The Teachers' Guild of New South Wales

*G*uild

*R*esearch

*A*ward

*P*resentation

*E*vent

The 2020 Event is sponsored by:

Guild Research Award Presentation Report

The Teachers' Guild of NSW held its annual Guild Research Awards Presentation Event on Friday 25th September at the Concord Golf Club. The awards celebrate the work being undertaken by graduate research students and teachers in NSW to advance current knowledge in the education field.

We thank the generous sponsorship from *Teachers Mutual Bank – We put you first*, in supporting this Award category.

The 15-minute multimedia presentations of direct benefit to classroom teaching were judged on the criteria (1) content and scientific quality, (2) clarity and (3) presentation skills. I would like to thank our judging panel for their time and dedication in judging the presentations:

Professor Andrew Martin (Chair of juding panel) – University of New South Wales
Mrs Sharrda Shah – Transform Education, Founder and CEO
Dr Lauren Knussen – University of Technology Sydney

The Research Award finalists for 2020:
Christopher Allum, University of New South Wales
Teneille Biasetto, University of Sydney
Melissa Carson, Champagnat Catholic College Pagewood
Matthew Driscoll, Trinity Grammar School
Dragana Gnjatovic, University of Sydney
Justin Brayley and Amy Kirk, Newington College
Helen Kardiasmenos, PLC Sydney
Eleina Littlejohns, Charles Sturt University
Jodie Torrington, Macquarie University
Minami Uchida, Macquarie University

The judges rated the presenters as the best to date, in terms of quality of the presentations made by these amazing educators. Congratulations to all our finalists with their outstanding research towards classroom teaching.

The **2020 Teachers Mutual Bank Award winner** this year was shared by **Teneille Biasetto** from the University of Sydney and **Minami Uchida** from Macquarie University.

We congratulate both Teneille and Minami on being awarded as joint 2020 Teachers Mutual Bank Award Prize winners.

The **Teachers' Guild of NSW Research Award winner** for 2020 was **Jodie Torrington** from Macquarie University

We congratulate Jodie on receiving the First Prize of The Teachers' Guild of NSW Research Award for 2020. We wish all our researchers the very best for the future.

Dr Frederick Osman
President of the Teachers' Guild of NSW

Culturally Responsive Cognitive Load Theory: The Applicability of 8-ways Pedagogy for all Students

Teneille Biasetto
University of Sydney

Abstract

Despite extreme opposition, Aboriginal ways of knowing being and doing have managed to adapt and survive colonisation. This is a testament not only to the resilience of Indigenous Australians, but also the effectiveness behind how Aboriginal knowledges and practices have been shared and learned for thousands of generations. In contemporary Australian classrooms, a teacher-centered approach of initiation, response and feedback dominates (see, for example, Zander, 2011). My research argues that Aboriginal ways of learning are under-utilized within our classrooms and schools. Furthermore, my research argues that Aboriginal knowledges and practices have the potential to meaningfully teach all students.

This paper draws on the lived experience of an Aboriginal woman who teaches English as a Second Language in a high school context. I have observed that Aboriginal ways of learning can benefit a wide range of students from diverse cultural backgrounds. I therefore agree with Battiste (2002) when she suggests that, 'focusing on the similarities between the two systems of knowledge rather than on their differences may be a more useful place to start when considering how best to introduce educational reform' (p. 11). With this in mind, my research investigated how the 'Eight-Ways' framework, developed by Indigenous scholar Tyson Yunkaporta (2009), incorporates pedagogies that are mindful of Cognitive Load Theory. Cognitive Load Theory (CLT) suggests that there are two key components of our memory that are at work during learning. These two components are the working memory and the long-term memory. Firstly, the working memory refers to the component which is responsible for the 'conscious' processing of new information and the construction of new knowledge. The working memory is limited in its capacity to hold new information. As such, current research on the working memory suggests that it can hold only five to nine 'chunks' or pieces of new information (Sweller & Kalyuga, 2011). Interweaving Eight-Ways with CLT, I focused on Story Sharing and Deconstruct and Reconstruct as effective teaching strategies.

It was found that bringing together Indigenous and non-Indigenous pedagogies is a Culturally Responsive way to create a cultural interface, a space where Western and Indigenous knowledge can meet in a 'non-oppositional way, neutralising the factor of their supposed incompatibility'. My research seeks to encourage educators to see the potential in and applicability of using Indigenous pedagogies to benefit the learning for all students. It is argued that viewing Indigenous pedagogies in such a way adds esteem, value and respect to Indigenous communities and knowledge and enacts a commitment to social justice for all students.

Teacher-Created Video Instruction in the Primary School Classroom – How does using teacher-created video instruction impact on students and teachers?

Jodie Torrington
Macquarie University

Abstract

Technology is ubiquitous in schools and teachers are expected to be confident with its purpose and application in the classroom. This has been highlighted recently, with the expectations to rapidly shift to and deliver remote learning during the COVID-19 pandemic. The challenge for teachers remains: how to effectively utilise the ICT available to them in order to support the range of learning and behaviour needs of a mainstream classroom, while also delivering quality instruction. Video is not a new pedagogical method in education, however the ability for the class teacher to design and create their own differentiated video instruction for their students, accessed by the student using their device, is an area that has been overlooked in primary school educational research. Teacher-created video is a simple method of delivering instruction to individuals or groups within a classroom.

The purpose of this study was to investigate the effect that teacher-created computer-based video instruction (CBVI) using iPads had on students' academic, behavioural and affective learning in primary school classrooms. Despite the proliferation of multimedia devices into primary school classrooms, there is limited evidence examining teacher-created video instruction in this context, particularly regarding its effect on academic growth and holistic engagement. The video instruction created for this study applied both Cognitive Load Theory (Kirschner, Sweller, & Clark, 2006; R. E. Mayer, 2004) and multimedia design principles (Fiorella & Mayer, 2018; R. Mayer, 2014; R. E. Mayer, 2008). This aimed to optimise student cognitive engagement with the video instruction and provided a solid theoretical and evidence-based justification for CBVI to be used as a pedagogical method in the primary school classroom.

The study used a repeated-measures design with counterbalancing to measure the effects of using CBVI during mathematics lessons on student mathematical achievement scores, time-on task and attitudes towards learning in mathematics. Three Year 3 classes (n = 49) completed three mathematics lessons, each one using a different mode of instruction: CBVI created by the regular class teacher, CBVI created by a stranger, and a traditional live lesson delivered by the regular class teacher. Results were statistically analysed using a Linear Mixed Model. No significant growth in learning was detected during the video modes of instruction, however a significant growth result was achieved for the traditional live teaching mode (p=0.000), which was unexpected. Behavioural engagement was considerably higher during the CBVI lessons than traditional live lessons and students preferred their teacher's voice on the video. The three teachers were also interviewed to examine how CBVI in mathematics changed the dynamics in the classroom and affected their teaching. Two main themes emerged from these teacher perceptions: 1) The impact of CBVI for students; and 2) the impact on teacher wellbeing. This research provides evidence to contribute to educational technology research, specifically, that there are benefits for students and teachers when using teacher-created CBVI. Further research is needed to better understand the factors that influence cognitive development of students using CBVI and to also explore the effect of utilising this pedagogical method on teacher wellbeing.

Social Capital predicts Teacher Burnouteli

Eleina Litlejohns
Charles Sturt University

Abstract

Teachers are at high risk for burnout. Half of teachers have experienced burnout, and 41% leave the profession within five years. Burnout has a reciprocal relationship with mental health, is predictive of negative stress-related health outcomes, and results in poorer educational outcomes for students. Further associations have been indicated between burnout and decreased job satisfaction, presenteeism (i.e., where teachers are present but not engaging productively), withdrawal, and colleague conflict. Further, it can even become a contagion through informal job interactions and elevations in student cortisol, thereby affecting teaching and learning quality, and transmitting these issues the wider community.

Research on predicting teacher burnout has generally focused on the work environment, however this presents cyclical reasoning as burnout is presented as both the cause and result of negative interactions within the workplace. Instead, demographic variability in teacher burnout may indicate differing sociocultural circumstances, or social capital specifically, and are worthy of investigation. Social capital is an asset based on norms of goodwill and reciprocity, and has value in its use through the resources and opportunities made available through our networks and the wider community. It may therefore prevent the occurrence of burnout by allowing greater access to resources, opportunities, and understanding from the wider community.

The present study was conducted and completed in 2019 through Charles Sturt University with approval from the university ethics board. The study investigated relationships between teachers' social capital, demographic variables, overall burnout, and its three components; personal, work-related, and student- related burnout. Australian school teachers (N = 199) were recruited to an online survey through snowball sampling on social media. Exploratory factor analysis supported two distinct components of social capital: networks and civism. Networks measured the number, strength, range and diversity of our social connections, whilst civism measured the match or mismatch with the wider community. Social capital, subsuming networks and civism, significantly and incrementally predicted burnout and each of its three components after controlling for demographic variables. Perhaps most notably, civism improved the prediction of teacher burnout over and above the addition of networks and demographic variables. This suggests that burnout is not as dependent on work-related factors or network ties as previously thought.

These findings present insight into predicting and preventing teacher burnout, extending beyond previous research which places the onus of blame on just the workplace or the individual, to consider the social context within which teachers are living and working. Such findings may guide further research and inform prevention of burnout among teachers, encourage networking, interaction with and understanding from the wider community, positively impact teaching and learning outcomes, and prevent spread to the wider community.

Analysing the experiences of casual relief teachers in Australian primary schools using practice architecture theory

Minami Uchida
Macquarie University

Abstract

This study examines the professional experiences of casual relief teachers (CRTs) and some of the challenges they face through the lens of practice architecture theory. Practice architecture theory considers human activity through the multi-layered lens of sayings (the medium of language), doings (the 'set-ups' of the physical environment), and relatings (social structures and relationships).

A survey was used to collect responses from 104 CRTs who are teaching or have previously taught in Australian primary schools on a casual basis. The responses were examined using thematic content analysis to gain insights into their experiences of professional practice. Results indicate that many participants saw casual teaching as a negative and alienating experience due to lack of access to school information, disrespect from staff and students, and the inconsistent nature of their work. The need for greater access to information about professional learning was also highlighted. However, others enjoyed the flexibility and sense of belonging they experienced as CRTs. This study offers a new theoretical lens in which to analyse experiences of CRTs in classrooms.

Help Them Help Themselves: Supporting Early Career Secondary Education Teachers Using Coaching Theory and Improvement Science

Matthew Driscoll
Trinity Grammar School

Abstract

Early career secondary education teachers begin their careers facing the reality that it is impossible for them to have learned everything they need to know to thrive without support (Israel et al., 2012). They face a multitude of challenges, including experiencing high levels of stress; possessing a limited repertoire of strategies, routines, and practices; and often lacking the contextual and conceptual knowledge needed to teach effectively (Hargreaves & Fullan; Wang & Odell, as cited in Anderson & Gristy, 2012, p. 109). These challenges tend to discourage new teachers from attempting or implementing innovative practices and can lead them to focus more on management rather than effectively teaching and supporting student learning (Achinstein & Barrett, as cited in Anderson & Gristy, 2012, p. 110). The Australian Institute for Teaching and School Leadership (2017) has identified that coaching programs are "an important professional learning strategy that supports professional growth" by addressing "a range of characteristics and developmental needs that contribute to the effectiveness of a teacher."

In light of this, there exists a deep need and important opportunity among education graduates to develop positive and progress-motivated relationships with colleagues in their educational settings that leave such graduates feeling supported and empowered in their profession. A robust coaching program informed by coaching theory and improvement science has the potential to provide a socially acceptable, self-empowering, and improvement-oriented way of meeting this relational need and in turn empower new graduate educators (Campbell, n.d.). If coaching is about bringing out the best in people, the development of such a program can help both coach and coachee recognise the importance of cooperative reflection upon teaching and learning in order to bring the best out of oneself (AITSL, n.d.).

According to the Carnegie Foundation for the Advancement of Teaching, improvement science is a user- centered and problem-centered approach to improving teaching and learning by deploying rapid tests of change to guide the development, revision and continued fine-tuning of new tools, processes, work roles and relationship: specifically, in this case, a coaching program (Carnegie Foundation for the Advancement of Teaching, 2020). It is explicitly designed to accelerate learning-by-doing in communities of educational practice. The use of improvement science in the coaching program aims is to develop a focused learning journey for both coach and coachee with the overall goal of developing the "necessary know-how for a reform idea ultimately to spread faster and more effectively" within the context of the School.

The presentation will be an overview of the development and findings of a research project that aimed to develop and evaluate/report on the initial trial of a small-scale case study of a coaching program developed for early career secondary education teachers at an independent, high fee-paying, non- selective secondary school in Sydney, Australia that empowers staff professional development through the tenets of improvement science.

A Study into how collaborative professional learning using a targeted, instructional model of curriculum differentiation can enhance the frequency in which teachers cater for gifted cluster groups within mixed ability classrooms

Christopher Allum OAM
University of New South Wales

Abstract

Recent literature into teacher pre-service training demonstrates that the vast majority of primary teaching graduates have little or, in some cases, no exposure to undergraduate studies in gifted education (Fraser-Seeto, 2013; Watters, Hudson & Hudson, 2013). This has resulted in a scatter-gun approach to gifted programming with many schools utilising a once-per-week provision as their chosen method.

Numerous studies and recent updates to the Department of Education's High Potential and Gifted Education Policy (2019) point towards a distinct need for schools to enhance teacher readiness to support gifted students in primary classrooms. Such students are entitled to a rigorous and regularly differentiated curriculum with equitable access to teachers who have received adequate professional learning in gifted education.

My action research study aimed to explore whether an intervention would be successful in increasing the frequency of learning adjustments provided to gifted cluster groups. Six teacher participants (four early career and two experienced teachers) were involved in collaborative professional learning centred on four areas of curriculum differentiation – content, process, product and learning environment; a model first designed by Maker (1982).

Through a mixed methods approach, both qualitative and quantitative data was obtained. This revealed that the curriculum differentiation framework provided a practical and flexible tool that teachers could use when making program adjustments and adapt to all key learning areas.

Despite its small sample size, the results point towards collaborative professional learning using a targeted instructional model as a means to increase teacher use of appropriate learning adjustments for gifted students in mixed ability classrooms.

Creative Assessment of Children's Learning Processes Through Collaborative Action Research

Dragana Gnjatovic
University of Sydney

Abstract

This research abstract is more of a teaser for all the education professionals who tend to think of their practice in a reflective manner. The research aims to explore how creative practices may be used to assess children's learning processes. Since the standardised approaches to assessment, underpinned by the neoliberal paradigm, are trickling down towards early childhood education, the present research explores assessment through creative, visual and performing arts. Through the combination of interpretive, critical, and participatory approaches the research emphasises children's participation, involvement and a right for their voice to be heard in the educational process.

The methodological approach to explore the creative assessment of children's learning process will be collaborative action research guided by critical interpretation. This methodology supports value placed upon children as active agents of their learning journeys. Also, the methodology allows new perspectives on action research and its usefulness in empowering teachers. In this presentation, I will focus on the qualities of collaborative action research for my present research as well as how action research can benefit teachers' professional development.

Action research is a qualitative research methodology in which problem identification, planning, action, reflection and modification are inter-connected. It differs from other forms of enquiry by introducing research participants as researchers who investigate, learn and innovate by modifying the practice through newly acquired knowledge. Action research is by definition a participatory research, but its collaborative aspect implies active participation and collaboration of the participants who share responsibility in designing and conducting the whole research process. These aspects eventually have educative and empowering effects on the participants to critically reflect and act upon their practice. The current research project includes the children and the teachers as co-researchers from the field of practice and me as an academic researcher. The collaborative action research enables the dialogic relationship between the participants which implies that the children and the teachers will be included in the research process all the way. Through the action research cyclic process, the participants will explore how creative practices and arts-informed methods can be used to assess children's learning and development. In connection to the existent practice, the participants recognised issues with assessment approaches, creative practices and acknowledgement of teachers' professional engagement. The collaborative action research methodology will allow for the participants to decide about suitable arts- informed data collection techniques, approaches to analysis and eventual dissemination of knowledge useful for the academia and the field of practice. The research will support the notion of children as capable and valuable participants in teaching, learning and assessment as well as the research processes. It will also make the teachers' commitment and professionalism more visible while allowing them to engage in a process which potentially can be illuminating for their future practice.

In what ways can family engagement and digital platforms support literacy development in adolescent boys? A case study

Melissa Carson
Champagnat Catholic College Pagewood

Abstract

Champagnat Catholic College is an all-boys Catholic comprehensive high school opened in 1961. The College currently accommodates approximately 670 students. Traditionally, the cohorts consist of students from the local area, some from Catholic primary schools, and some from NSW Department of Education primary schools. NAPLAN results in the literacy domains reflect an average of 20% of students at or below minimum standards.

The College is proud of the growth data available in NAPLAN which would usually see considerable growth in literacy levels between Year 7 and 9, however, longitudinal HSC data would identify that literacy-based subjects and extended response style questions in all subject areas are impacted by a general weakness in literacy apparent from incoming Year 7 data. This study tracks the intervention of a targeted literacy strategy focusing on writing in Stage 4 students which focuses on the Year 7 cohort of 2019, 130 students, 30% of which were below National Minimum Standards in reading and writing. By using a multimodal, blended learning approach to explicit instruction of writing and reading without the extrinsic pressure of formal assessment, researchers sought to increase engagement in literacy amongst the cohort as well as identify growth in the reading and writing data moving to meet national minimum standards.

My Road Self-Differentiation Program for Year 5 and 6 Students

Justin Brayley and Amy Kirk
Newington College

Abstract

In 2019, staff at Newington College conducted an action research project on 11 Year 5 and 6 gifted achieving and underachieving students. Using a self-differentiation tool based on the foundations of the Maker Model, titled My Road, students were able to negotiate with the teacher to change content, process, product and learning environment of tasks for a period of 6 months. Results found that student attitudes to school (based on the School Attitudes Assessment Survey – Revised) increased in both achieving and underachieving groups. This was highlighted with improvements in academic self- perception, attitudes to school, attitudes to teachers, goal valuation and motivation / self-regulation. In addition, students demonstrated moderate gains in learning outcomes (based on report grades) and increased engagement (based on qualitative surveys conducted throughout the study). This study showed that using self-differentiation tools, such as My Road, may be an effective way to cater for gifted underachieving and high achieving students. The success of this study suggested the My Road program demonstrated the potential to be an effective tool for increasing engagement and attitudes toward learning for students of all academic abilities.

In a separate analysis of a perfectionist, selective consumer, high achiever and twice exceptional student, the intervention proved generally positive in improving attitude towards learning for the four key individual participants, especially the selective consumer. Key features that students identified as part of the program's success included the centrality of choice, autonomy, flexibility, and opportunities to work in areas of interest and strength. The student-driven and open nature of the My Road program allowed participants to tailor it to their specific learning needs. This study demonstrated that the use of the My Road self-differentiation program has the potential to be a valuable tool in helping challenge a variety of specific gifted and high ability students.

In 2020, the study expanded to explore the effect of offering self-differentiation options to the entirety of Year 5 and 6, irrespective of their academic ability or potential. The My Road program began in distance (online) learning and continued in face to face (classroom) learning throughout Term 2 in a variety of subject areas. The My Road program was altered so that students were offered 4 choices to change their learning for selected learning tasks. They were able to change what they learnt (content), how they learnt (process), how they showed it (product) or their learning environment for a specific learning intention and success criteria given for the lesson. Throughout the distance learning component, a survey revealed that over 80% of the students used the program and felt more empowered in their learning. Over three quarters of the students wanted the program to continue in their return to face to face learning. The study continues to examine the effect of the My Road program in the classroom throughout 2020. Due to the positive impact of the program thus far, it is expected that this program will be embedded more widely across the school throughout 2020 and 2021.

Teaching girls to be leaders in technology

Helen Kardiasmenos
PLC Sydney

Abstract

Helen is undertaking excellent research on how to teach girls to use technology (identifying purposes, skills in coding, skills in technical languages, creating technology to fulfil purposes), whilst she exercises her capacity as a superb teacher. Helen's research project aims to examine pedagogical approaches for teaching coding concepts such as variables, conditionals, branching, and iterations for students and teachers in stage 2.

The projects explore how students understand and apply coding concepts when moving from unplugged (non-technological) computer science and coding activities to plugged computer science and coding activities. Students demonstrate their understanding of these concepts by designing and coding their own Digital Games as a learning resource for students at the school.

The project is building transferable STEM and coding skills in students in preparation for a changing world where digital fluency and coding will be essential skills. In her role Helen also team-teaches and through this research project, she has had a substantial impact in upskilling teachers in their understanding of coding and computer science concepts and modeling effective technological integration and the teaching of digital technologies in the K-6 classroom using plugged and unplugged pedagogies.

JUDGES' CRITERIA FOR GUILD RESEARCH PRESENTATIONS

All nominees will present a **max 15-minute presentation** *(not including questions)*. The judges score and rank the candidates according to: (1) Content and Scientific Quality, (2) Clarity and (3) Presentation Skills. The judges combine their results to determine the winner. *Decisions by the panel are final.*

1.   Content and scientific quality are important criteria. The presentation must be interesting, and the material should be seen to be significant within the field of research. Context is important for establishing what the state of current research in the field is and how the described research contributes to and extends current knowledge. The candidate must balance the competing demands of providing a clear explanation to the non-specialist and illustrating the techniques and methods to allow a meaningful assessment of the presenter's own understanding and contributions to the research. The context can be further clarified during the question-and-answer session

1 = Strongly Disagree
3 = Neither Disagree nor Agree
5 = Strongly Agree

A. Content and Scientific Quality Matrix   Total_____/20

(i) Interesting	1	2	3	4	5
(ii) Significant	1	2	3	4	5
(iii) Addresses Research Gap/Need	1	2	3	4	5
(iv) Contributes and Extends Knowledge	1	2	3	4	5

2.   Clarity is a skill which is required to communicate a subject requiring years of study into a multimedia presentation. The judges are looking for the presenter's ability to communicate the essence of the research without becoming excessively encumbered with detail. A proper introduction, good exposition and meaningful conclusions are important factors in providing a clear presentation.

B. Clarity Matrix   Total_____/20

(v) Communicates Essence	1	2	3	4	5
(vi) Good Introduction	1	2	3	4	5
(vii) Good Exposition and Explanations	1	2	3	4	5
(viii) Meaningful Conclusion	1	2	3	4	5

3.   Presentation skills include the best use of audio-visual aids, speaking ability, eye contact, efficient use of time, projecting a professional and confident attitude, preparedness and response to questions.

C. Presentation Skills Matrix   Total_____/20

(ix) Preparation and Use of Time	1	2	3	4	5
(x) Use of Audio-Visual	1	2	3	4	5
(xi) Professional and Confident	1	2	3	4	5
(xii) Response to Questions	1	2	3	4	5

These factors and others contribute to the overall impression of the candidate's performance. A good talk is more than the sum of good performance in each component. The best talk is well-presented, well-practised, clear, conveys significance and impact, and is stimulating and memorable.