Ball et al., 2012). In particular, the study addressed the dynamic relationship between curriculum, assessment and pedagogy, and sought a better understanding of the policy making and course design intentions that formed PES, and the representation, expression and contestation of varied discourse. The study had the ultimate aim of identifying “creative and original” (Ball et al., 2012) practice in the field of senior school physical education (PE), and specifically integrated theory and practice pedagogy.

This study extends understanding of the various discourses impacting “integration”, most notably Arnold’s conceptualisation of learning *in/through/about* movement, and emphasises the need for more work that engages with the complexities of how curriculum and assessment discourses can be effectively mediated through pedagogical practice. A series of recommendations are outlined which focus on ‘how’ conditions can be arranged to create a curriculum, assessment and pedagogic environment where integrated theory and practice as a centre piece for PES could prosper, and ‘what’ pedagogically can be done to develop practice in this area.

Creating Safe Schools in regional Western Australia: Preparing pre-service teachers with professional knowledge about sexual and gender diversity

Researchers: Dr David Rhodes

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Abstract:

Most pre-service teacher education programs in Australian universities do not include significant content related to sexual or gender diversity. When included, material related to LGBTQ children, youth and/or families is often included in physical health and development, and fails to adequately address the real-life issues faced by these individuals in schools. In regional communities, where resources and support for LGBTQ children, youth and families can be mostly scarce or non-existent, there is a real importance for schools to provide safe, and inclusive environments, where diversity is celebrated. Unfortunately, research indicates that regional, rural and remote Australia has some of the highest demographically mapped levels of homophobia in the nation. This paper seeks to explore how a pre-service teacher education program at a regional university campus in Western Australia has sought to provide the opportunity for pre-service and in-service teachers to develop an understanding of the issues related to sexual and gender diversity, and therefore empower them to create safe and inclusive classrooms and schools.

Heterosexism: A pedagogy of homophobic oppression

Researchers: Dr David Rhodes

Contact: d.rhodes@ecu.edu.au

Abstract:

Despite a large body of research indicating the oppressive impact of heterosexist school curricula, and legislation prohibiting homophobia in schools, a resounding silence continues to suffocate issues related to same-sex attraction, queer sexualities and gender identities in Australian schools. Heterosexism continues to dominate the hidden and explicit curriculum of Australian schools, reinforcing and perpetuating homophobic oppression. While fragile progress toward inclusion has been made, heterosexism remains alive and extremely well in classrooms across the great southern land. Too few teachers are prepared to (or indeed are aware of the need to) include material in their curriculum that addresses sexual and gender diversity. There are few explicit references in the Australian Curriculum to the inclusion of texts that include reference to sexual diversity, and teachers are all too prepared to self-censor, for the fear of what may be said by students, parents, school authorities, or religious groups, to the detriment of all of their students. The oppressive nature of heterosexism is all invasive and therefore maintains the heteronormative, dominant culture.

This project explores the response of high school students in a regional, Western Australian community, to the heterosexist, and therefore homophobic, biphobic and transphobic nature of education in their schools. Through analysis of interviews, and autobiographical journal entries, the research investigates the response of lesbian, gay, bisexual, transgender, and queer identifying young adults, to perceptions of heterosexism in their daily experiences in school, with a particular focus on English classrooms. The research also draws on a narrative analysis of a sample of texts that would be highly appropriate for inclusion in curricula for middle-school students, to combat heterosexism and homophobia in schools. The resulting publication will cohesively bring together existing research by this author, to explore the lived experience of heterosexism in the classrooms of a regional town in Western Australia.

Inclusive Education; Learning Difficulties; Classroom Management; Gifted Education

Education Assistant support in inclusive Western Australian classrooms: Trialling a screening tool in an Australian context

Researchers: Dr John O'Rourke, Dr John West

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Abstract:

Education Assistants (EAs) who support students with disability in general education classrooms often find themselves in difficult situations. Caught in the firing line between their personal sense of duty, expectations of the classroom teachers, and the challenges that inclusion presents, their roles as primary support agents are anything but clear. This research aimed to develop a deeper understanding of the role of EAs in inclusive classrooms using a modified version of Giangreco and Broer's (2007) screening tool on the over-utilisation of paraprofessionals. The 16-item electronic survey focused on factors associated with EA support, conducted in a variety of Western Australian (WA) schools. The findings revealed that school community members such as EAs, classroom teachers, administrators and parents observed aspects of EA support that appear counter-productive towards more inclusive pedagogy.

What's in a word? Australian experts' knowledge, views and experiences using the term dyslexia

Researchers: Dr Lorraine Hammond, Dr Tanya Serry

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Abstract:

The purpose of this study was to examine Australian learning difficulties specialists' knowledge about, and the use of, the term dyslexia. An online survey was constructed based on a current definition of, and evidence about, dyslexia and distributed to members of relevant professional associations. A total of 179 participants responded to the survey. Statistical tests were used to identify significant differences in questionnaire scores between a number of demographic subgroups which included special professional interest group, professional discipline, years of experience and engagement in reading-related university study.

Results indicated that these Australian professionals all possess a similar and generally high level of accurate research-based knowledge about dyslexia and how to support individuals with significant reading issues. However, while affirming the relevancy of the term dyslexia in their professional work, most participants preferred another term and favoured a combination of words including reading, learning and the less pejorative term 'difficulty' as opposed to disability. As the term dyslexia is commonly used by Australian educators, policy-makers, support organisations and parents to make decisions about the support individuals receive, an understanding of what is currently understood by this label is critical.

Investigating communicative dissonance within relationships of adults with Asperger's Syndrome

Researcher: Bronwyn Wilson (PhD candidate)

Supervisors: A/Prof. Deslea Konza, Dr Susan Main

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Abstract:

Reciprocal communication is the lifeblood of every relationship. With its many layers it provides the core ingredient for building and sustaining relationships. It follows that the capacity to provide, as well as receive, ongoing reciprocal interactions in everyday relating is a critical factor to the realisation of meaningful connected relationships. Given that Asperger's Syndrome (AS) affects communication and social reciprocity, adults with this disorder are vulnerable to experiencing difficulties in providing, as well as receiving, ongoing reciprocal interactions.

Many children on the autism spectrum are dependent on prompts provided by adults for staying on-task, completing activities and transitioning between activities in the home, school and community environments. This study builds on previous research that found that adults with AS also develop a dependency on prompting that can form into a cycle from the lack of social reciprocity within relationships where one partner has AS. The need for reciprocal interaction (non-AS partner) and the need to avoid reciprocal interaction (AS partner) were the common threads that kept prompt dependency cycling between the two partners. Guided by an advocacy/participatory research strategy, this study further investigates the experience of prompt dependency within intimate and other close relationships of adults with AS to ascertain what effect its presence has on the ability to develop and sustain close relationships.

Other pertinent questions addressed by the study include an investigation into the Cassandra Phenomenon, (i.e., a condition formed from a disbelief of the testimonies of partners or family members of the individual with AS); aspects of powerlessness and discontentment; and the attainment of participant feedback regarding study outcomes and possible future research directions. An Internet-based survey complemented by in-depth reflections gained from semi-structured, open-ended interviews simultaneously provides a voice for participants, allows valid and well-substantiated conclusions to be drawn about the single phenomenon (prompt dependency), and gives primacy to the value-based and action-oriented dimensions of advocacy/participatory research.

From beliefs to practice: Examining the consilience among students', teachers', and soon to be teachers' beliefs about classroom management

Researcher: Helen Egeberg (PhD candidate)

Supervisors: Dr Andrew McConney & Dr Anne Price (UWA)

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Abstract:

Both students and teachers have strong beliefs about what it takes to be an effective manager. These individuals are central participants in classroom interactions and their relationships are at the heart of classroom management concerns and consequences. To ignore the thinking of these important players is to court failure in teaching and teacher education (Hoy & Weinstein, 2006, p.181).

This study examines students' and teachers' perspectives on classroom management (actions taken to create a productive, orderly learning environment), discipline (actions taken to elicit change in students' behaviour), and socialization (actions taken to help students fulfil their responsibilities more effectively). Using classroom management as the umbrella term for these teaching functions and seeking to determine teacher and student perspectives, beliefs, knowledge, and thinking, the study will consider various convergences and divergences in teachers' and students' beliefs and the implications of those intersections for practice and for future research.

The possible convergences and divergences between students' and teachers' perspectives examined in the same studies with context and setting being the same, as well as a comparison between pre-service and in-service teachers' orientation to management, will further enhance the research into effective teaching and effective classroom management and may very well help to inform future professional development and teacher training in this area.

Evaluation of the Department of Education Western Australia Classroom Management Strategies (CMS)

Researchers: Dr Christine Cunningham, Dr Mandie Shean

Grant/Funding: Department of Education (WA)

Contact: c.cunningham@ecu.edu.au

Abstract:

The first aim of this research project was to determine the effectiveness of the current survey instrument developed and offered by the CMS team as to whether it accurately measures professional growth provided by the CMS program. This led to the second aim which was to design a valid and reliable survey that accurately measures the key outcomes of the CMS project.

The final aim of the research project is dependent on future funding being available. The research team plans to design a specific analysis process through SPSS (statistical analysis software). This analysis tool will be able to elicit more specific findings that will help answer the fundamental research questions of this research project:

- a) Is the CMS Foundation Program providing training that leads to a positive change in teachers' beliefs and understanding of behaviour management? and,
- b) Is the CMS course providing professional training that can be, and is being, articulated across to teachers' classroom practices?

The role of supportive student-teacher relationships in working with students with challenging behaviours in mainstream primary schools in Western Australia

Researcher: Felicity Higgs (Masters candidate)

Supervisors: Dr Mandie Shean, Dr Matt Byrne

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Abstract:

Student-teacher relationships (STR) can have a significant impact upon student outcomes. Good quality STR have been associated with positive behavioural, social/emotional and academic outcomes for students, and poor quality STR have been associated with negative outcomes. The purpose of this study is to define supportive STR, explore the role of supportive STR in working with students with challenging behaviours within the Western Australian (WA) context, and to determine which factors may enhance or constrain the development of these relationships. A constructivist, qualitative approach has been utilised, to frame semi-structured interviews with twelve classroom teachers in mainstream primary schools. It is expected that the results will provide insight into the ways in which STR can effectively support students, and inform future directions for research, policy and practice regarding the promotion, development and support of good quality STR in our schools.

Gifted students: Perceptions and practices of classroom teachers

Researcher: Tracy Taylor (PhD candidate)
Supervisors: Prof. Caroline Barratt-Pugh, A/Prof. Jan Gray
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Abstract:

Currently in Western Australia, gifted primary students spend at least 90% of their time at school in regular classes. Therefore, the regular class teacher's role in implementing appropriate learning opportunities for these students is critical. This research examined the provision of differentiated learning experiences for gifted students in regular classes in Western Australian primary schools. Specifically, it explored differentiation strategies used with gifted students, issues faced by teachers in their efforts to provide for their gifted students, and teachers' suggestions about solutions for these issues.

A state-wide survey of Year 5 teachers provided information about regular class practices for gifted students, and issues for teachers in providing for their gifted students. Responses suggested that little differentiation takes place for gifted students, and that issues for teachers included time, resources, range of students, and knowledge in differentiating curricula effectively. Focus group discussions with regular class teachers, and interviews with gifted education specialists, provided in-depth information about teachers' issues, as well as possible solutions to these issues. Analysis of teacher education courses from 35 universities across Australia showed that there is limited teacher education in this area, both in undergraduate and post-graduate courses. Recommendations from this research include providing teachers with appropriate pre-service and professional development regarding gifted students, and direct support to implement differentiation in their regular classes.

Teachers' perspectives on the identification of and provisions for gifted and talented English as an Additional Language (EAL) students

Researcher: Lucy Hands (MEd candidate)

Supervisors: Prof. Caroline Barratt-Pugh, Dr Anne Thwaite

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Abstract:

In recent years, Western Australian State Schools have seen a sharp rise in the number of students who use English as an Additional Language (EAL). Almost one-third of these students have been identified as having culturally and linguistically diverse (CALD) ancestry (Census, 2011). Many of these children are gifted and talented. However, while it has been widely acknowledged that gifted and talented abilities can be found in all ethnic, cultural, and linguistic groups, barriers such as socioeconomic circumstances, stereotypes, political climate, language backgrounds and a myriad of other factors can influence the recognition, identification, nurture and full participation of EAL students in gifted and talented programs.

Teachers, who are often the 'gate keepers' for gifted services and special programs, play a critical role in the early identification and nurture of these students. Teachers' perspectives may be influenced by their beliefs, attitudes, assumptions, pedagogical knowledge and experiences. This study therefore seeks to investigate teachers' perspectives on the identification of and provisions for gifted and talented EAL learners in the WA State School context through the theoretical lens of social constructivism. An explanatory mixed methods design is being used to collect both quantitative and qualitative data. The combination of survey and interview will provide greater depth and understanding of the research problem (Creswell, 2005). The results of the study will help inform current practices and policy decisions as well as highlight some key issues, problems and barriers preventing the full participation of gifted and talented EAL learners in gifted and talented programs within the school context.

School Leadership, Governance & Accountability

School governance: A fit for purpose perspective

Researchers: A/Prof. Glenda Campbell-Evans, A/Prof. Jan Gray,
Dr Bridgett Leggett

Contact: g.campbell_evans@ecu.edu.au

Abstract:

The shift to decentralisation in public schooling worldwide has been the main form of school reform or restructuring over the last three decades (Caldwell, 2008). Whereas there is diversity in the way self-governance has evolved, there is a common underlying assumption that self-governing schools will result in improved educational outcomes and more effective teaching and learning environments. School councils face a range of governance challenges which change over time.

This qualitative research explored the governance role and processes of school councils in ten schools within a system. The data set comprises interviews with the ten principals and 66 school council members, plus observation data collected at one council meeting at each school. Strengths of the method adopted are that it allowed the voices of principals and council members to be heard and analysed on a school by school basis, and drawing on a data set of 76 interviews. Data from each school were analysed as a case resulting in a school report. Cross case analysis was conducted seeking to find issues of comparison and contrast.

A 'fit for purpose' perspective was evident in the governance processes, as councils evolved and adapted in response to the maturation of the schools and their changing contexts. Five dimensions of change emerged: dependence of the system; principal/chair relationship; council role in governance; purposive incentives; and council member participation. From these dimensions, a model was created and presented to the participating schools. Council members found the model to be of use for self-reflection on their adaptability and organisational maturity.

Reviewing the Expert Review Group

Researcher: Dr Christine Cunningham

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Abstract:

This was a study about the Expert Review Group (ERG) from Western Australia's Department of Education. The ERG is a school inspection unit, legislated to review the performance of chosen exemplary and underperforming K-12 government schools. Historic state government reports and recent ERG school reviews are the main data sources that uncovered answers to key research questions: What is the Expert Review Group? What protocols are in place to review the ERG? Is the ERG performing effectively? How is this measured?

Until this study, research on the ERG had been scant and that has meant that little intellectual analysis has occurred on the quality of work performed by ERG bureaucrats as they make crucial decisions about which schools to target for review based on limited, standardised data. This study has made transparent why the ERG was created and how it functions today, but it found little empirical evidence available in public records to show that the ERG has value added to school improvement processes in WA government schools.

The role of cognitive development and mindfulness in effective educational leaders

Researcher: Simon Fittock (MEd candidate)

Supervisors: Dr Christine Cunningham

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Abstract:

Simon is in the initial stages of his Masters study and is eager to explore the minds of successful leaders in educational settings. He is considering making the purpose of his research to identify important characteristics of a leadership development program, in the hope of improving school leadership, teacher effectiveness and student and organisational outcomes.

Simon's first exploration of the relevant literature is showing that globalisation has presented a change of context in educational settings which leaders must adapt to. It is proposed that recent leadership developmental techniques, which usually focus on adding more skills to a person's repertoire, have not been seen to be effective. Currently, there is a need to expand on the notion of leadership development and Simon wants to investigate the role in which cognitive development and mindfulness might play in the development of effective school leaders.

The perils of bureaucratic complexity: Education for all in Nigeria

Researchers: Dr Stephen Bolaji, A/Prof. Glenda Campbell-Evans, A/Prof. Jan Gray

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Abstract:

Universal basic education (UBE) is the major education policy initiative since the return of democracy in Nigeria. Prior to the UBE policy, issues such as access, student retention, equity and quality improvement in schools were noticeable in Nigerian education. However, access to education remains the biggest challenge with over 10.5 million school-aged children out of school in Nigeria (NUT, 2008; UBEC, 2004; UNICEF Report, 2015). There has been little significant achievement in the UBE implementation since 1999. This informed the need to examine the bureaucratic action of the UBE policy implementation, and explore how this action has affected access to UBE in Nigeria.

Data for this study were collected through document analysis and interviews with 30 bureaucrats responsible for implementing UBE in two geo-political zones and the federal capital territory of Nigeria. The analysis of data revealed that the bureaucrats were knowledgeable and had the requisite technical knowledge to enact the policy intent. Therefore, the actions taken did result in a marginal increase in education access in the remote communities. Contrary to a public belief that the failure in implementing policy was due to lack of understanding, the data show that falling short of objectives was due to a lack of awareness and understanding of the complexity and inter-related nature of the elements of the policy intent. That is, the intent of the UBE policy initiative to ensure that all the children of school-aged in Nigeria had uninterrupted access to education, has not been realised because of these complexities. Bureaucrats 'on the ground' endeavoured to fulfil their requirements of policy implementation at the local level but did so without an understanding of the overall vision and purpose.

This study informs understandings of how education policy implementation operates in Nigeria. Also, it addresses the gap in the literature regarding the implementation of education policy and its effect on UBE policy. Recommendations have been developed for UBE implementation that seek to enable enhanced access to education among Nigerian children.

Social and emotional capabilities: School leaders' understandings and practices

Researcher: Lee Beatty (Integrated PhD student)

Supervisors: A/Prof. Glenda Campbell-Evans

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Abstract:

The Melbourne Declaration set the national priorities for education with a focus on the vital role schools play in the development of social and emotional capabilities, thus preparing young people for life and global citizenship in the twenty-first century. There is little evidence to demonstrate how Australian schools are developing the social and emotional capabilities of young people; however, there is a growing body of international literature assessing the effectiveness of social and emotional learning programs. Within this literature, there is a lack of evidence surrounding the interrelated nature of social and emotional capabilities, leadership, whole school processes and teaching practices.

This pilot study aims to explore school leaders' understandings and practices relating to the development of social and emotional capabilities of students. A phenomenological approach to qualitative inquiry allows for interpretation of the meanings school leaders have about the central phenomenon. A sample of the leadership team in one Perth school will be interviewed. Interviews will facilitate an understanding of the common meaning, the essence, of social and emotional capabilities and school leaders' understandings and practices.

This research aims to generate discussion and to contribute to the limited evidence base surrounding the development of social and emotional capabilities of students in Australian schools. In addition, this research will also contribute to an understanding of effective practices of school leaders. Finally, this pilot study will inform the design of the ensuing PhD research which will aim to create a set of principles for effective practice surrounding social and emotional development that directly relates to the national goals for education in Australia.

Higher Education

Towards understanding stakeholders' roles in pre-service teachers' experiences of their teaching practice in Tanzania

Researcher: Hawa Mpate (PhD candidate)

Supervisors: A/Prof. Glenda Campbell-Evans

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Abstract:

Worldwide, it is acknowledged that above all educational resources, teacher quality is the vital component of quality teaching in which students' success is an ultimate goal (Darling-Hammond, 2006; Hattie, 2008; McArdle, 2010). However, for many years in Tanzania there have been ongoing debates that the quality of teaching in primary as well as secondary schools is not satisfactory (Ministry of Education and Vocational Training [MoEVT], 2014; Mkumbo, 2012; Mosha, 2012). Therefore, this study aims to explore how pre-service teachers are being prepared during teaching practicums. Specifically, the study will investigate the roles of mentor teachers and college supervisors and how these roles contribute to the pre-service teachers' experience of teaching practice.

The study will utilise a qualitative research approach informed by an interpretive paradigm. A case study design will be employed in which three secondary schools will be purposively selected. A total of 18 participants will be selected from among school mentor teachers as well as pre-service teachers and college supervisors from one of the Diploma Teacher Education Colleges. Together with mentor teachers in respective schools, only pre-service teachers being posted, and college supervisors who will visit and assess pre-service teachers in the case schools, will be included in the study. Data will be generated through interviews, focus group discussions, documentary reviews, field notes and observations of the outside and inside classroom interactions among pre-service teachers, mentor teachers and college supervisors.

The collected data will be thematically analysed to allow for categorization of data according to emerging themes in each individual cases. Then, a cross case data analysis will be conducted to allow for identification of similarities, differences and uniqueness of pre-service teachers' experiences across all cases. The findings of this study will be of value to pre-service teachers, college principals and tutors, school teachers and policy makers and other stakeholders as they work together to formulate and implement various plans, policies and programs aimed at strengthening teacher preparation in Diploma Teacher Education Programs.

Examination of an ePortfolio implementation in practicum-based teaching units

Researchers: Dr Pauline Roberts, Dr Gill Kirk

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Abstract:

Currently, the use of ePortfolios is gaining popularity across the higher education sector not only because of their ability to provide a space for students to collect evidence and demonstrate competencies against set criteria, but also because of their ability to serve as a tool for teaching and learning. ePortfolios are being used for assessment against standards as their digital nature allows for varied evidence types. Increasingly, they are being adopted as a platform for learning through the process of collating the evidence for presentation. For the implementation of an ePortfolio to be successful, however, students need to understand its purpose behind it and be given opportunities and time to collect, collate and reflect on the items being added to the platforms.

This research collaboration examined the use of the PebblePad ePortfolio platform with students across the 2nd and 3rd year practicums in a Bachelor of Education (Early Childhood) degree. The use of the two practicums allowed the research to build the knowledge of the student groups and also for improvements to be made in the implementation before the next round of research.

The first implementation with the groups in 2015 showed that the students still required a great deal of support in using the platform and that there needed to be additional opportunities offered across the units for the students to continually add to their ePortfolio.

The research has now entered its second round of implementation and changes to date have included the addition of weekly tasks to complete within the ePortfolio platform and additional focus being given to the importance of building the evidence along the way. Another round of evaluation will occur at the end of semester 2, 2016.

Exploring the Chinese concept of “guishugan” in Australian higher education institutes

Researcher: Wei Zhang (PhD candidate)
Supervisors: Dr Christine Cunningham, Dr Yvonne Haig
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Abstract:

Wei Zhang is in the initial stages of her PhD studies and is currently preparing for her confirmation of candidature proposal. Already, she knows that the research context she would like to explore is the experiences of Chinese international students studying in Australian higher education institutes.

Traditional Chinese education system and pedagogies are very different from Western ones and this difference needs to be understood well when Australia universities received more than 150,000 Chinese students in 2014 alone.

One aspect of difference that Wei is considering while examining the gaps and opportunities in this area of potential research is the not-directly-translatable concept of *guishugan*. *Guishugan* is an idea that might be interpreted as a combination of English phrases similar to ‘an old boys club’ an ‘intellectual aristocracy’ and an ‘alumni network.’ In China, student expectations of their university experience include achieving both academic qualifications and *guishugan*. Do Chinese students have the same expectations of their Australian university experiences?

The first year at university: Giving social capital a sporting chance

Researchers: Dr Fiona Budgen, Dr Susan Main, Dr Deborah Callcott,
Dr Brenda Hamlett

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Abstract:

The first year of university has been identified as an area of concern for several decades because, for many students, their first year at university is also their last. The researchers developed a program based on a Sports Education model with the aim of influencing the engagement and retention of first year students. The program sought to build social capital by establishing supportive social and collegial networks at university. Students reported that the program made them feel welcome on campus and helped them establish support networks. The data on retention highlighted the need to consider these figures across the university rather than only at course level; course retention figures were lower, however, students were retained within the university to a greater extent than in previous years. The outcomes of this project have provided directions for future approaches to support first year students at course level that can increase social capital for university students generally.

Exploring higher education opportunities for incarcerated students

Researcher: Lisa Duffy (PhD Integrated candidate)

Supervisors: Dr Christine Cunningham, Dr John O'Rourke

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Abstract:

Lisa is well into her first year of studying her Integrated PhD. One of the first steps has been narrowing down to a pertinent research topic by focusing on what is a research problem that is worthy of investigation? Lisa has already read widely enough to learn that:

The education of prisoners has emerged as a key tool in promoting post-release employment and reintegration into the community (Wheeldon, 2011), and reducing recidivism and the economic impact of re-incarceration (Nally, Lockwood, Knutson, & Ho, 2012; Davis, Bozick, Steele, Saunders, & Miles, 2013). However, vocational education focussing on 'hands-on' skills are reportedly given preferential treatment by correctional institutions, with an understanding that these skills are more beneficial to prisoners on release (Watts, 2010; Pike & Adams, 2012). Despite this, there is an emerging consensus that the attributes associated with university graduates, such as critical thinking and self-reflection, will better equip incarcerated students to overcome the challenges associated with reintegration into the community and increase their future employment opportunities (Wheeldon, 2011). In consideration of these advantages and existing deficits in prisoners' educational attainment in Australia and internationally, correctional educators argue for the need to provide opportunities for, and to engage incarcerated students in, education and training courses (Giles & Whale, 2013). Innovative digital technologies have enabled the flexible delivery of university courses using online learning management systems and these have presented opportunities for many students who have previously found higher education studies inaccessible (Crow, 2013). However, most Australian prisoners do not have internet access, resulting in these students being further marginalised by the digital technologies designed to make higher education more accessible (Hopkins, 2015). With an understanding of the role university graduate skills may play in improving the prospects of prisoners post-release, it is important to explore the prisoner-student experience of tertiary education, and although prisoner education has been widely explored in recent times, a researched account of the experience of incarcerated students studying at a tertiary level is lacking. Furthermore, the research that does exist in this domain, tends to focus on the digital deficits confronting incarcerated tertiary students, rather than exploring the 'whole' prisoner experience.

So the problem is – we know education is valuable to prisoners (by way of reducing recidivism and cost of reincarceration), we know the emerging view is that university education may be more beneficial, but the focus of research here is on digital technology and access. What we do not know, is the big picture stuff... we do not know enough about the current situation (holistically) for prisoners in Australia to capitalise on these benefits.

Learners' reticence in English classes: A case study of Vietnamese tertiary students

Researcher: Quoc Thinh Hoang (PhD Integrated candidate)

Supervisors: Dr Christine Cunningham, Dr Yvonne Haig

Contact: QUOCH@our.ecu.edu.au

Abstract:

Thinh is an international student from Vietnam who has just started studying an Integrated PhD here at ECU after he was awarded a scholarship from the Vietnam International Education Development fund. While still in the very early stages of orientation and preparation, Thinh knows what the main thrust of his research topic will be:

The overall aim of this study will be to explore the phenomenon of learners' classroom silence in the context of Vietnamese tertiary institutions, and then come up with potential suggestions for English Language Teaching policy and practice.

Research Questions:

1. What are the reasons for Vietnamese tertiary learners' willingness and unwillingness to speak in their English classes?
2. How can learners' willingness to speak in class be improved?
3. What are teachers' perception of students' reticence and their strategies to deal with the issues?

Strategies to maximise the contribution of PhD graduates to national development in a small island developing state

Researcher: Marina Confait (PhD candidate)

Supervisors: A/Prof. Jan Gray, A/Prof. Glenda Campbell-Evans, Prof. Joe Luca

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Abstract:

Doctoral programs aim to prepare researchers to make important contributions to research and take up roles in driving societal change. Contributions can be made by exploring unknown frontiers of knowledge, taking intellectual challenges which can lead to major breakthroughs, and using advanced research skills in professional sectors, policy making, management and leadership roles within society (Bogle, Dron, Eggermont & Willem van Henten, 2010). Therefore, doctoral and PhD graduates are regarded as valuable national human resources who can produce new knowledge and innovation to help address the challenges of the 21st century.

However, while research has focused on the employability and career paths of PhD graduates, there is a scarcity of knowledge about their contribution to national development. Informed by the Human Capital Theory, this study seeks to explore the areas and extent of, and strategies to maximise the contribution of PhD graduates in a small island developing state.

The research was based on a case study, and used a combination of quantitative and qualitative methods including: an online questionnaire, interviews, focus groups and document analysis, to provide an insight into the contribution of PhD graduates. The sample comprised 53 participants, of whom 24 were PhD graduates and 29 representatives of four key stakeholder groups – university, industry, government and non-governmental organisations.

The data were analysed using thematic analysis and four themes emerged: (a) the country's readiness for PhD education, (b) translation of the doctoral capital to national development, (c) areas and extent of contribution, and (d) the engagement of PhD graduates with the stakeholder groups. Provisionally, the data also suggest four strategies that may help to maximise the contribution of PhD graduates to national development: (a) significant improvement to the support structure for the PhD graduates, (b) realisation of the full potential of the PhD graduates, (c) shift in PhD graduates' mindset towards being proactive and demonstrating their ability, and (d) greater collaboration from each stakeholder group.

An exploration of contextual factors that impact on research performance at an Australian university

Researcher: Johann P Groenewald (PhD candidate)

Supervisors: A/Prof. Glenda Campbell-Evans, Emeritus Prof. Mark Hackling

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Abstract:

The purpose of this study is to explore those contextual factors that enable and/or constrain academics' research performance at ANRU¹. Quality research performance is critical to the reputation and success of a university and plays an important role in developing the socio-economic status of a country. Increased research performance can improve a university's competitiveness, viability and sustainability. Hence, ANRU wishes to improve its research performance for increased reputation and sustainability.

Further research is required to explore how these contextual factors impact research performance. There is, however, limited knowledge about the contextual factors that impact research performance especially outside research intensive universities (Hardré & Cox, 2009; Johns, 2006). Meanwhile there is a growing gap between established research intensive universities and New Universities.

A purposefully selected stratified sample, based on active academic researchers and research leaders from two broad discipline areas, will be subjected to interviews to explore their experiences of research. This will identify contextual factors and how they impact on academics' research performance. The research will draw on organisation development and phenomenological theoretical perspective to make sense of the socially constructed realities of the respondents' sense of their world of work.

The new knowledge created, through a better understanding of the impact of those contextual factors that enable and/or constrain academic research performance, will inform the development of a framework. Such a framework can integrate the various factors and be used to inform interventions designed to lift the research performance of academics at ANRU and other comparable Australian new universities.

¹ Another New Research University (pseudonym)

Academic writing at university: Investigating genre acquisition in the MBA

Researcher: Joanna Ashton (PhD candidate)

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Abstract:

Students studying in their first semester at university commonly experience difficulties with academic writing. One of the key challenges faced by incoming students is the fact that they are required to produce new and unfamiliar written genres. Mastering new genres is challenging to novices in any discipline. First semester postgraduate MBA coursework students may have had more writing experience than undergraduates, but they too struggle with the written tasks assigned to them in the multiple disciplines that comprise an MBA course.

This study explores how MBA students acquire the new genres they encounter in their first semester core Management unit. Firstly, it investigates what genre experience students bring to their MBA studies and then, whether this prior knowledge facilitates or impedes the acquisition of new genres. The analysis of data obtained from surveys, interviews and samples of student writing will be useful in guiding the further development of existing writing support within the disciplines of the MBA.

This study also investigates students' attitudes to writing, including how confident they are and how they value writing. One of the key challenges for those engaged in the teaching of academic writing is the artificial separation of 'content' and 'skills'. Many students enrol at university with a focus on the content of the disciplines and are surprised, and even resentful, to learn that there is a 'hidden curriculum' of academic language and literacy. They may question the value of time spent on writing development. If MBA students prioritise content over skills, then this too may impede their motivation to master new genres.

MBA attracts a diverse cohort comprising International students from many different countries and educational systems, as well as Domestic students from a wide range of disciplinary backgrounds and varied work experiences. By understanding our cohort, we can tailor writing pedagogy to better assist students to demonstrate their disciplinary knowledge and be successful at University.

Investigating first year university student uptake of English language support programs

Researcher: Tracy Ware (PhD candidate)
Supervisors: Dr Anne Thwaite, A/Prof. Brian Moon
Contact: tware0@ our.ecu.edu.au

Abstract:

Growing public concern about the English language standards of students in higher education has led to new policies aimed at ensuring all students have adequate proficiency in English. Universities are now mandated to assess students' academic language levels and to provide support after commencement. Thus, in addition to testing student English competence prior to entering university, many universities now administer some form of diagnostic academic English assessment after admission.

This study investigates student uptake of English language support following completion of the Post Entry Language Assessment (PELA). Research shows that there is often a lack of voluntary uptake of English language support, adjunct academic skills workshops, and other learning support by students who have been assessed as requiring assistance.

Through case studies, interviews and surveys, student perceptions of the PELA, the feedback they received, and the language support recommended will be collected and analysed. Comparisons between international and domestic students, and between Education and Business student responses, will be made. Interviews with Academic Staff and Learning Consultants associated with the first-year student cohort will provide further insight into the issue of uptake of support.

Finding answers to why students do or do not take up English Language support, and what strategies might improve student uptake, should lead to improved student outcomes and may lead to higher retention rates and higher graduate standards.

Assessment for “digital first language” speakers: Online video assessment and feedback in higher education

Researchers: Will Turner, Dr John West

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Abstract:

While feedback has been highlighted as the most powerful influence on student achievement, Weaver (2006) noted that up to 40% of tertiary students lack confidence in their feedback and many students express dissatisfaction with this aspect of their student experience (Rodway-Dyer, Dunne, & Newcombe, 2009). Chasms remain between academic feedback and student feed forward outputs, as research suggests that feedback is undervalued by “unresponsive” tertiary students due to misunderstanding, inconsistencies and lack of clarity, and that feedback is not as effective as staff imagine. This paper explores student and staff perceptions of a video feedback model for tertiary institutions. Each student received feedback in the form of an individualized video which was made available online, thus mirroring the established course assessment processes. A mixed methodology study revealed a mass preference for video feedback, with participants noting that video feedback personalized assessment processes and enhanced understanding. In excess of 90% of students rated video feedback as more valuable than written feedback, with 74% completely understanding the feedback provided by the marker, showing that technology may “provide the innovative edge that can help students engage more effectively with their feedback” (Crook et al., 2012, p. 387).

Enhancing the assessment experience: Improving student perceptions, engagement and understanding using online video feedback

Researchers: Dr John West, Will Turner

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Abstract:

Individualised video screencasts with accompanying narration were used to provide assessment feedback to a large number ($n = 299$) of first-year Bachelor of Education students at Edith Cowan University. An anonymous online survey revealed that nearly three times as many respondents (61%) preferred video feedback to written feedback (21%). The results reflect a clear preference for video feedback among the research participants. Participants commented that video feedback was clearer and less ambiguous than other forms of feedback and improved both the quality and quantity of the feedback received. Participants also felt that video feedback established greater rapport with their tutor and provided them with greater insight into the assessment process.

Aboriginal Education; Educational Equity

Engaging and partnering with Aboriginal and Torres Strait Islander parents and community to improve student outcomes

Researchers: Prof. Simone White (Monash University), Dr Peter Anderson (Monash University), Maria Bennet (Charles Sturt University), Dr Matt Byrne, Dr Graeme Gower

Grant/Funding: Office for Learning and Teaching, Innovation & Development Grant

Contact: m.byrne@ecu.edu.au

Abstract:

More than ever, initial teacher education needs to better prepare teachers and leaders to 'engage professionally with colleagues, parents/carers and the community' (Standard 7, Australian Professional Standards for Teachers, AITSL) and to know how to work more inclusively with parents/caregivers from diverse backgrounds to lift the achievements of all students. This is particularly the case in relation to Aboriginal and Torres Strait Islander students and their families.

This research is an Office of Learning and Teaching (OLT) grant 2016-2018 that aims to address this imperative and better prepare future teachers through the development of a culturally responsive teacher education curriculum and professional experience (clinical practice) resource package for the higher education sector and school communities. The package will inform all teacher education providers, teachers and school leaders across Australia on the best ways to prepare graduate teachers to build productive, effective school-community partnerships with families, key local Elders and community based Indigenous and non-Indigenous mentors. This project ultimately will improve the future outcomes for all Aboriginal and Torres Strait Islander people through a grounded model of addressing social and education inequality at the grass roots: namely starting with schools and teachers and building effective partnership and relational tools to maximise and create effective school-university-community links.

Improving teacher education for the needs of Aboriginal and Torres Strait Islander students is a major Australian higher education and schooling priority area and this project brings together an expert national team of both Indigenous and non-Indigenous researchers and scholars well networked across Australia to achieve this goal.

Teaching and learning Indigenous histories and cultures: At the intersection of school culture and curriculum

Researcher: Sarah Booth (PhD candidate)

Supervisors: Dr Bill Allen, Dr Matt Byrne

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Abstract:

All teachers are now required to teach Indigenous cultures and histories in Australian secondary schools; however there is little evidence to suggest this is occurring at an appropriate level. The Melbourne Declaration (2009) states that every child is entitled to learn about Indigenous cultures and histories, yet it is unclear to what extent this is occurring particularly in secondary schools. The potential disparities in this curriculum area have left much of the Australian cultural majority unaware of aspects of Australian history which have led to many issues Indigenous people face today. Furthermore, many negative stereotypes around Indigenous peoples persist as they may go unchallenged at school.

This study is therefore aimed at exploring the factors which impact the teaching and learning of this topic. School culture in particular could have a major influence as it often dictates what is considered important within the school. In order to explore how the teaching and learning of Indigenous cultures and histories occurs, a multiple case study methodology will be employed. This will allow for an in-depth study of three schools with a predominantly non-Indigenous population. Two of these schools would be systemic (Government and Catholic) and one independent.

The findings from the proposed research are likely to generate detailed, in-depth knowledge about the teaching and learning of Indigenous histories and cultures in Western Australian schools, with implications for policies and practices in Australia and other communities where knowledge and understandings of the histories and cultures of Indigenous peoples are important in promoting reconciliation between Indigenous and non-Indigenous peoples. These have implications for enhancing the processes of reconciliation in Australia and elsewhere.

Equipping teachers to empower Indigenous students to be capable leaders across cultures and generations

Researchers: Dr David Rhodes,
Dr Helen Spiers (Kormilda College, Darwin)

Contact: d.rhodes@ecu.edu.au

Abstract:

The participation rates of Indigenous Australian people from remote communities in higher education remains low, and completion rates of tertiary qualifications by Indigenous students are even lower. The result is that a small number of local Indigenous people obtain positions as professionals in remote communities. Therefore, schools, health facilities, and legal services are too frequently staffed exclusively by non-Indigenous people. Where Indigenous staff do work in these services it is frequently in low-status, low-paid, positions with limited responsibility and/or authority. This project explores how teachers can be better (or best) equipped to mentor Indigenous students, to have high academic and behavioural expectations, to empower them to develop their leadership potential, and increase their capacity to move between cultures. In turn, these young people will have the potential to provide their communities, and broader society with positive young Indigenous role models, and leaders who are prepared to assist in the finding of peaceful, non-violent resolutions to social and economic inequalities.

What's in your refrigerator? Children's views on equality, work, money and access to food

Researchers: Dr Libby Lee Hammond & Dr Sandra Hesterman (Murdoch University), Dr Marianne Knaus

Contact: m.knaus@ecu.edu.au

Abstract:

This study investigates young children's theorising about families and their differential access to food from a perspective of wealth and poverty. Fifty-two children, aged 6–7 years, attending a Western Australian school were invited to share their perspectives on this global issue. The single case study method utilized three children's focus groups to gather a range of perspectives from the children.

Photographs of full and empty refrigerators were used elaborate a story told to the children about two families with significantly different amounts of food in their refrigerator at home. The study demonstrates that researchers and educators may fruitfully consider social sustainability with young children whose insights into these issues provide evidence of their clearly formed perspectives on complex global issues. Conversations about global "wicked problems" enable children to express their point of view on economic and social as well as environmental issues.

The findings indicate that the young children in this study hold clear and sophisticated opinions regarding fairness, poverty, the relationship between paid work and money, food security and social justice. They also had an optimistic outlook on how to address inequality. Significant insights into children's theorising around social sustainability are presented in four themes.

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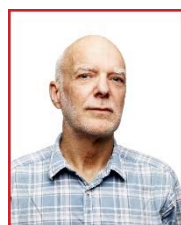
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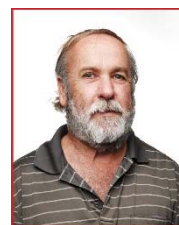
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Lowe



A/Prof. Geoffrey
Lummis



Dr Susan
Main



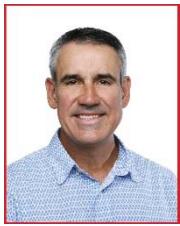
Prof. David
McKinnon



Dr Paula
Mildenhall



Belinda
Nelson



Dr John
O'Rourke



Dr Jeremy
Pagram



Dr Pauline
Roberts



Dr Kuki
Singh



Dr Anne
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Will
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Julie
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Dr Bill **Allen**
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 Dr Mandie **Shean**
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 Jill **Thompson White**
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Astronomy images by: Professor David H. McKinnon, Dr Michael Fitzgerald, Mr Zal Kanga-Parabia

The Our Solar Siblings (OSS) project (www.oursolarsiblings.com) is an Australian initiative set up by Professor David H. McKinnon and Dr Michael Fitzgerald of the Edith Cowan Institute for Education Research, School of Education, ECU. Real astronomical research is conducted by high-school students and their teachers using the professional grade telescopes in the Las Cumbres Observatory Global Telescope Network (LCOGT.net - www.lcogt.net)