# Linking Research to the Practice of Education

Linking Research to the Practice of Education is a publication of the School of Education (SoE), UNE, for all educators: early childhood, primary and secondary. It introduces research, conducted by SoE staff, applicable to the educational setting.

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#### **Editorial**

Welcome to this issue of *Linking Research to the Practice of Education*, a UNE School of Education research newsletter for all educators. I would like to take this opportunity to thank Dr Yvonne Masters for her great work as co-editor of the Newsletter and welcome Dr Sue Elliott and Dr Marg Rogers as they join our editorial board. Drs Elliott and Rogers are both lecturers in Early Childhood Education at the University of New England, Armidale.

Four articles are presented in this issue. First, Tom Maxwell discusses how Action Research can be used to improve educational practices in school settings.

In the second article, Jo Bird and Marg Rogers present the Digital Play Framework that documents the behaviours children exhibit as they learn to use technologies through play. They illustrate how the Framework could be utilized to support teaching and learning in early childhood settings.

The authors of the third article, Jennifer Charteris and Dianne Smardon present a unique perspective on "student agency" particularly as it unfolds in Innovative Learning Environments.

The last article is a book review by Susan Feez. The book entitled *Teaching with Intent: Scaffolding Academic Language with Marginalised Students* is co-authored by Bronwyn Parkin of the University of Adelaide and Helen Harper, a member of the English Language and Literacy Education (ELLE) team in the UNE School of Education.

We hope that you find something interesting in this issue. The next issue will be published in February, 2019.

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# Want to improve what you do? Try action research.

#### **Adjunct Professor Tom Maxwell, UNE**

The good aspects of action research (AR) are that you are in control of what you are learning (unlike many staff development activities), how you go about it and when. Your AR is directly connected with your work realities. The challenge is that it does take commitment over a period of time. You have to want to *improve*.

When she was on her final year internship Kylie Emerson used AR to make improvements to her multi-grade students' writing performance. She first did a reconnaissance which had three parts to it: 1. A situational analysis which allowed her to set out the situation that she was dealing with including such things as students' skills and available resources; 2. her own competence in assisting students to write creatively; and, 3. what the literature had to say about how creative writing could be improved in students aged 6-7. This is when she learned about graphic organisers.

After going through that process she developed her AR question: "If I instruct a mixed ability group of Year 1 students on how to use graphic organisers to plan for their writing experiences, to what extent will this improve their writing performance?"

Notice that "improve" is the key word.

Next she planned two features of her classroom work for the next few weeks: 1. she planned what actions she would take to make the improvements using graphic organisers; and, 2. she planned (a) what data she would collect so that she would be able to see whether improvements had taken place and (b) when she would collect these data. Two things are important here. Ideally at least three kinds of data are needed. Kylie kept a journal, she collected work samples and the students did a simple survey

(and two additional techniques that are explained in the linked article below). Kylie knew she had to collect data before her improvement actions started and at the end so she could see any contrasts (at least).

Having done that Kylie went ahead and put her plans into action. For her this was over an eight week period. While she was acting she was observing and so thinking about what was happening, that is, she was reflecting and she made some adjustments. The major reflection was at the end after she collected her final set of data. She concluded that there was a notable improvement in the students' writing after the introduction of the graphic organiser as a planning tool.

To read more about Kylie's work see <a href="http://wblearning-ejournal.com/archive/10-10-11/">http://wblearning-ejournal.com/archive/10-10-11/</a>.

#### Utilising the Digital Play Framework to support early childhood educators and children's learning

#### Jo Bird and Dr Marg Rogers, UNE

Technologies are now ubiquitous in early childhood and current literature is illustrating how they can enhance children's learning (McKnight, O'Malley, Ruzic, Horsley, Franey & Bassett, 2016). Additionally, children show a great deal of interest in digital technologies, but many educators struggle with understanding children's use of the various devices and knowing ways to support their learning around the technologies. Presented in the literature is the belief that technologies are the opposite to play-based learning, but the framework presented in this study demonstrates how children learn to use technologies through play. Many of the skills children develop through technology play, are those emphasised for 21st century learners as revealed in technology research. Therefore, building

educators understanding of how children use technologies can flow on to increasing the provision and support for children's technological learning.

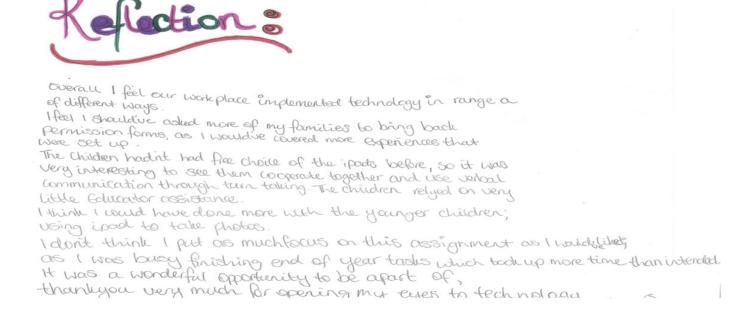
#### **Digital Play Framework intervention project**

Our research with early childhood educators in New England, New South Wales, involved workshops to explain how to utilise the Digital Play Framework in their work with young children (DPF; Bird & Edwards, 2014). The DPF was developed when Bird and Edwards realised children took time to learn to use technologies before they could capture data for research projects. The DPF documents the behaviours children exhibit as they learn to use technologies through play. Combining

the concepts of tool mediation (Vygotsky, 1997) and exploring a novel object (Hutt, 1966), it presents the indicators that children display when learning to master a technology for their play needs. First, the children display epistemic behaviours (building knowledge and working theories) as they explore the device, but once they master the features of the device, they move towards ludic behaviours (demonstrating clear and rational understandings) where they use the device in creative and symbolic ways.

Educators then implemented the DPF for six weeks in their services, recording their observations, thoughts and feelings on the DPF in their journal (Figure 1). They returned to a focus group where they shared their observations and reactions to the DPF.

Figure 1: An educator's reflection on the DPF and the research experience



#### Educators found that:

- their confidence and ability to support children's digital learning increased,
- their interest in and observations of children's technological play and learning increased,
- the children's ability to scaffold each other's technological learning surprised them, and
- some children learnt to use technologies easily, whereas others gradually progressed through the indicators (Table 1).

Table 1: The DPF indicators

Type of play	Type of indicators
Enistamia play/Ulutt	Coomingly random use of the device
Epistemic play (Hutt, 1966) (learning skills, solving problems, exploring the device)	Seemingly random use of the device
	Locating the operating functions of the device
	Exploring the operating functions of the device
	Following directions of the device or other people
	Seeking assistance for desired outcome
	Relating actions to the response or function
	Trying different actions to solve an issue
	Intentional use of the operating functions
	Intentional and deliberate use of functions for desired outcome
	Sharing learned actions with others
	Intentional and controlled footage of observable people, events and situations
	Manipulating the App or program for own purpose
Ludic play (Hutt, 1966)	Deliberate use of device for pretend play
(creative and symbolic)	Creating pretend play deliberately for use of the device

#### **Practical implications for educators**

Increased skill development through ludic and symbolic play

The DPF can be a useful support for educators to increase their understandings of how children learn to use technologies through play. It can also increase educator awareness of indicators children will display (see Figure 1) as they build skills towards using technologies for ludic (creative and symbolic) play. With their involvement in the workshops and getting to know the DPF, educators found that they increased their observations of children's technological play and learning because they were now aware of what to look for and had a deeper understanding of the observed children's behaviours.

#### Peer scaffolding

Often, educators believe children will remain using technologies indefinitely, whereas the educators found the children competently shared the devices and allowed others to have their turn. One finding that surprised educators during the implementation phase of the project was the children's ability to scaffold each other's technological learning. The children not only assisted other children to use the devices as

demonstrated in Figure 2, but they negotiated turn taking and self-timed their technology use.

Figure 2: Picture from the diaries showing children working together



#### Justification to others

Justifying the use of technologies within the learning environment to parents and other educators can be problematic for some educators. The educators' involvement in the DPF workshops increased their provision of technologies, but also created a need to

justify this to others. One educator stated she now had the confidence to validate her technology provision, explaining to parents what the children were learning on the devices.

#### Improvements for the DPF

As part of the DPF implementation project, educators were asked for suggested improvements to the DPF. These included incorporating children observing others having a turn on devices, thus building their skills before having their own turn; practicing behaviours with non-working technologies (e.g. old phones and computers that do not work) when they use them as props in their imaginative play; and, including a numbering system for the indicators to make linking observations easier and quicker. These suggestions will be incorporated into the next version of the DPF, soon to be published.

#### Conclusion

In conclusion, the workshops and project related to the implementation of the DPF, resulted in increased knowledge of the educators around understanding children's technological play and learning, as well as realising the level of social skills children displayed when using technologies. The educators' involvement in the project has ongoing implications for their observations, technology provision and their support of children's learning. Utilising the DPF can facilitate all educators to promote children's playful engagement with technologies.

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# Learner agency and assessment capability in new generation learning environments

### Dr Jennifer Charteris (UNE) and Dr Dianne Smardon

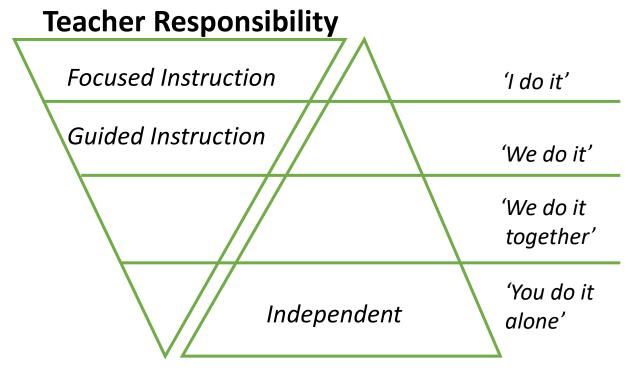
Agency is currently a hot topic in schools, particularly as we see schools around Australia modifying single cell spaces, funding rebuilds, and reaping the benefits of purpose built designs. Student agency in innovative learning environments (ILE) is more than just 'having control', 'having ownership', 'having choice', or 'being self-regulated or self-managing'.

Agency involves having the social and cultural resources to know what to do when you don't know. It is built up relationally over a protracted period of time and involves a cocktail of relational trust, high expectations for teacher professional learning and student achievement, pedagogical scaffolds, and cultural relevance and integrity.

Linking agency to just wanting to succeed is a dangerous idea. To say that agency is purely learner 'choice' or 'ownership' throws back the responsibility for failure directly on the child. There is an important interface between the social and cultural context and the individual. Success is not just about individual motivation. There are not the social and technical

supports in place (for instance, Assessment for Learning) to really scaffold agency. For instance, there may be the deliberate and systematic use of the Gradual Release of Responsibility Model (Fisher & Frey, 2013) (Figure 1).

Figure 1: Gradual Release of Responsibility Model (Fisher & Frey, 2013, p. 3)



## **Student Responsibility**

For innovative learning environments (ILE) learner agency is an important notion. Classroom management becomes 'surveillance by distance' with many teachers and students able to opt into various relationships with teachers, peers, and classroom spaces. In some instances, children can work with the teacher they build the best relationship with. With collegial support, one teacher can be freed up to spend a protracted period of time with the new child, with colleagues working in groups. The affordances of different relationships are possible due to the range of spatial designs: 'general learning areas', 'learning

commons', 'learning streets', 'open learning areas', 'lounges', 'collaborative learning areas', 'studios', 'meeting spaces', 'activity area' and 'breakouts' (Dovey & Fisher, 2014).

What do we want students to know, do and be in these environments if they are to be able to navigate these various spaces?

In our case study research, we have heard stories of ILEs where students have got lost or their unique learning needs have not been met. This is where a systematic approach to 'learner agency' comes to the fore. Learner agency involves students making decisions about how they use space for learning. To be supported to do this, there are a range of agency related factors to consider -assessment capability, student voice and of course the capacity built through 'slow release'.

Assessment capability is where students are active decision-makers who have a range of information about their own learning and are assisted by their teachers to discern where they are in their progression of learning and define their next steps. This agency is exemplified in the way students can engage in dialogue about their assessment data (as aspect of student voice). Urban primary Principal, Kim (pseudonym), told us how students in her school can determine whether they need further information on their progress and articulate what they need to address a particular aspect of curriculum.

They know what their next learning steps are and have the power to actually influence in dialogue – saying, actually, I think I need a running record. I think I found these books these are looking okay for me. I think I might need to be pushed to green, you know, even at year one level.

A number of Principals we have spoken with about ILEs described how students opted into workshops to address self-diagnosed gaps in their learning. Pedagogically, processes that support this involve clear learning goals, criteria used dialogically for peer assessment, cyclic opportunities for self-assessment, and real opportunities for decision making that may at times challenge the comfort zones of teachers. These aspects of assessment for learning take place in different group sizes in the different classroom spaces

If we want agency in schooling that transcends a focus on just compliance with teacher and curriculum demands, these reflective questions may be useful:

- Are students able to make decisions about which spaces best support them pedagogically?
- Do students access and interpret their own assessment data?
- Do students understand where their learning fits in a progression so they can set goals?
- Can students opt in to learning when they have a self-diagnosed gap?
- Do students see the actions taken and change associated with voice consultation?

It is our concern that, with the impetus for schooling redesign and spatialised pedagogy, agency might be framed with 'old thinking'. As an insightful teacher once told us, "agency is not just following the recipe – not just doing what the teacher wants." So, when contemplating your classroom and how your students enact agency, you may like to consider both the supports in place and the power relations underpinning your approach. Is there scope for authentic decision making or is it akin to the agency espoused by Henry Ford where customers could have a car of "any color so long as it is black"?

If you would like to discuss Innovative Learning Environments with the authors, with a view to contributing to ongoing research in the area, please contact Jennifer Charteris (jcharte5@une.edu.au).

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#### Bringing students in from the margins

#### **Associate Professor Susan Feez, UNE**

# Susan is a Board Director of the Primary English Teaching Association Australia

Those of us fortunate enough to see the documentary *The Backtrack Boys* at recent booked-out pre-release screenings in Armidale were confronted with the challenges of everyday life for young people who find themselves marginalised in regional Australia. As Bernie Shakeshaft, the founder and CEO of BackTrack, argues, Armidale should be proud that the city supports an initiative like BackTrack that provides both haven and hope for young people on the edge. The documentary has already won an award, and will be screened at film festivals around Australia, before general release in late October. There is no doubt that audiences will be both jolted and moved by the stories the documentary tells.

The first jolt delivered by the documentary is Bernie's declaration that BackTrack has three jobs: keeping the young people alive, keeping them out of jail, and helping them chase their hopes and dreams. The documentary vividly depicts how hard it can be to keep these young people alive and out of jail in contemporary Australia, while also giving them hope and a chance to chase dreams. The determination to succeed of Bernie and his team, and the young people they work with, is at once overwhelming and exemplary, an inspiration for educators everywhere.

A central BackTrack aim is to enable marginalised young people to reconnect with education and training. The BackTrack literacy teacher featured in the documentary, Sarah Mills, is studying towards a Graduate Certificate in Education Studies (TESOL) in the UNE School of Education. Sarah now teaches at Armidale High School delivering a program for students from refugee backgrounds, another cohort of students who can be described as marginalised, at least initially on their arrival in Australia. With

committed teachers like Sarah, and so many other talented Australian teachers like her, marginalised students have a chance to be included meaningfully in the classroom. In the School of Education we are very fortunate to be able to contribute to growing the ranks of such teachers.

Bringing students in from the margins is the central premise of a new book published this year by the Primary English Teaching Association (PETAA). The book entitled Teaching with Intent: Scaffolding Academic Language with Marginalised Students, coauthored by Bronwyn Parkin of the University of Adelaide and Helen Harper, a member of the English Language and Literacy Education (ELLE) team in the UNE School of Education, is one outcome of a PETAA-funded research project entitled Scaffolding Academic Language. The purpose of the project was to investigate effective ways of scaffolding academic language so marginalised students can improve their educational outcomes, expand their life choices and share the benefits of 21st century citizenship. The project was a collaboration between four experienced teachers of middle and upper primary school students in two schools, one a remote Northern Territory school and one an urban school in Adelaide with a low socioeconomic multicultural demographic. The focus was on the teaching of science and mathematics, and the related discipline-specific language and literacy demands of these learning areas.

While Parkin and Harper (2018) acknowledge the ways educationally marginalised students are categorised for the purposes of funding support in terms of Indigeneity, geographic isolation, low English proficiency, low socioeconomic status, and disability, their focus is on what marginalisation looks like in the classroom.

In the classroom context, educationally marginalised students are those for whom school doesn't make sense; who

don't seem to understand what is going on. ... They can be the students whose attention span seems to be very short, because they don't really know what they're supposed to do, and the ones who give up quickly when the task gets too hard. They can be the students who have developed great avoidance tactics like sharpening pencils or blowing their nose or tracing over and over the few words they've written rather than take risks with writing more. They can be noisy and disruptive to avoid engaging in a task, or they can be silent, with heads bowed, hoping you won't ask them a question (Parkin & Harper, 2018, p. 3).

Anyone who has ever taught in a school will feel a jolt of recognition on reading this description. It could be applied to students in almost any classroom we have worked in.

In their book Parkin and Harper argue that to help such students make sense of what they are learning at school, and to bring them in from the margins so they can become confident enough to participate, we need to make explicit the learning goals and processes of the school, and, importantly, the language of educational learning. As they point out:

Each learning area in the curriculum has its own powerful language, consisting of powerful texts, powerful technical language and powerful grammar (p. 3)

The focus of this book is the language of science, because it 'can seem especially impenetrable to the uninitiated', and because a grasp of science, including the science behind climate change, healthy living and sustainability, can be considered 'a prerequisite for participatory citizenship'.

The teachers collaborating on the project avoided the temptation 'to present science as ... 'gee whizz' displays of phenomena that seem like magic' or 'to stay safely within the realms of students' everyday experience for most of the available teaching time'.

Instead, their goal was 'to tackle upfront the challenge of thinking and talking like scientists'.

The pedagogy used to achieve this goal integrates features of three approaches to teaching and learning often considered to be at odds with each other; these are teacher-centred, child-centred and critical approaches. The sequence of teaching and learning used in the project was designed to apprentice the students into the community of scientists, with the teacher gradually handing over control of the knowledge to the students.

A key feature of the pedagogy is a Vygotskian view of learning as occurring with the support of an 'informed other', so that students can achieve beyond the level they can achieve on their own. In addition, central to the pedagogy is the teaching and learning of the language of science, which includes opportunities for students to imitate the teacher's language use, intentionally and meaningfully. In this way, students can progress from their involvement in concrete activities to being able to talk about scientific processes in the technical and abstract language of science.

The type of support provided by this pedagogy is called *scaffolding*, a very specific type of explicit instruction.

Scaffolding is contingent, goaloriented support provided by a culturally knowledgeable other to novices with the intention of supporting the gradual handover of knowledge and the appropriation of knowledge by the learner. In the process, the scaffolder builds a bridge between the known and the unknown, gradually moving the learner towards new meanings and forms of language which express those meanings (p. 40). Scaffolding has two levels:

- the designed-in macro-scaffolding of the teaching program, the systematic scope and sequence of learning
- the dynamic minute by minute contingent micro-scaffolding of the language for learning achieved through negotiation in the classroom at point of need

This approach begins during the programming (macro-scaffold) stage with the teacher writing a focus text that exemplifies the powerful scientific language the teacher wants to hand over to the students. The focus text acts both as a guide for the teacher during the development and implementation of a sequence of teaching and learning, and as a clear expression for students of the learning intention and goal they are working towards.

Micro-scaffolding is a function of classroom talk, the dynamic interaction between teacher and students that sets students up to succeed. The key features of micro-scaffolding are sharing, inclusion and meaning-making. The purpose of the pedagogy is to share with students knowledge already shared by the community of scientists; at the micro level this means sharing with students the purpose of each of the activities and including them in scientific conversations by supporting them in ways that mean they can take up the language of science needed to participate in these conversations. Inclusive conversations are respectful and give students the confidence to participate. They are also enabling, so gradually the students can take over control of the classroom talk as they gain access to the academic language they need to talk about the scientific concepts captured in the focus text.

In this pedagogy assessment is intertwined with instruction. It includes strategies for assessing student progress and achievement, even where a student might still need support. From a Vygotskian

perspective what a student can do with support is a source of valuable assessment information, not only about the student's progress but also about the effectiveness of the teaching. For this reason, and to maintain student confidence and inclusion, for marginalised students scaffolding may not be removed completely during assessment, even though a complete handover of control of the target knowledge is the end goal.

When as teacher educators we think about what it means to bring students at school in from the margins, we must engage with issues often skimmed over in the academic literature and completely overlooked when education systems and the mainstream media evaluate teachers' work and hold them accountable against abstracted metrics-based evidence and confected debates. Yet, every day, teachers confront in their classrooms the reality of students experiencing life on the margins, a reality our teacher education students will be forced to attend to and take responsibility for in their classrooms into the future. Whether captured in measurements of educational outcomes, or not, what matters in the end is a teacher's capacity to build inviting learning environments which share with students, and include them in, the languages of power and opportunity, and which enable them to participate in the communities that use these languages.

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Bachelor of Education (Secondary Arts) – une.edu.au/ courses/courses/BEDSA

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