Australian College of Educators

Conference Proceedings

EDUCATORS ON THE EDGE:
Big ideas for change and innovation

ACE 2015 National Conference

Brisbane – 24 & 25 September, 2015

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Editorial

This year's Australian College of Educators (ACE) National Conference theme is 'Educators on the edge: Big ideas for change and innovation'. Therefore, ACE has proudly presented an opportunity for all education professionals to gather, discuss and share cutting-edge, creative and innovative practices, nationally and globally at this two-day event held on 24 & 25 September in Brisbane.

These ACE 2015 National Conference Proceedings include high quality Keynote Addresses, Paper Presentations, Interactive Workshop Session Papers, a Provocation Paper and the winning Paper from the ACE | ASG Student Educator *Writing the future* National Award.

In our 'Call for Papers' this year, Australian educators were invited to submit an Abstract for either a Paper Presentation, or for an Interactive Workshop Session consistent with this year's conference theme. Some of these share practices related to the following:

- Educators adapting to changes and challenges (including technological, economic and social)
- Innovative approaches educators 'on the edge' are implementing to improve student learning
- Cutting-edge, creative and innovative practices, nationally and globally.

Abstracts received for a Presentation, or for an Interactive Workshop Session were reviewed and, if accepted, were enabled to become full Papers and / or presenters were provided with an option of submitting a Paper related to their Workshop Session with publication in this Conference Proceedings.

A panel of reviewers, consisting of education experts, was established and they assisted in constructing meaningful feedback to both the successful and unsuccessful authors. We acknowledge the contributions, efforts, feedback and wisdom of:

- Professor Nan Bahr
- Dr Philip Brown, FACE
- Professor Glenn Finger, FACE (Chair, Panel of reviewers)
- Dr Kevin Larkin
- Dr Frederick Osman, FACE
- Professor Parlo Singh
- Ms Karen Spiller, FACE
- Dr Bill Sultmann, FACE
- Mr Greg Whitby, FACE
- Dr Gerry White, FACE

The response was very strong, with a total of 45 Abstracts submitted, consisting of 22 Abstracts for Paper Presentations and 23 Abstracts for Interactive Workshop Sessions.

The reviews were considered by the ACE 2015 National Conference Working Group in terms of relevance and the range of audiences, and 14 were accepted. This represents a 31 per cent acceptance rate, which provides a measure of quality and a pleasing response to our 'Call for Papers'. The panel had a very difficult set of decisions as all Papers reviewed had important stories to tell.

We trust that you enjoy your engagement in this year's National Conference, to be able to meet with colleagues, to share ideas, and to be able to draw upon this publication to visit and revisit the stories about 'educators on the edge', and reflect on the big ideas for change and innovation.

Professor Glenn Finger, FACE and Ms Paola Ghirelli (Editors)

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Welcome

PROFESSOR STEPHEN DINHAM
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UNIVERSITY OF MELBOURNE
VICTORIA

Welcome to the Australian College of Educators (ACE) 2015 National Conference—'Educators on the edge: Big ideas for change and innovation'.

The College proudly presents this opportunity for education professionals from all sectors and levels of Australian education to discuss, together with high-calibre experts and influential education leaders, some of the key challenges and potential directions for education in Australia.

Increasingly, education is seen to be, and is, in reality a tightly coupled system where changes in any one sector impacts on all others, as well as upon society more generally. Additionally, there are powerful interconnected challenges running through, and across education such as technology, innovation, workforce planning, and the development and maintenance of an equitable, cohesive and productive society.

Great emphasis is increasingly being placed on education and educators to solve many of the problems society itself seems reluctant, or incapable of dealing with, and often there are simplistic solutions to the supposed problems of education that are borrowed from the worlds of business, economics and management that have been found wanting elsewhere.

In many of the debates about education, educators have been marginalised and policy makers have looked to fundamental and powerful ideological principles such as deregulation, the so-called free market and technology to deliver innovation, change and improvement. In the case of technology there are real challenges for educators as technology itself is moving so rapidly away from our knowledge of pedagogy. In many cases there is blind faith in technology to deliver improved educational outcomes without really understanding how this is going to be achieved.

The deep-seated, fundamental changes occurring within and being imposed upon Australian education require critique, evidence and direction. There is a great need for an independent, broadly representative professional association to speak on behalf of education and educators and to be proactive and not reactive to imposed change. ACE is ideally placed to fulfil this role. Advocacy is one of the key planks of the College and you will have noticed increased activity in terms of policy papers, responses to submissions and so forth in recent years.

It is not sufficient for educators to merely respond to these developments and pressures. Educators need to be part of the debates, initiate further discussion and provide evidence and direction for what is to come.

By attending and participating in this significant National Conference you have the opportunity to learn more about the current challenges facing Australian education, interact with fellow educators and help us to shape a College position on these important issues.

Thanks to the ACE 2015 National Conference Working Group for their hardworking efforts in developing and organising this two-day event.

Our best wishes for a productive and enjoyable 2015 National Conference.

Professor Stephen Dinham, OAM, FACE
ACE National President

Regulation or deregulation? Observations on education in Germany and Australia

PROFESSOR STEPHEN DINHAM OAM, FACE
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Biography

Stephen Dinham taught in Government Secondary Schools in NSW before being appointed in 1989 to the University of Western Sydney where he held a number of positions including Head of the Department of Curriculum Studies, Associate Dean (Postgraduate) and Associate Professor.

In 2002, Stephen took up a position as Professor of Teacher Education, Pedagogy and Professional Development at the University of New England. He then became Professor of Educational Leadership and Pedagogy at the University of Wollongong in 2005.

Two years later his next role was Research Director of the Teaching, Learning and Leadership research program at the Australian Council for Educational Research (ACER) followed by his current role at the Melbourne Graduate School of Education (MGSE).

Stephen was a Past President of the ACE NSW Branch (2000 -2002) and chaired the Steering Committee responsible for the NSW Minister for Education and Training and ACE Quality Teaching Awards introduced in 2001 till 2007. In June 2002, he was appointed to the Interim Committee for the NSW Institute of Teachers and in August of the same year, to the Commonwealth Review of Teaching and Teacher Education.

In November 2011 Stephen was appointed to the Council of the Victorian Institute of Teaching.

Abstract

This paper compares the educational landscapes of both Germany and Australia with a view to considering the best way forward for each country in the light of the challenges each faces in terms of equity, diversity and educational performance. It compares the organisation of and responsibility for primary and secondary schooling and higher education, including teacher education.

Every educational policy, structure and initiative has its benefits and costs, and thus the perceived relative strengths of education within each country are also seen to bring with them associated challenges. These are explored.

When the first results were released following the introduction of PISA in 2000, Germany experienced 'PISA shock' and put in place a number of initiatives that have seen Germany's results for PISA and for equity improve in every subsequent iteration of PISA, whilst still maintaining a highly regulated state [land]-based system of educational organisation.

Australia, in comparison, has moved more towards deregulation of education through greater privatisation of schools and opening education to market forces, often without adequate evidence or in some cases in spite of it. Concurrently, Australia's performance on international measures has declined and equity gaps have widened.

Background

I have been visiting Germany since 2008 under the auspices of the Robert Bosch Stiftung [foundation] to participate in dialogue around key international issues, including those relevant to education[1]. My most recent visit of three months in late 2014 − early 2015 as a Richard von *Weizsäcker* Fellow of the Robert Bosch Academy [2] enabled me to spend a longer period in Germany visiting schools, observing classrooms, teaching, presenting, interviewing in schools, universities and various government departments, and engaging with educators, relevant ministers, officials and others.

The focus of my recent fellowship was on comparing the German educational landscape with that of Australia, including structural and regulatory arrangements, policy, and current trends and developments. I was also interested in how Germany had traditionally-structured primary and secondary education and the concerns some had expressed about the influence of 'tracking' on student performance.

When I first visited Germany I was struck by several concerns held within the country. The first was 'PISA shock', still being felt from the results of Germany's first Programme for International Student Assessment (PISA) results in 2000. Germany had believed its education system to be amongst the most effective in the world. PISA indicated otherwise (OECD, 2011, p. 201). The second, possibly related issue, was the educational attainment of growing numbers of migrant and refugee children, many with non-German speaking backgrounds from nations such as Turkey, Russia, Poland and the Balkans, and whether this might be responsible at least in part for the unexpectedly unfavourable results.

I have commented previously on the powerful, fundamental and largely unnoticed changes occurring within Australian education (Dinham 2014a; 2014c), which include strong emphases on deregulation, privatisation, greater 'autonomy' for schools, and opening schools and education more generally to competition and the 'free market'.

These beliefs and trends are manifest in developments such as government funded Independent Schools, 'uncapping' of undergraduate places for teacher pre-service education, entry of new teacher education providers, the beginnings of a movement of teacher education (back) to schools, the 'Teach For …' program, calls for greater autonomy for schools and the entry of international publishers and 'big business' into all aspects and phases of education (Dinham, 2015).

These developments are grounded in a belief that public education in its traditional forms is failing and is in 'crisis' (Berliner & Biddle, 1995; Berliner, Glass & Associates, 2014; Dinham, 2014a; 2015). According to this logic, deregulation and competition are essential for encouraging greater flexibility and innovation and will lead to higher levels of educational performance. However, evidence is frequently lacking prior to the introduction of such developments and in some cases, available evidence refutes the claims made by proponents. Change occurs nevertheless and even accelerates. I was interested to see if such forces for change were operating in Germany, and if so, the extent of their impact.

Purpose and scope of this paper

In this paper, education is compared and contrasted in Germany and Australia with a view to considering the best ways forward for each country.

Every educational policy, structure and initiative has its benefits and costs, and thus the perceived relative strengths of education within any country are also seen to bring with them associated challenges. These are explored. Because of greater familiarity of the intended audience with Australian education, more time is spent examining relevant features of education in Germany.

Due to the complexities of German education, where each of the 16 *Bundesländer*/*Länder* ('states', land singular) has responsibility for its respective education system, what is presented is a general picture, although there is a high degree of commonality in terms of traditional and contemporary approaches, regulations, governance and structures across Germany.

Responsibility for education

Germany and Australia are similar in that constitutionally education is a state responsibility. In the case of Germany there are thus 16 educational 'systems' rather than one, with each Land determining its own educational policies, regulations and mechanisms for standards, innovations and quality assurance.

Similarly in Australia there are eight states and territories with primary responsibility for school education, although since 2007 there has been more of a nationally consistent approach in the areas of national testing, National Curriculum, professional teaching standards, teacher development, teacher appraisal and certification, and the accreditation of teacher education courses.

Thus, while some aspects of education and schooling in Australia have become 'looser' through deregulation, some aspects have become more uniform, regulated and 'tighter' as a result of national agreements and developments (Weick, 1976).

In comparison, Germany does not have the same level of federal involvement in education as Australia, although there has been greater federal and länder 'soft' cooperation since 2001 in areas such as aggregated national reporting on education, along with reporting on special issues such as diversity and inclusion (see Federal Ministry of Education and Research, 2014), commissioning of international and national studies into certain priority areas and the collaborative formulation of national standards for students at three levels, although the adoption and utilisation of many of these initiatives has been optional and thus take-up has been varied across länder.

A commonly expressed view from educators and policy makers at all levels I spoke with was that because länder vary so much in context–from 'city states' (Stadtstaaten) such as Berlin and Hamburg to rural and regional länder–comparisons between the performance of länder are thus invalid and undesirable.

In my discussions with federal officials, I detected some frustration at the Federal Government's inability to exert more influence over education. There has been some success however in assisting länder with the introduction of more 'all day schooling' (Ganztagsschule)[3], with the result that approximately half of primary age students now attend school for the 'whole' day, although this takes different forms in different länder and schools. The Federal Ministry for Education and Research has also assisted change and improvement through the provision of special programs in areas such as Natural Science and accommodating student diversity, but the take-up of these at a land and school level is once again voluntary and thus variable. There is also a National Conference of Land Education Ministers (*Kultusministerkonferenz)* that attempts to facilitate national cooperation.

While federal authorities provide funding to universities for initial teacher education, there is little federal involvement in continuing professional development for teachers, which is commonly regarded as the responsibility of länder and schools.

A key difference between the countries is in the proportion of students attending Government Schools. In 2012, around 65 per cent of school age students in Australia attended Government Schools, a small proportion by world standards and one that is falling (Australian Bureau of Statistics, 2013). In Germany, the proportion of students attending Non-Government Schools is increasing slightly, but fewer than eight per cent of students in Germany attend such schools (OECD, 2007, p. 269).

Another point of difference is that Local Government plays a more active role in school education than in Australia, with Local Government in Germany being substantially responsible for the provision and operation of schools, apart from teachers' salaries. This involvement of Local Government is more than just financial however, with locally-elected officials and communities demonstrating a high degree of engagement with and 'ownership' of local schools. In Australia, Local

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[3] The fact that the majority of schools in Germany did not previously operate in the afternoon (although many did open from 7-30am to 1-30pm or thereabouts) was one factor thought to be contributing to Germany's disappointing performance on PISA in 2000 and subsequently. Up to the 1980s Saturday schooling was however common in both East and West Germany but is rare now.

Government has very little involvement in education apart from local regulations and utilities, and with the Commonwealth Government having a greater role in school funding than in Germany.

In both nations there is thus a lack of direct Federal Government influence and control over education, with commensurate need to gain consensus with the states/länder in order to implement uniform national policies, structures, programs, standards and change agendas.

The organisation of schools: 'Tracking' versus 'comprehensive' schooling

The most significant difference between German and Australian schooling lies in the organisation of primary and particularly secondary schooling.

In Germany primary schooling (Grundschule) begins at age six[4] and ends at the age of 10 (Grade 4) after four years (except for Berlin and Brandenburg where students leave primary school at 12), whereas in Australia there are seven years of primary schooling–Western Australia and Queensland have adopted this structure in recent years–from the ages of five to 12, ending in Grade 6.

Whilst comprehensive secondary education was progressively introduced in Australia from the mid-1950s (Campbell & Sherington, 2013), it is still rare in Germany and is an option in some places only rather than universal, meaning such schools are not truly comprehensive in the usual sense of the term.

Traditionally, entry to the secondary 'tracks' below was determined by the decision of primary school staff after students' completion of Grade 4. More recently, parents in some cases now have a choice in (or try to influence) the type of school their child will attend. Some educators I spoke with see this as a retrograde step, in that the decision has been taken out of teachers' hands, with greater pressure now being exerted by 'pushy' and/or 'middle class' parents. In some communities, entry to the highest status and more sought after

Gymnasium Schools (see below) is through ballot.

German secondary education varies from land to land and regionally within länder but typically there are now five major forms[5], although this list is neither complete nor universal (see Hainmüller, 2003). The first three types are the traditional pathways or forms of secondary schooling in Germany. Although it is possible to change tracks, this is usually 'downwards' and not to a 'higher' track[6]:

1. Gymnasium (or Grammar Schools): the most 'academic' schools, operate until Grades 12 or 13 and enable those who meet the general standard for entry to university (Hochschulreife) and passing of the Arbitur examination to qualify for university entrance.[7] [Originally intended for students of the highest ability to take examinations for the Arbitur and then gain entry to training for the most prestigious professions. Two foreign languages are usually required with higher level maths and science and optional 'honours' courses (Leistungskurse) available.]

2. Realschule: Grades 5 – 10 with the Mittlere Reife exit exam and Realschulabschluss qualification. [Originally intended for students of higher ability to prepare them for a 'white collar' qualification.]

3. Hauptschule [Main School]: the least 'academic' stream usually ending in Grade 9 (with the qualification of Hauptschulabschluss and in some cases Realschulabschluss after Grade 10, and in the case of Mittelschule [Grades 5 – 10] combining Hauptschule and Realschule in some länder). [Originally intended for the lower ability majority of students to prepare them for 'blue collar', working class occupations.]

4. Fachoberschule: Vocational/Technical School, [sometimes leading to a

Berufsschule that offers academic study combined with an apprenticeship] with admission after Grade 10 until Grade 12 (or 13 in some cases), with the Arbitur available/obtained subject to certain conditions.

5. Gesamtschule: Grades 5 – 12 or 5 – 13 Comprehensive/Community School effectively combining the three main types of secondary school. [Comprehensive in nature but not universal as only a minority of students attend such schools. The Arbitur is available/obtained subject to certain conditions.]

Traditionally the highest status stream has been the Gymnasium and because of this and the pathway to university it offers, demand remains high for this option. Teachers in Gymnasium Schools usually earn higher salaries, have lengthier training and are considered subject experts (in two subjects), unlike Australia where (primary and secondary) teachers with the same qualifications and experience earn the same or similar salaries regardless of the type or level of schooling.

Because of the recognition that streaming or tracking students can be counter-productive, in terms of students achieving their potential (Hattie, 2009, pp. 89–91), having access to a broad secondary education and gaining entry to higher education, and research evidence from measures such as PISA revealing that high performing nations such as Finland do not 'track'–there have been moves to make the various certificates such as the

Hauptschulabschluss, Realschulabschluss and the Arbitur more available across the various forms of secondary education and to make the higher levels of secondary subjects such as mathematics, science and thus higher education more accessible to a greater number and wider spread of students.

While Gesamtschule (comprehensive secondary schools) have increased in number since the 1960s, these are still not widely available and are considered by many to be an inferior form or option to, rather than as a replacement for Gymnasium. Having visited schools of the two types, there appears to be some tension and antipathy on the part of staff and parents from each towards the other.

Debates concerning 'tracking' or 'streaming' continue across Germany. Critics of 'ability' streaming claim that making such decisions so early in a student's academic career is both unfair and ineffective in terms of limiting opportunity and unmet potential, especially for students from poorer and/or other backgrounds who are still mastering German. Critics also point to the fact that parents from higher socio-economic backgrounds are more successful in having their children gain entry to Gymnasium, with the result that there is a form of socio-economic segregation that is self-perpetuating.

According to proponents of tracking, teachers are better able to meet the academic needs of students through tailoring teaching to the various broad ability levels of their students. Some principals and education officials I spoke with reported that Gymnasium teachers can have an attitude that they are subject content experts and as such should not have to meet the needs of more diverse students through adapting their pedagogy.

Supporters of tracking also note that Gesamtschule Schools are ranked lower than other forms of German secondary schools on PISA, and that students from lower socio-economic backgrounds attending Gesamtschule do worse than students with higher SES backgrounds attending the same schools, the (tenuous) implication being that lower SES students would be better off following a traditional path such as Realschule or Hauptschule/Mittelschule.

A key question is whether Germany's improving educational performance is because of, or in spite of, the tracking that still exists. Until greater numbers of more representative students attend Gesamtschule and this type of school becomes more widely available so that more informed conclusions based on evidence can be drawn, these debates (and prejudices) are likely to continue.

Internationally, the issue of ability streaming remains contested and despite Australia ostensibly having comprehensive schooling there are signs that ability grouping and more formal 'tracks' within schools are experiencing a resurgence, possibly due to the pressures coming from external testing, despite evidence that both tracking and academic streaming do not have significant positive influences on student

achievement overall (see Kilgour, 2007; Hattie, 2009, pp. 89–91).

Higher education in Germany

Universities in Germany are typically state institutions, controlled and financed by State Ministries of Education. There are two main types of higher education institutions; universities (Universitäten) and 'Fachhochschulen' (universities of applied sciences and arts). Initial university undergraduate education is essentially free and provided by the state but higher degree studies undertaken beyond this attract fees, which may be a disincentive for practitioners such as teachers to engage with ongoing professional development, something picked up later in this discussion.

Traditionally it has been difficult to obtain a university academic position in Germany, with criticism that the process was both protracted and subjective, being unduly and unfairly influenced by 'contacts' and patronage. From 2001 attempts have been made to open up access to higher education, including the use of a new 'junior professor' position or pathway as an alternative to the traditional 'Habilitation' requirement (see below) to become a professor. There have also been attempts to introduce a more merit based career advancement system, rather than relying so much on seniority and 'contacts'.

Habilitation is a form of advanced theoretical work, which doctoral holders are required to complete to become a professor, and is sometimes referred to as a 'second PhD'. The effect of this traditional pathway to the position of professor has been to foster a strong theoretical basis–a higher level of abstraction–which in some ways removes the professor or 'scientist' further from the practical and applied aspects of their profession.

Teacher education in Germany[8]

Teacher training in Germany is controlled by individual Land

legislation.[9] Ministries of Education regulate training through examinations and rigorous course accreditation and teacher certification/employment requirements, much more so than is the case in Australia.

Despite the fact the teacher education is regulated by land authorities, there is a high degree of national commonality in teacher pre-service training and qualification as a teacher.

Entry to teacher education is through attainment of the Hochschulreife (general standard for entry to university) and passing of the Arbitur examination. There are two stages to teacher training, study at a higher education institution and practical pedagogical or preparatory training. A pass in the 'first state examination' (Staatsprüfung)[10] at the end of undergraduate university training is required for admission to teacher preparatory training (Vorbereitungsdienst).

Teacher education courses must usually include the study of at least two subjects or subjects groups, educational psychology and theory, pedagogy, additional study areas and practical school experience.

Training for primary school teachers (up to Grade 4) typically takes 3.5 up to 5.0 years at university, comprising a bachelor's (BA or BSc) and then a master's degree (MA, MSc, MEd). For lower secondary teachers (Grades 5 – 9), 3.5 to 4.5 years of university training is generally required as above, with a further two years of practical training in school settings in each case (see referendariat below).

The typical pathway for teaching at the upper secondary level in Germany consists of a three-year BA/BSc degree. Candidates are required to choose two subjects as majors for their study program which provide the academic subject content knowledge to teach these subjects in schools. Candidates take courses in subject specific pedagogy for each major as well as general pedagogy/educational science that provides broader educational

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[8] See http://www.european-agency.org/country-information/germany/national-overview/teacher-training-basic-and-specialist-teacher-training

[9] Once again, there are variations and new initiatives. What follows is typical but not universal.

[10] Other professions also require state examinations–including doctors, pharmacists, lawyers, judges, prosecutors–as a matter of public interest and quality assurance.

knowledge as part of their initial undergraduate degree[11].

This three-year undergraduate programme in content and pedagogy-which can involve some practical work in schools–is then followed by a two-year master's degree (MA, MSc, or MEd). Here teacher candidates continue to follow their chosen subjects as majors. Once again they take courses in content specific pedagogy as well as general pedagogy/educational science.

Teaching practice (termed the referendariat) then occurs, usually over two years, where candidates (on a partial salary) acquire the practical teaching skills in their subjects under the supervision of a senior teacher or mentor while continuing to take courses in general pedagogy and subject specific pedagogy. Candidates are examined at the end of the two years with the 'second state exam' (Staatsprüfung).

Teachers who gain fully-qualified status through this process and who obtain a position then have civil servant status and 'a job for life'. In effect, once someone commences a teaching pathway, he or she is 'locked in' to the profession, assuming they pass, unlike Australia where many people undertake an undergraduate degree before deciding to be a teacher. In Germany however, there is less mobility between qualifications and occupations.[12]

In general teachers in Germany have a stronger and lengthier theoretical foundation in content, pedagogy and practice prior to becoming a qualified teacher than is the case in Australia. Based on conversations in Germany and my observations there and in Australia, the overall variation in the standard of teacher education courses is less in Germany than in Australia as a result of these controls, a matter the recent Teacher Education Ministerial Advisory Group (TEMAG) inquiry (2014) sought to address.

The commitment to become a teacher in Germany is thus a substantial one. As an

aside I believe this is one reason why the 'Teach For/First' movement in Germany has had only limited acceptance. Where 'Teach First Deutschland' 'Fellows' have been placed in schools–they have been accepted at only 125 schools across six länder[13] —their main role has been more to do with assisting teachers and supervising extra-curricular activities than teaching in their own right because they do not have and are not acquiring the requisite training. Further, such Fellows do not receive a qualification or credit/advanced standing for the two years they usually spend in this role. To become a qualified teacher they would need to undertake a full program of teacher education as outlined previously.

Ongoing teacher professional development

When speaking with teachers and principals in schools of various types in Germany about ongoing professional learning there was general dissatisfaction expressed with externally provided in-service education. There was a view that such activities and courses were not seen as relevant to teaching and were more about complying with imposed educational change. Likewise there was a perception that universities exist to provide initial teacher training, but that universities' have other offerings–which unlike initial training have to be paid for –are theoretical and unnecessary. After up to seven years of examinations, courses and practical work, a teacher is considered a fully-qualified professional. University education academic staff I consulted saw teachers' ongoing professional learning as a land and school responsibility.

However, there was a firm belief from a minority of teachers and principals I consulted that collaborative professional learning with colleagues was of great value. Some schools I visited, including those that were recipients of the German School Award ('Der Deutsche Schulpreis')[14], were characterised by strong staff commitment to and involvement in professional learning, something thought essential to the 'turnaround' process with which some of these schools had been engaged.

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[11] There is also training for teachers of special education. See http://www.european-agency.org/agency-projects/Teacher-Education-for-Inclusion/country-info/germany/structure-and-content-of-initial-teacher-education-courses
[12] By contrast, in Australia the usual tracks to become a teacher are either a four-year undergraduate Bachelor of Education degree or a three-year undergraduate degree followed by a two-year Masters under current AITSL program requirements (AITSL, 2011).

[13] See http://teachforall.org/en/national-organization/teach-first-deutschland
[14] See http://www.bosch-stiftung.de/content/language2/html/1007.asp

More typically however, principals described the difficulties and frustrations they experienced in trying to engage teachers in professional learning, particularly that taking place outside the school. Principals explained that while they had some authority over the allocation of teachers to particular subjects and grades, they had none over teachers' engagement with professional learning, especially if this took place out of 'school hours'. Principals also reported union opposition to requiring teachers to engage in in-service training once teachers were qualified.

In comparing the two countries it seems that in Australia there is a greater acceptance and practice of in-service education being provided by employers, professional associations, universities and others, than in Germany. A case in point is the use of professional teaching standards in Australia that are designed, in part, to inform teachers' professional learning (see Clinton, et al., 2014). When explaining features of education in Australia I was told on numerous occasions that the introduction of teaching standards with allied appraisal and certification processes for qualified practicing teachers would be strenuously resisted by teachers and their unions in Germany.

There is also the issue of teacher tenure in Germany, which as noted, in effect provides a job for life once employment is obtained. This undoubtedly helps to attract people to the profession, provides security and aids retention but it could work against on-going involvement in professional learning. Further, Australia has a longer history of formal teacher performance development and appraisal then appears to be the case in Germany. In talking with principals from both countries, whilst principals in Australia might complain about the difficulty of dismissing a poor teacher, principals in Germany speak of the impossibility of the task.

The value of education and training

An overall impression is that Germany has, and continues, to place great emphasis upon formal education and training. There is compulsory school attendance (*Schulpflicht*) from age six until 15 and home schooling is illegal. There is strong belief in the contribution effective public education makes to personal, social and national prosperity.

There are pathways to obtaining certificates, diplomas, degrees and other qualifications that are long established and well-known, including the highly regarded 'dual system' with industry.[15] Training for any occupation is usually lengthy with the payoffs being tenure, security, salary and status. A possible downside with this arrangement is the difficulty involved with changing careers when essential qualifications are lacking and retraining is necessary. One's initial choice of career is often binding or limiting.

There is also the growing issue of recognising qualifications from other nations, something Germany is currently addressing due to the influx of migrants and refugees. I encountered strong opposition to the possibility of any weakening or downgrading in the training and qualification requirements for particular occupations through accepting 'lesser' qualifications from outside the country.

In schools, a major emphasis is placed upon a broad education with students learning at least one language in addition to German (with two foreign languages the norm in Gymnasium). I visited a number of schools where a subject such as Geography was being taught in English (and had the pleasure of teaching about Australia in some classes). I also witnessed the ready labelling of students as gifted, or not, and the apparent acceptance of such categorisation or labelling, something with which I was uncomfortable, knowing the harm it can cause (Hattie, 2009, pp. 214 – 215). Sometimes the various types of secondary schools 'tracks' are part of the one educational complex or precinct with shared facilities, again an uncommon occurrence in Australia, although the lack of school uniforms possibly ameliorates stigmatisation from being in a 'lower' status school.

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[15] 'Germany's dual education system is called 'dual' because it combines apprenticeships in a company and vocational education at a vocational school in one programme. In the company, the apprentice receives practical training which is supplemented by theoretical instruction in the vocational school. Around 60 per cent of all young people learn a trade within the dual system of vocational education and training in Germany.' (OECD, 2011: 205).

As noted, school and undergraduate education, along with other forms of technical education and training, are essentially free and this is seen as an investment and indeed an obligation on behalf of the state.

Whilst in Australia Governments are moving away from supporting technical education through cutting funding to traditional technical ('TAFE') colleges, encouraging alternative providers and importing skilled labour rather than training local people, Germany is prepared to invest in education and training.

At a time when other nations are moving more towards the notion of deregulating and marketing education at all levels under a 'user pays' philosophy, education and training in Germany remains highly regulated and in the hands of public authorities.

Integration of students with disabilities and care for students

There have been significant efforts in Germany at the federal and state levels since 2001 to address the issues of the growing diversity of the school population, disadvantage and the integration of students with disabilities into mainstream schools (OECD, 2011). It is commonly accepted that Germany and German schools were unprepared for the influx of economic migrants and refugees over the past two decades.

Some schools I visited in lower socio-economic areas offer breakfast programs for students and others offer lunch programs (the movement of more schools to 'whole-day' schooling has added to the need for the latter). These meals tend to be open to all students at the school, rather than the situation sometimes seen in Australia where certain students are nominated or selected to undertake breakfast or lunch programs, with possible resultant lower status or stigmatisation. The prevalence of teachers sitting, interacting and eating with students which I observed in schools appears to be both a product of and a contributor to greater teacher-student understanding, positive relationships and mutual respect, all of which auger well for greater student achievement.

There has been a major emphasis on the integration of students with disabilities

into regular schooling rather than the previous situation of more special schools and tracking. Catering for diversity has been an increasing concern and emphasis in Germany over the past two decades. Special education needs have been identified for almost half a million school children and various programs introduced and structural problems overcome to implement a more inclusive education system (see Federal Ministry of Education and Research, 2014).

How do the two nations compare on international measures?

As noted, prior to the introduction of PISA in 2000, German policymakers and the general public were of the opinion that Germany had one of the most effective and highest performing education systems in the world, although there were warning signs that were largely ignored when Germany first took part in the Trends in International Mathematics and Science Study (TIMSS) in 1995 and the nation scored relatively poorly (OECD, 2011: 208).

The first PISA results revealed that many German schools were under-performing compared with other countries participating in PISA. Germany reacted strongly to these adverse findings, with the result that its PISA results have improved in every iteration since 2000 (Bloem, 2012).

The OECD (2011, p. 201) summarised the major factors contributing to Germany's strong recovery and improvement on PISA since 2000. These factors include:

- Changes made to the structure of secondary schooling to enable greater accessibility to the various qualifications including the Abitur and other measures aimed at overcoming the effects of socio-economic background on student achievement, which are greater than for any other OECD country.

- The high quality of Germany's teachers including the strong focus on initial selection, state-based examinations, training and certification.

- The value of Germany's dual system whereby workplace skills can be developed in children before they leave school.

- The development of some common standards and curricula guidelines and the assessment and research capacity to monitor these.

Because of near universal public education in Germany, coupled with strong land control, it may have been easier to introduce reforms across systems and schools than might be the case in a more diverse and less 'controlled' system such as Australia, which has a large (by world standards) and growing Non-Government School sector.

International tests are only one indicator of teaching and learning achievement but the following comparisons between Germany and Australia may be instructive. In some cases, Germany does not participate in the respective testing regime, for example, Year 8 TIMSS.

As noted, Germany is now in the position where its PISA results have shown marked, steady improvement since 2000. That is not the case for Australia however, where PISA results have been in general decline and measures such as PIRLS (*Progress in International Reading Literacy Study*) and TIMSS have recorded primary school results that are inferior in comparative terms to Australia's secondary TIMSS and PISA results (Dinham, 2014b).

It can be seen below that on every aspect of TIMSS, PIRLS and PISA–with the exception of PISA Reading Literacy where Australia narrowly leads Germany and with the difference in performance not significant–German students outperform their Australian counterparts.

Table 1. TIMMS (Trends in International Mathematics and Science Study) 2011

	Australia	Germany
Year 4 Maths	18th out of 52 'countries'*	16th [statistically different to Australia]
Year 4 Science	25th out of 52 'countries'	16th [statistically different to Australia]
Year 8 Maths	12th out of 45 'countries'	N/A
Year 8 Science	12th out of 42 'countries'	N/A

Source: Thomson, Hillman et al., 2012)
* Countries is used advisedly as some of the jurisdictions'' samples are from cities, city states, parts of countries or actual countries.

Table 2. PIRLS (Progress in International Reading Literacy Study) [2011]

	Australia	Germany
Year 4 Reading	27th out of 48 countries'	16th [statistically different to Australia]

Source: Thomson, Hillman, et al., 2012

Table 3. PISA (Programme for International Student Assessment) [2012]

	15-year olds, 2012	
	Australia	Germany
Reading Literacy	13th out of 52 'countries'	19th [not statistically different to Australia]
Scientific Literacy	16th out of 55 'countries'	12th [not statistically different to Australia]
Mathematical Literacy	19th out of 53 'countries'	16th [statistically significantly different to Australia]

Source: Thomson, De Bortoli & Buckley, 2013

Despite Germany's ongoing concerns over its performance on international measures of student achievement, as noted, this performance has improved significantly. Germany, along with Mexico and Turkey, are the only countries to have improved in both PISA mathematics and equity since 2003, with these improvements largely the result of better performance amongst low-achieving and disadvantaged students, and with Germany's performance in mathematics, reading and science now above OECD averages. Possibly the one negative amongst this pattern of significant improvement is that Germany also has one of the highest rates of grade repetition among OECD countries[16], although some might argue this improvement is partly attributable to repetition.

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[16]PISA data for 2012 indicated that one in five students in Germany had repeated a grade at least once (Bloem, 2012, pp. 1, 9).

Discussion: The strengths and weaknesses of tradition and regulation

While it could be argued that strong traditions and tight Land Government regulations in education might hinder innovation and change in Germany, these can also act as a form of protection from international trends and forces and ensure that standards are not compromised. Whilst Australia is moving down the road of greater deregulation, there is strong resistance to this in Germany. As noted, federal agencies in Germany are relatively less influential in education than is the case in Australia and this might also act to protect the country as a whole from some of the fads and fashions that are becoming endemic in other countries such as the US and England (Dinham, 2014a; 2015).

The notion of teachers having 'a job for life' and whether this works against teachers' continued professional development is open to speculation. Certainly tenure is an incentive to undergo the lengthy training required to become a teacher, and to some degree this contributes to the relatively high status of the profession. On the other hand the notion of being a fully-trained autonomous professional could work against a commitment to and involvement in ongoing professional learning for some teachers. This constitutes a challenge for many principals, according to those with whom I spoke. As an aside, I frequently encountered the view that there is reluctance on the part of teachers to nominate for the position of principal and that principals lack authority and sufficient remuneration yet are accountable to all. Principals also have a heavier teaching load than is the case in Australia, which might also make the position unattractive to some.

There is no context free recipe or model for educational success, however defined and measured. Australia is not Germany, nor Finland, Singapore or Shanghai for that matter. However, Germany has been successful in lifting its performance at a time when Australia's is in decline, and so there may well be lessons to be learned.

To sum up, some of the existing strengths of education in Germany, and some of the changes implemented since the first PISA results from 2000, include:

1. Strong state or länder involvement in and control over standards in teacher education.

2. The rigorous and lengthy process of becoming a teacher, including entry exams, subject content, specific and general pedagogical training, exit exams, and structured induction and beginning teaching in schools.

3. The relatively high status of teaching as a profession.

4. The strong and meaningful involvement of local government and local communities in schools.

5. The strong and continuing national emphasis on investing in education and training for personal, social and economic prosperity, with 'free' school education, training and undergraduate education.

6. The dual education system involving schools, employers, governments and trainees that involves around 60 per cent of all young people (OECD, 2011, p. 205).

7. The collaborative formulation of national standards on student learning and the quality of teaching, although these are not universal or binding.

8. The emphasis and focus on low-achieving, disadvantaged students, diversity and inclusion since 2001, with resultant effects on higher performance and greater equity.

9. Movements to widen opportunity in secondary education and give access to students of a fuller range of certificates and career paths, although true comprehensive education is unlikely in the near future.

10. The emphasis on a broad education, including foreign languages.

11. Greater reporting and national and international research and benchmarking in education.

12. Overall, a general determination to move from rationalising about to addressing poor student performance, partly for national pride and for other reasons.

However challenges remain for education in Germany, including:

1. The relatively large variation in between-school performance, possibly reflecting the 'tracking' that occurs in secondary education.

2. Gaining greater acceptance and take-up for true comprehensive education.

3. Addressing the high rate of grade repetition, if in fact this is problematic.

4. The gender gap in Mathematics, where boys outperform girls, although girls outperform boys on reading, with boys and girls comparable on performance in science.

5. Providing greater opportunities for students in the various 'tracks' to learn more formal mathematics and higher levels in other subjects such as science.

6. Addressing the shortages of Mathematics teachers (although in 2003 – 2012 reported shortages of science and German Language teachers declined) (Bloem, 2012, p. 10).

7. More fully engaging teachers in on-going professional learning and equipping and empowering principals to be more effective instructional leaders rather than administrators (Dinham, 2013).

8. Transferring some authority from the state to local schools yet dealing effectively with under-performing schools and balancing greater autonomy with greater accountability.

9. Providing greater availability of meaningful 'whole-day' schooling, especially in primary education.

10. Continuing to address issues associated with disadvantage, refugees and migrants.[17]

11. Gaining greater alignment and collaboration between educational researchers, policy makers and practitioners.

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[17] Some have attempted to link the seemingly worsening situation of the behavioural climate in German classrooms with greater student diversity and inclusion (Bloem, 2012: 7-8).

Conclusion

Whilst challenges remain for education in Germany and educators and officials express dissatisfaction with the current performance of schooling, there are impressive features that contrast with the current state of education in Australia.

Overall, the education sector in Germany is highly-valued, well-supported financially, tightly regulated and stable, yet it has shown itself to be responsive, serious about and capable of reform. The improvement in performance on international testing since 2000 is significant, despite the difficulties some within Germany continue to highlight. In this sense it seems that Germany is suffering something of an inferiority complex that is unwarranted.

Finally, the strong emphasis within German education on regulation, standards, evidence, reform and improvement appears preferable to the current situation in Australia where there seems to be a headlong rush to deregulate, dismantle and open (Public but also Private) education to market forces, without, or at times despite, available evidence, whilst overall performance and equity are declining (Dinham, 2014a; 2015).

Acknowledgements

References

Australian Institute for Teaching and School Leadership. (2011). *Accreditation of Initial Teacher Education Programs in Australia*. Melbourne: Education Services Australia. Retrieved from http://www.aitsl.edu.au/docs/default-source/initial-teacher-education-resources/accreditation_of_initial_teacher_education_file.pdf

Australian Bureau of Statistics. (2013). *About Schools, Australia*. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/mf/4221.0

Berliner, D., & Biddle, B. (1995). *The Manufactured crisis – Myths, Fraud, and the Attack on America's Public Schools*. Cambridge, MS: Perseus.

Berliner, D., Glass, G., & Associates. (2014). *50 Myths & Lies That Threaten America's Public Schools.* New York, NY: Teachers College Press.

Bloem, S. (2012). *Country Note Germany – Programme for International Student Assessment (PISA) Results from PISA 2012.* OECD Publishing. Retrieved from http://www.oecd.org/education/PISA-2012-results-germany.pdf

Campbell, C., & Sherington, G. (2013). *The Comprehensive Public High School: Historical Perspectives.* New York, NY: Palgrave Macmillan.

Clinton, J., Hattie, J., Dinham, S., Lingard, R., Gullickson, A., Savage, G., Aston, R., & Brookes, I. (2014). *InSights: Evaluation of the Implementation of the Australian Professional Standards for Teachers – Interim Report.* Melbourne, Australia: AITSL.

Dinham, S. (2015). The Worst of Both Worlds: How US and UK models are Influencing Education in Australia, *Educational Policy Analysis Archives, 23*(49). Retrieved from http://dx.doi.org/10.14507/epaa.v23.1865

Dinham, S. (2014a). *The Worst of Both Worlds: How the US and UK are Influencing Education in Australia,* 2014 Walter Neal Oration, Australian College of Educators, Western Australia Branch, Perth, 28 October.

Dinham, S. (2014b). *Primary Schooling in Australia: Pseudo-Science Plus Extras Times Growing Inequality Equals Decline,* Keynote Address, Australian College of Educators National Conference, Adelaide, 11 September.

Dinham, S. (2014c). Current Developments in Australian Education: A Tsunami Approaches, *Professional Educator, 13*(3), 7–8.

Dinham, S. (2013). Connecting Instructional Leadership with Clinical Teaching Practice, *Australian Journal of Education, 57*(3), 220–231.

Federal Ministry of Education and Research. (2014). *Education in Germany 2014.* Bielefeld, Germany: Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany and the Federal Ministry of Education and Research

Hainmüller, B. (2003). *The Educational Structure of the German School System.* Offenburg, Germany: Teachers Training College Offenburg.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* London, UK: Routledge.

Kilgour, P. W. (2007). *Student, teacher and parent perceptions of classroom environments in streamed and unstreamed mathematics classrooms.* Unpublished Doctor of Mathematics Education thesis, Curtin University of Technology, WA.

OECD. (2007). *PISA 2006 - Schulleistungen im internationalen Vergleich - Naturwissenschaftliche Kompetenzen für die Welt von Morgen.* OECD Publishing. Retrieved from http://www.oecd.org/pisa/39728657.pdf

OECD. (2011). *Lessons from PISA for the United States Strong Performers and Successful Reformers in Education.* OECD Publishing. Retrieved from http://dx.doi.org/10.1787/9789264096660-en

Teacher Education Ministerial Advisory Group. (2014). *Action Now: Classroom Ready Teachers.* Department of Education. Retrieved from http://www.studentsfirst.gov.au/teacher-education-ministerial-advisory-group

Thomson, S., Hillman, K., Wernert, N., Schmid, M., Buckley, S., & Munene, A. (2012). *Highlights from TIMSS & PIRLS 2011 from Australia's perspective.* Melbourne, Australia: ACER.

Thomson, S., De Bortoli, L., & Buckley, S. (2013). PISA in Brief: *Highlights from the full Australian Report: PISA 2012: How Australia Measures Up.* Melbourne, Australia: ACER.

Weick, K. (1976). Educational Organizations as Loosely Coupled Systems. *The Administrative Science Quarterly, 21,* 1–19.

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The worrying implications of privatisation in schooling and of the review of federation

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Biography

Bob Lingard (PhD, FASSA, FAcSS) is a Professorial Research Fellow in the School of Education at the University of Queensland, an Immediate Past National President of ACE, a Past President of the Australian Association for Research in Education and was the inaugural Chair of the Governing Board of the Queensland Studies Authority.

Bob's most recent book is Politics, Policies and Pedagogies in Education (Routledge, 2014). He also has four books in press, including Globalizing educational accountabilities (Routledge) and National Testing in schools: an Australian assessment (Routledge). Bob is also the Editor of the journal, Discourse: Studies in the Cultural Politics of Education and is a Fellow of the Academy of Social Sciences in both Australia and the UK.

Abstract

This provocation will raise issues to do with the nature of schooling into the future in Australia and globally as edu-businesses take on a greater role in both policy and practice in schooling. Policy developments and practices in the state of New York, US, will be used illustratively as a salutary warning of where schooling in Australia might be headed. The implicit dangers in some of the discussion around the current Federal Government's Review of Federation for schooling, especially government schooling will also be addressed. The 'datafication' of schooling policy and practice is an important element in these developments. The provocation will also draw on research on edu-businesses that the speaker has been conducting in both Australia and internationally.

This presentation will focus on two issues, namely the privatisation of and in education (Ball & Youdell, 2008) and the current Federal Government Review of Federalism, and the relationship between the two and possible impacts on schooling in Australia. The review of federalism, along with other structural and political changes (state restructuring, reduction of the state's policy and research capacities and capacity for providing professional development, introduction of a quasi-market in schooling, emphasis on role of school choice in this market, use of data to constitute schooling systems and frame accountability, devolution and more school autonomy, one line budgets at school level, network governance), have opened up policy and practice spaces in schooling for further privatisation of and in schooling. The provocation will argue these two developments will precipitate very real challenges to schooling and its relationships to democracy and social justice.

The privatisation of and in schooling will focus around a case study of the world's largest edu-business, Pearson (Junemann & Ball, 2015; Ball, 2012; Hogan, Sellar & Lingard, 2015). Interestingly, Pearson has recently sold its interest in the Financial Times Group and is also currently looking at divesting its interest in *The Economist*. All of this is to strengthen their work as an edu-business.

Pearson has a global business strategy for its education work with different, but complementary strategies working in the nations of the Global North and those in the Global South. In the nations of the Global North, Pearson's recent business strategy has been constructed around testing, data management and analysis and related professional development and teacher materials. This is linked to what has been called GERM—the Global Educational Reform Movement (Sahlberg, 2011; Lingard, Martino, Rezai-Rashti & Sellar, 2016). At this time, Pearson is conducting research on adaptive, online testing, which is the next development in both national and international testing. Pearson also has substantial data management and analysis capacities and sees the move to 'big data' as opening a further space for their education work. In respect of this case, Pearson's policy developments and practices in the state of New York, US,

will be used illustratively as a salutary warning of where schooling in Australia might be headed.

In the Global South, as Junemann and Ball (2015) document, Pearson have provided venture capital for a range of *edupreneurs* to begin and expand low-fee, for-profit private schools in sub-Saharan Africa, South Africa, Pakistan, India and the Philippines. This is supported under Pearsons' Affordable Learning Fund (PALF). This move is in recognition of business academic Prahalad's (2004) point that the fastest growing market globally is 'at the bottom of the pyramid', that is, amongst the poorest, where such people have collective 'untapped buying power'. Prahalad also argues that by providing services to the poorest, businesses are not only making profit, but at the same time doing good. This is the argument of 'philanthrocapitalism' (Bishop & Green, 2008).

In late 2014, Pearson abolished its Philanthropic Trust and has 'mainstreamed' 'corporate social responsibility' as an example of what Shamir (2008) calls the 'moralization of the market'. While these low-fee, for-profit schools in nations of the Global South might be low fee, they constitute a high percentage of the disposable income of poor families. This can result in gender discrimination, where boys' education will be given priority over girls in the same family. These schools are also challenging the aspiration that 'free', high quality public education for all is central to democracy and a socially just society. Additionally, there is very little defensible evidence to support the educational effectiveness of low-fee, for-profit schools.

The speaker will argue that there is potential complementarity between the agendas of Pearson in the Global North and in the Global South. One can see the potential for the testing and data management agendas to be eventually put in place in the nations of the Global South. The same will potentially apply to on-line adaptive testing. At the same time, we can see the possibility of lobbying moves for low-fee, for-profit private schools in the nations of the Global North. This is an integrated business strategy potentially covering the globe. It should be noted, though, that Pearson still makes a majority of its profits in North America.

The contradiction between these two agendas is apparent in respect of teachers. Pearson proffer strong support for the 'quality teachers' agenda in the nations of the Global North (see, for example, Pearson's series of publications, *Open Ideas* and, in particular, John Hattie's two 2015 pieces), but their support for low-fee private schools that will generate profit is economically dependent upon the employment of un- and under-qualified and very lowly paid, non-union organised teachers often using scripted pedagogies. There is a stark moral contradiction here. It becomes apparent that the bottom-line is profit, rather than social good and corporate social responsibility (CSR) here shrouds this in terms of 'doing good'.

The second case will be an analysis of the Abbott Government's Reform of the Federation process, a process set in train in mid-2014 that will lead to the production of a White Paper on the topic in early 2016. The White Paper will seek 'to clarify roles and responsibilities to ensure that, as far as possible, the States and Territories are sovereign in their own sphere'. There are very real implications here for schooling, especially given the Constitutional position (Lingard, 2000), the underpinning principle of 'subsidiarity' and the Abbott Government's and Coalition's view of Federalism. The White Paper is being developed by a Taskforce in the Department of Prime Minister and Cabinet and is overseen by a Steering Committee comprising the Secretaries and Chief Executives of the Commonwealth Department of Prime Minister and Cabinet, State/Territory First Ministers' Departments and the Australian Local Government Association.

In December, 2014, the Federal Government released *Issues Paper 4, Roles and responsibilities in education: Part A: early childhood and schools*. This Issue Paper suggested a possible return to a layer cake model of Federalism because with the education revolution of the Rudd/Gillard Governments the Commonwealth has played its 'catalytic role'.

The speaker will argue that, because of the very high degree of vertical fiscal imbalance in Australian Federalism compared with that in other federations (for example, the US, Canada and Germany), a federal presence is necessary to ensure equitable provision and socially just schooling across the nation. Of course, this was the *raison d'être* of the Whitlam Government's 'systematisation' of the federal presence in schooling (1972–1975) (Whitlam, 1985, p.293). We know as well that the Abbott Government has refused to commit to the final years of redistributive funding for all Australian schools as recommended in the *Gonski Review*.

In June this year, a Reform of the Federation Discussion Paper was released with Chapter 4 focusing on those policy domains seen to be in need of reform and 4.2 dealing with education. Several options are put to rejig Educational Federalism and these will be outlined and discussed. The most concerning is Option 4 for schools, which basically provides an option for the introduction of a voucher system in Australian schooling. Here in the words of the Discussion Paper, 'The Commonwealth is the dominant public funder of all students on an equal and consistent basis'. This is a model underpinning market driven approaches to schooling in some other parts of the world such as free schools in Sweden, Academies and Free Schools in England and Charter Schools in the US, which have had very deleterious effects on matters of socially just schooling provision and outcomes, set in a context of growing inequalities (Piketty, 2014). This is a very dangerous option for matters of democracy, equity and social justice.

Now this Option 4 might simply be 'kite flying', as it were, but nevertheless it does indicate some of the ideas framing those producing the White Paper. The recent appointments of two 'small government', 'free market' persons to the boards of significant authorities in the national schooling agenda in Australia by the Abbott Government also adds fuel to the fire.

The implicit dangers in some of the discussion around the current Federal Government's Review of Federation for schooling, especially government schooling will be addressed and linked to the first case of privatisation. It will be argued that we will all need to be vigilant in terms of possible worrying next steps in the privatisation of Australian schooling. Developments in New York state will be proffered as a warning here.

References

Ball, S. J. (2012). *Global education inc: New policy networks and the neo-liberal imaginary*. London, UK: Routledge.

Ball, S.J., & Youdell, D. (2008). *Hidden privatizations in education*. Brussels: Education International.

Bishop, M., & Green, M. (2008). *Philanthrocapitalism*. London: Black Publisher.

Hogan, A., Sellar, S., & Lingard, B. (2015). Network restructuring of global edu-business: the case of Pearson's Efficacy Framework. In W. Au and J. Ferrare (Eds.) *Mapping corporate education reform*. New York: Routledge.

Junemann, C., & Ball, S.J. (2015). *Pearson and PALF: The mutating giant*. Brussels: Education International.

Lingard, B. (2000.) Federalism in schooling since the Karmel Report (1973). *The Australian Educational Researcher, 27*(2), 25–61.

Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge, MA: The Belknap Press of Harvard University.

Prahalad, C.K. (2004.) *The fortune at the bottom of the pyramid: Eradicating poverty through profits*. Upper Saddle River, NJ: Prentice Hall.

Sahlberg, P. (2011). *Finnish lessons*. New York, NY: Teachers College Press.

Shamir, R. (2008.) The age of responsibilization: on market-embedded morality. *Economy and Society, 37*(1), 1–19.

Whitlam, E.G. (1985) *The Whitlam government*. Ringwood, Vic: Penguin

Educators 'on the edge'— how innovative approaches improve children's learning

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Biography

Rhonda Livingstone is the National Education Leader, ACECQA, bringing a wealth of experience to this role, having worked in preschools and long day-care centres and as an assessor of programs and services for both the Queensland Government and the Crèche and Kindergarten Association of Queensland.

Rhonda's extensive involvement in the National Quality Agenda reforms saw her contribute to the development of the National Quality Standard and its guide, assessment and rating tools and processes, and the training and testing program for authorised officers.

Rhonda has also worked as a Senior Advisor, Excellent Rating with ACECQA and as a sessional education academic with the Queensland University of Technology.

Abstract

The National Quality Framework (NQF) aims to raise quality and drive continuous improvement and consistency in Australian education and care services.

Educators 'on the edge' raise the bar in early education and care quality by analysing the strengths, needs and priorities of the children and families that access their service.

Educators develop collaborative partnerships, responsive projects and innovative programs that exemplify exceptional education and care to improve outcomes for these children.

The Excellent rating is the highest rating an education and care service can achieve under the National Quality Framework and recognises providers and educators who are champions of quality improvement. The Excellent rating promotes and reinforces the value of quality education and care and recognises the highest efforts of the education and care sector.

Research has shown that children who experience quality education and care early in life have improved outcomes later. A positive, nurturing and stimulating environment for children can have a profound impact on their long-term resilience, self-esteem, healthy growth and capacity to learn. Also, it is 'in the early stages in children's lives, where educators can play a significant role in planting seeds of tolerance, compassion and understanding that will contribute towards the creation of a more harmonious society for the future' (Child Professional Support Coordinator, Undated, p.4).

Educators 'on the edge' promote positive and far reaching change through their creativity, innovative approaches and commitment to continuous improvement in their work with children. During the three decades that I have been involved in children's education and care I have seen many examples of inspirational educators implementing new ideas to support children's learning, development and wellbeing.

Educators in long day-care, family day-care, preschool/kindergarten, and outside of school hours' care are guided by the National Quality Framework (NQF), which aims to raise the bar in service quality and supports continuous quality improvement. The NQF is the result of an agreement between all Australian Governments to work together to provide better educational and developmental outcomes for children using education and care services.

Educators are encouraged by the NQF to engage in practice which best suits the children, families and local communities of their service, and to develop programs which support children's holistic learning, wellbeing and development. A focus on outcomes for children allows for diversity in service philosophies, practice and approaches. Educators are in a position to use their creativity to support children to learn and develop in ways that are meaningful and relevant for their individual service context.

The NQF introduced a National Quality Standard (NQS), an Early Years Learning Framework (EYLF) and a Framework for School Age Care (FSAC). Each service is rated against the NQS, receiving a rating across seven quality areas and an overall rating. The 'excellent' rating is the highest quality rating an education and care service can achieve. It promotes and reinforces the value of quality education and care and recognises the highest efforts of educators 'on the edge' in the sector. Providers who have received a quality rating of 'Exceeding the National Quality Standard' overall can choose to apply for the excellent rating which is awarded by ACECQA.

The excellent rating

Services that meet the excellent criteria demonstrate a positive approach to change and innovation, with continuous improvement at the core of their practice. To be awarded the excellent rating, a service must exemplify and promote exceptional education and care that improve outcomes for children and families. Exceptional education and care can be offered in many forms and educators 'on the edge' have clearly analysed the strengths, needs and priorities of the children and families that access the service, and have developed collaborative partnerships, responsive projects and innovative programs to improve outcomes.

Innovative approaches to improving children's learning outcomes include exemplifying a positive workplace culture, demonstrating a strong and respectful commitment to children and diversity, enhancing professional development and engaging in inspiring practices and environments that enhance children's learning and growth.

What 'excellent' practice looks like depends on the context of the service and its circumstances. Some examples of excellent practice are outlined below.

Berry Springs Preschool, Northern Territory

The physical environment has enormous potential to influence a child's sensory learning. This is why education and care services are encouraged through the NQF to create well-designed indoor and outdoor physical environments that provide opportunities for children to expand their understanding of the world around them.

Providing an interesting physical environment can awaken children's curiosity, encourage use of imagination, prompt them to ask questions and instigate a desire to examine through all of their senses. The NQF urges educators

to consider how indoor and outdoor play spaces are designed and resourced to support children's learning and development, ensuring every child experiences both built and natural environments.

As issues of sustainability become more apparent in our society, so does the importance of including education on sustainability in programs for children. When children participate in environmentally-sustainable learning through play they gain knowledge, skills and attitudes which support them to become environmentally responsible. The NQS, EYLF and FSAC recommend that sustainability be 'embedded in all daily routines and practices' (DEEWR, 2009, p. 29).

The educators at Berry Springs Preschool in the Northern Territory show excellence in their work with children. They implement innovative programs which promote a sustainable future and holistically support children's learning and development through effective use of the physical environment.

Berry Springs Preschool and the adjacent primary school are situated on a very large plot of land, which the service recognises as the children's 'third teacher'. The strength of Berry Springs Preschool is its educators' approach to developing the outdoor environment to drive children's learning and understanding of their climate and the region in which they live.

Children throughout the preschool and the primary school are acknowledged as powerful contributors to their own worlds and have been guided by educators to plan the development of the outdoor area. As part of the project, the service and its educators worked with families and community members to design and build a large chicken and turkey coop, install sophisticated underground irrigation systems, create waterwise gardens, replant native trees and construct temporary paddocks.

Children from the preschool are supported to access the greater expanse of area where the farm is situated each day. As well as creating detailed plans, the children have developed this area by propagating seeds and planting trees and shrubs, while learning to take care of the animals.

The NQF recognises the importance of good nutrition for children's health and wellbeing. To meet approved learning framework outcomes, services are encouraged to provide many opportunities for children to experience a range of healthy foods and to learn about food choices from educators and other children (DEEWR, 2009, p.30).

The children at Berry Springs Preschool have a separate garden which they stock and tend with their families. Children use their vegetable scraps as compost for the gardens and eggs from the coop are used in cooking experiences, as part of the service's healthy eating program, and for families to take home.

The EYLF and FSAC identify that learning outcomes are most likely to be achieved when educators work in partnership with families and communities. Educators at Berry Springs Preschool have developed a number of partnerships with community-based organisations to further develop their outdoor environment in a way that is responsive to the unique circumstances of the service's children and families.

One partnership, with Darwin Prison, involves prisoners preparing and maintaining fencing for the chicken coop and the livestock paddocks during school holidays as part of their Prison Work Program. The service also developed a partnership with the Northern Territory Emergency Service (NTES), who helped them prepare five acres of land for livestock paddocks, as well as identifying and rescuing livestock from commercial cattle farms and other sources for the service to re-home.

Another partnership with the adjacent Territory Wildlife Park (TWP) created an ongoing educational program called 'Growing Green Kids NT'. Through this program, children 'develop respect for the environment and grow an appreciation for their surroundings and world around them'. The children's interests and ideas drive the program.

Children participate in learning experiences at TWP and also receive incursions at the preschool from the TWP staff. These are designed to further children's knowledge of sustainability, nutrition and environmental awareness, with educators developing programs to further extend this learning. For example, TWP seeded the native trees that the children then planted in the outdoor area and the children regularly

visit TWP's botanical centre to propagate seeds themselves.

The preschool children have worked alongside their families, buddies from older year groups in the primary school and the staff at TWP to propagate plants such as paw paws, mangoes, and avocados. The children then transferred the seedlings into the preschool garden to tend before relocating them to the preschool plot in the school's waterwise gardens. These plants were chosen by the children after they saw them being used in animal feeds at TWP and the service will provide the fruit back to TWP for use during feeding times.

As part of a service's commitment to quality improvement and the delivery of quality education and care programs, service providers have the responsibility to build and maintain a skilled and engaged workforce.

Through the 'Growing Green Kids NT' program, educators and teachers have given teacher tours and professional development sessions at TWP to build their understanding of habitats and to allow them to further extend children's environmental awareness. The educator sessions have also focused on how educators can encourage children's learning through play while at TWP. The service has developed an internal website that includes resources, links to curriculum documents, rosters, responsibilities, ideas, competitions and possible grant proposals to provide further support for educators.

The Hon. Bess Price, the Northern Territory Minister for Parks and Wildlife and the School Council launched 'Growing Green Kids NT' as a business enterprise. TWP sources all of the food used in animal feeds from external providers and, through 'Growing Green Kids NT', the service has been recognised as TWP's preferred provider of fruit, vegetables, poultry, and meat as the farm develops. Through 'Growing Green Kids NT', and by actively driving the planning, design and creation of the farm, the children at Berry Springs Preschool develop a deep empathy for the environment as well as furthering their understandings of climate and human influence on natural habitats.

In developing collaborative and inclusive partnerships Berry Springs Preschool has contributed to an exceptional environment that enhances children's

learning and growth and improves outcomes for children, families and the community as a whole.

Jindi Woraback Children's Centre, Victoria

Educators have the potential to make a significant difference in National Reconciliation through their programs, practices, advocacy and most importantly, relationships. By promoting greater understanding of Australian Aboriginal and Torres Strait Islander culture and histories, educators can support greater understanding and respect in children for our country's First People, as well as supporting the cultural identity of Indigenous children in our services.

Jindi Woraback Children's Centre developed a partnership with the Moondani Bullak Indigenous Studies Unit at Victoria University, which helped educators to embed a respectful and authentic Indigenous program into everyday practice. The program of art, stories, songs, dance, music and visits from local Aboriginal groups and individuals, promotes and sustains family and child connection to land and country through links to Australian Indigenous heritage.

Staff from Moondani Bullak Indigenous Studies Unit share Bunjil's creation stories with educators and children, the creation stories of the local Kulin Nation. The service regularly celebrates its Indigenous roots by inviting a Yorta Yorta woman from Moondani Bullak to perform smoking ceremonies to show respect for the spirits of the land. Children's experience of these events is not limited to special occasions, but extended into everyday learning.

Children visit the local Indigenous garden (Iramoo Field Station) where they hear stories about how the land and animals began. The children explore the grasslands, wetlands and the Indigenous plant nursery, where educators teach the children the names of native plants and their uses for healing, cooking and creating art and craft. Iramoo Field Station helped design and establish an Indigenous garden at the service, which was planted with Indigenous species only and offers a place for reflection, inquiry and quiet activities. Children also use this space in their dramatic play to explore Indigenous ways of being and belonging. Educators spend a lot of time

in the garden with the children, discussing the importance of culture, family and the ways everyone celebrates their differences.

As part of their efforts to build the capacity of all educators in this area, Jindi Woraback Children's Centre includes targeted auditing of practice to identify opportunities for additional professional development.

Bundaberg Family Day Care, Queensland

To receive an excellent rating, services can also demonstrate leadership that contributes to the development of a community, local area, or the wider education and care sector.

Leadership can be bold and far reaching, or subtle and local. It occurs in many ways and takes different paths, from local networks to new technologies.

The guidelines to the excellent rating define being a leader as taking the initiative to develop and model improved practice. The criteria suggest leadership is about guiding, influencing and inspiring change (ACEEQA, 2013).

Bundaberg Family Day Care (FDC) in Queensland demonstrates outstanding leadership through work with its surrounding community to develop a number of programs and projects. These include an Active Kids Program and Community Car Restraint Service–both are free programs that include information sessions to develop skills for families and guide family practices to improve outcomes for children.

Physical activity in childhood is vital for development and wellbeing and early childhood services are well placed to foster healthy attitudes towards active lifestyles for children and families.

Figures released in 2013 showed that Bundaberg had the highest rate of obesity of any local government area. In an attempt to improve these figures, Bundaberg FDC developed a free school holiday activities program called 'Active Kids' to promote healthy lifestyles and physical activity.

Active Kids is open to all of the Bundaberg community, irrespective of whether they are enrolled in the service or not. Active Kids offers a range of physical activities (such as gym, yoga, football, soccer, basketball, dance and martial arts), nutrition and cooking

workshops, homeopathy and health checks for children aged from six months to 16 years and their families. Educators from Bundaberg FDC are encouraged to participate in the program with the children in their care alongside families from the wider Bundaberg community.

In building collaborative partnerships with families, the NQF urges educators to support parents in their parenting role. After Bundaberg FDC saw research showing 60–80 children die each year in car accidents and thousands more are injured on Australian roads every year, it developed a Community Car Restraint Safety Service to improve children's safety in cars.

This program provides a free service to educate families and improve the safety of children within the Bundaberg community, irrespective of whether families are enrolled in Bundaberg FDC or not. A Coordinator from the Coordination Unit undertook training to become an accredited Car Restraints Officer to lead this program, which gives families access to accurate and up-to-date information about how to best equip their cars with safe devices, and what the rules and regulations are for different age groups.

The service responds to the unique circumstances of the surrounding community and models outstanding practice while working with families to improve outcomes for children.

After identifying a high percentage of vulnerable families in the surrounding community, Bundaberg FDC applied for a grant to implement the Home Interaction Program for Parents and Youngsters (HIPPY) program in Bundaberg.

HIPPY is an international program that supports Aboriginal and Torres Strait Islander parents/carers to support their child's love of learning during their transition to school. The program is funded by the Australian Government Department of Education and is free to participating families. Through the HIPPY funding, Bundaberg FDC employs three HIPPY Bundaberg Aboriginal and Torres Strait Islander staff: one Coordinator and two home tutors.

HIPPY builds on parental strengths to provide children with the necessary skills and confidence to start school with a positive attitude to learning. The program encourages cognitive

development and empowers parents to take an active role in their children's education, development and overall wellbeing which builds stronger, confident families. The Coordinator and the home tutors organise regular group meetings to promote positive interactions and networking opportunities which all of the HIPPY families attend.

After Bundaberg experienced significant flooding and tornado events in 2011 and 2013, the service helped with the flood recovery in many ways, including aiding flood-affected families and educators to move house, offering free accommodation and additional child care and by running a distribution centre for donations. The service also organised the Community Mobile Playgroup Van Project as a free outreach project for vulnerable families in Bundaberg.

Through developing all of these exceptional practices for the broader community, Bundaberg FDC has demonstrated how it guides and influences the local area to improve outcomes for children and families.

Services providing exceptional education and care demonstrate their commitment to critical reflection and collaboration, as well as analysing their circumstances to identify areas for improvement. This, coupled with a passion and drive to put ideas into practice, leads to a commitment to continuous quality improvement at the highest level and brings about inspirational programs and practices for children and families.

References

ACECQA. (2013). *Guidelines for Applicants—Excellent Rating*. Retrieved from http://files.acecqa.gov.au/files/Excelle nt%20Rating/20130430%20Guidelines%20 For%20Applicants%20- %20Excellent%20rating.pdf.

Child Professional Support Coordinator. (Undated). *Cultural Connections* Booklet. Retrieved from https://childaustralia.org.au/Documents /IPSP-Section/Resource-Centre- Docs/cultural-book-complete-WEB.aspx.

Department of Education, Employment and Workplace Relations [DEEWR]. (2009) *Belonging, Being and Becoming— The Early Years Learning Framework for Australia*. Retrieved from https://www.coag.gov.au/sites/default/ files/early_years_learning_framework.pd f.

Innovative technologies and human rights education

PROFESSOR GILLIAN TRIGGS
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Biography

Gillian Triggs is the President of the Australian Human Rights Commission. She was Dean of the Faculty of Law and Challis Professor of International Law at the University of Sydney from 2007-2012 and Director of the British Institute of International and Comparative Law from 2005-2007.

Gillian is a former Barrister with Seven Wentworth Chambers and a Governor of the College of Law. She has combined an academic career with international commercial legal practice and worked with governments and international organisations on human rights law.

During her Presidency at the Australian Human Rights Commission, Gillian has placed particular emphasis on building the commission's efforts to educate children and young people about their fundamental human rights.

Abstract

With increasing digital literacy among young people, it has become imperative for educators to embrace technology as part of their pedagogical practices. However, with the vast array of online tools and resources available to teachers today, it can be daunting to decide how to employ digital tools effectively.

The Australian Human Rights Commission recognises the value of emerging online technologies and also the important role that teachers have in empowering children and young people to become active participants and leaders in the community.

To support teachers, the commission continues to develop educational resources that combine human rights education with digital technologies. This presentation explores how using cutting-edge technologies to learn more about enduring ethical, moral and legal issues can create an engaging and substantive learning experience.

The presentation will also focus on two recent examples of the commission's human rights education work: the 'Choose Your Own Statistic's website co-developed by the Australian Human Rights Commission and ABC Splash, which uses online statistical tools as a means of teaching about Australian human rights issues; and an interactive website commemorating the 800th anniversary of the Magna Carta, which takes students on an digital journey through the evolution of important human rights and freedoms.

The topic for the ACE 2015 National Conference is 'Educators on the edge.' This means that we strive to be educators who are at the forefront of innovation; who adapt to changes and challenges in creative ways that aim to enhance and inspire student learning. This meaning, however, is somewhat more elusive when theory is converted to practice.

In our digitalised world, innovative practices are often connected to the implementation of new technologies. With increasing digital literacy among young people, it has become imperative for educators to embrace technology as part of their pedagogical practices. Indeed, technology is increasingly integrated into classroom teaching in exciting and engaging ways. However, technological innovation is not utilised for the sake of technological innovation, and innovation is not synonymous with technology. Being an educator 'on the edge', in an innovative sense, means going beyond expectation to improve student learning in a very real and practical way. Ultimately, innovative education is about ideas.

The Magna Carta celebrated its 800th anniversary this year; a fitting example of innovation, and of ideas in action. The 'Charter of Liberties,' as it was originally known, was drafted by the Archbishop of Canterbury in an effort to avoid civil war between the King and his rebel barons. It was 4,000 words long and filled a whole skin of parchment. Notably, King John was probably illiterate and did not sign the document. Rather, he attached his seal to it. Both the King and his Barons then swore oaths before a crowd of hundreds, with the King to abide by the terms of the Magna Carta and the Barons to give fealty to the King.

I suspect the Magna Carta has such potency eight hundred years later because of the seminal ideas that underlie it. The first is that the sovereign, or in modern terms, 'Executive Government', is subject to the law. It was the written articulation of the idea that the King was, like his Barons, also bound by the law of the land. It is this that made the Magna Carta a revolution.

The Magna Carta has become a universal acknowledgement of principles that remain fundamental to modern democracies: the sovereign or Executive Government is not above the law and parliament itself is sovereign. Other legacies of the Magna Carta include:

- The right to a fair trial and access to justice

- The idea that 'punishment should fit the crime'

- That laws should be written and made public

- That widows should have their inheritance on the death of their husbands and not be forced to remarry.

These might not seem revolutionary in contemporary Australia, but they certainly were in 13th century Europe. The enshrining of these rights in a document was new, innovative, and the ideas that underlay its creation still resonate powerfully within the Australian community today. This is why the Australian Human Rights Commission embarked upon the creation of a resource that celebrates the Magna Carta and reflects upon its significance in a way that is digestible for young, modern audiences. The interactive Magna Carta website (www.humanrights.gov.au/our-work/rights-and-freedoms/projects/magna-carta-story-our-freedom), as shown in Figure 1., is designed to take students on a digital journey through the evolution of important human rights and freedoms. It is a way of teaching students in an engaging and relevant way about the enduring nature of our history and the continuing journey towards freedom and universal human rights.

Figure 1. The Magna Carta website

The Magna Carta started the evolution of democracy, and fed into the development of 'enlightenment thinking' about the rights of the individual and the institutions to preserve and protect their rights. The rights we have today were hard won for us by people who were at the forefront of change. And as we all

know, change cannot happen without education.

It has become increasingly clear to me that education is the key to everything that we aim to achieve in promoting human rights in Australia. And despite the progress that has been made, there is still a long way to go before our education system is truly inclusive and supports the rights of all students.

Though formally available, the manner in which education is provided, or the disadvantage that students may experience outside the school system, means that regular attendance at school is simply untenable for too many students. The Australian Human Rights Commission has long expressed concerns about low school attendance rates among Aboriginal and Torres Strait Islander children, noting the insufficient funding and infrastructure available in schools in many remote Aboriginal communities, as well a dearth of information about services and facilities [*Native Title Report 2008*, Human Rights and Equal Opportunity Commission (2009)].

There is, however, a growing body of evidence to highlight key factors that increase school attendance in many remote communities. These include a focus on cultural appropriateness, the availability of bilingual education, sporting and other motivational techniques; and a supportive environment that engages the external community in education as a shared endeavour. As 'educators on the edge', we need to be thinking of ways that we can create supportive, inclusive learning environments. We need to be engaging in and encouraging ethical and intercultural understanding, as well as building personal and social capabilities.

Too many external programs take a negative approach to increasing participation in education. An example of this is linking a family's welfare payments to their child's attendance at school. There is little evidence that this works.[1] Instead, when payments are

suspended or cancelled, children may not have access to sufficient food, housing or medical care–compounding the problems which contribute to school absence in the first place.

Further, many students with disabilities struggle to find schools that are fully accessible, or indeed ready to adapt to meet the needs of their student population. Some have brought complaints of discrimination where schools have not been prepared to adjust their facilities to enable a student to attend. Others have brought complaints where schools have not been prepared to enable students to reach their potential, by providing Auslan interpreters on request, for example, rather than other assistance for students with hearing impairments[2].

Clearly, there is more to facilitating each person's right to education than formal recognition. We need educators who are coming up with new ideas, new educative methods, that allow us to reach out to those students who are being marginalised and disadvantaged. Using new technologies and maximising student engagement through innovative ways of teaching are ways that we can do this.

As the United Nations' Committee on Economic, Social and Cultural Rights has said:

'Education is both a human right in itself and an indispensable means of realising other human rights.' (http://www.unhchr.ch/tbs/doc.nsf/0/a e1a0b126d068e868025683c003c8b3b?Ope ndocument).

This simple observation addresses both sides of the same coin. Education is a powerful vehicle to bring whole communities out of poverty; to enable people's participation in civic and economic life; and to help them realise their own potential and capabilities. Just as importantly, education can also open hearts and minds to the human rights of others. That is why one of the most

[1] See, for example, Behrendt, L. and McCausland, R. (2008) Welfare Payments and School Attendance: An Analysis of Experimental Policy in Indigenous Education, Jumbunna Indigenous House of Learning, University of Technology, Sydney; Campbell, D. and Wright, J. (2005) 'Rethinking Welfare School-Attendance Policies', The Social Service Review, 79(1), 2– 28, March; Wilson, L.A., Stoker, R.P. and McGrath, D. (1999) 'Welfare Bureaus as Moral Tutors: What do Clients Learn from Paternalistic

Welfare Reforms?', Social Science Quarterly, 80(3), 473– 486, September.

[2] See, for example, Finney v The Hills Grammar School No H98/6, at http://humanrights.gov.au/disability_rights/decisions/comd ec/2000/DD000080.htm; and Clarke v Catholic Education Office & Anor [2003] FCA 1085 (8 October 2003) at http://www.austlii.edu.au/cgi-bin/sinodisp/au/cases/cth/FCA/2003/1085.html?stem=0&s ynonyms=0&query=Clarke%20v%20Catholic%20Educati on%20Office.

important tasks of the Australian Human Rights Commission is not only to promote the value of education as a human right, but the value of education about human rights.

This makes education a strategic priority for the Commission. The Commission is charged with improving awareness of human rights all around Australia. In particular, the Commission has developed school resources for the new Australian Curriculum, and is working with the Australian Public Service, the VET sector and the business sector to incorporate human rights education into their respective areas of work. The Commission's complaints handling service also has an educative element to it. Our 2014 survey data indicates that, in relation to conciliation complaints, 71 per cent of surveyed participants found involvement in the complaints process had assisted them to better understand their rights and responsibilities under federal human rights and anti-discrimination law (Australian Human Rights Commission, *Annual Report 2013-2014*).

As educators, we can all play a part in propelling new and innovative ideas. We can look for better ways to ensure that education is fully, rather than just formally, available to students in remote communities. We can demand that schools adapt so that their facilities and activities enable, rather than disadvantage students. We can call on governments to collaborate and ensure that every child, regardless of their origin, has their right to education fulfilled. And we can teach the next generation of leaders how important it is to value the lives and rights of others.

Data on our 'Choose Your Own Statistics' initiative show that in Australia, two women are killed by their partners or former partners every week (www.splash.abc.net.au/home#!/media /1520313/statistics-game). The average life expectancy of our Aboriginal and Torres Strait Islander population is ten years lower than our non- Aboriginal and Torres Strait Islander population, and they are imprisoned at a rate 15 times higher than that of non- Aboriginal and Torres Strait Islanders (www.abs.gov.au/ausstats/abs@.nsf/Pro ducts/BD0021D329F0464FCA257B3C000D CCE0?opendocument). And one in three people who access assisted homelessness services is under 18

(www.humanrights.gov.au/education/fa ce-facts).

I don't cite these statistics to dishearten you, but to demonstrate how important and relevant human rights issues are to how and why we educate. I suggest that the most effective, if long term, solution to these issues is to improve the education of young Australians so they better understand and value the importance of human rights of all people. It is for this reason that the Australian Human Rights Commission places a strong emphasis on education and has developed educational resources such as the Magna Carta initiative. Our liberties depend upon an informed and committed community. Our young people are an integral part of this community.

Our 'What You Say Matters' video, as part of the R*acism: It Stops With Me* campaign, is designed to engage young people with the issues of racism (www.itstopswithme.humanrights.gov.au /resources/what-you-say-matters). It uses specific and relatable scenarios to show what kind of behaviours and actions are racist, and how hurtful and damaging they can be. One of the related activities in our RightsEd resources for the Australian Curriculum also involves a role play, providing opportunities for students to practically reflect on the experiences of others. Story telling through subjects who are relatable, while also having had different experiences, helps students build empathy and compassion.

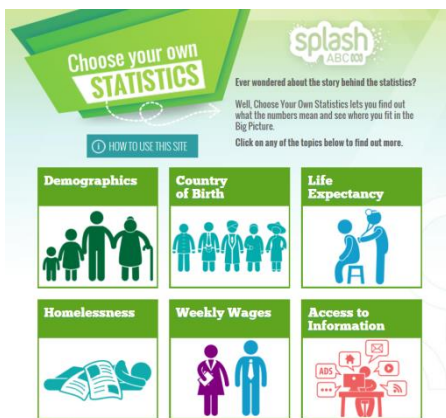**Figure 2. What you say matters**

On the other hand, data and statistics can also speak for themselves. Our 'Choose your Own Statistics' website, co-developed with ABC Splash, uses online statistical tools as a means of teaching Australian human rights issues in an engaging and innovative way.

Through thought-provoking infographics, students are encouraged to critically evaluate their beliefs and deepen their understanding of the role that data representation plays in building knowledge and influencing decisions about social issues. In this way, innovative technology enables students to explore the demographics of Australian society on a national and state level and see how the constitution of our country has changed over time. It helps provide a big picture overview of the data behind current issues like homelessness, immigration, sexual harassment, the justice system, and our ageing population. Interactive graphs provide a snapshot of the cultural background, religious beliefs, technology use and education and employment status of both Aboriginal and Torres Strait Islanders and Non-Aboriginal and Torres Strait Islanders of different ages and genders.

Figure 3. Choose your own statistics

The Magna Carta resources: 'What You say Matters' program; and 'Choose Your Own Statistics' website are just some of the different initiatives we have been creating to engage students with human rights. They are designed to help students understand the importance of human rights, consider how they can be achieved, and encourage students to think critically about social issues that are relevant to us all. Using cutting-edge technologies to facilitate learning about enduring ethical, moral and legal issues can create an engaging and substantive learning experience that challenges stereotypes, accepted 'truths,' and the set ways in which we do things that perpetuate inequalities that are entrenched within our society.

As educators, our challenge is to think about how innovative strategies can be used to inspire innovative thinking in students. To me, being an 'educator on the edge' means more than technological innovation. It means using these innovations to make lasting change.

References

Australian Bureau of Statistics. (4 December 2013). *Imprisonment Rates.* Retrieved August 20, 2015. http://www.abs.gov.au/ausstats/abs@.nsf/Products/BD0021D329F0464FCA257B3C000DCCE0?opendocument.

Australian Human Rights Commission. (2014). *Annual Report 2013-2014*, 132.

Australian Human Rights Commission. (February 2015). Face the Facts. Retrieved August 20, 2015. https://www.humanrights.gov.au/education/face-facts.

Australian Human Rights Commission. (15 June 2015). *Magna Carta: The Story of Our Freedom*. Retrieved August 20, 2015. https://www.humanrights.gov.au/our-work/rights-and-freedoms/projects/magna-carta-story-our-freedom.

Australian Human Rights Commission. (2014). *What You Say Matters.* Retrieved August 20, 2015, from https://itstopswithme.humanrights.gov.au/resources/what-you-say-matters.

Behrendt, L., & McCausland, R. (2008). *Welfare Payments and School Attendance: An Analysis of Experimental Policy in Indigenous Education.* Sydney: Jumbunna Indigenous House of Learning, University of Technology Sydney.

Calma, T. (2009). Chapter Three. In *Native Title Report 2008*. Human Rights and Equal Opportunity Commission.

Campbell, D., & Wright, J. (n.d.). Rethinking Welfare School-Attendance Policies. *Social Service Review*, 2-28.

Clarke v Catholic Education Office & Anor [2003] FCA 1085 (8 October 2003) at http://www.austlii.edu.au/cgi-bin/sinodisp/au/cases/cth/FCA/2003/1085.html?stem=0&synonyms=0&query=Clarke%20v%20Catholic%20Education%20Office.

Finney v The Hills Grammar School No H98/6, at http://humanrights.gov.au/disability_rights/decisions/comdec/2000/DD000080.htm;

Splash ABC & Australian Human Rights Commission. (2015). *Choose Your Own Statistics.* Retrieved August 20, 2015. http://splash.abc.net.au/home#!/media/1520313/statistics-game.

UN Economic and Social Council Committee on Economic, Social and Cultural Rights. (1999) *The Right to Education*, (general comment) 8/12/1999, para 1. at http://www.unhchr.ch/tbs/doc.nsf/0/ae1a0b126d068e868025683c003c8b3b?Opendocument.

Wilson, L., Stoker, R., & McGrath, D. (1999). Welfare Bureaus as Moral Tutors: What do Clients Learn from Paternalistic Welfare Reforms? *Social Science Quarterly, 80*(3), 473–486.

Leveraging cloud-based technologies to enhance personal learning environments

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Biographies

Scott Adamson (M.Ed. (ICT), B.Ed.) has a background in Science and Mathematics Education, as well as Information Communication Technologies. Scott is a trained Mathematics and Science teacher, co-author of Oxford Mathematics for Queensland texts and specialises in the application of technologies in the science classroom, as well as developing effective frameworks for supporting teachers to empower learners.

Christine Beckmann (M.Ed., B.Ed.) has a particular interest in the pedagogical implications and affordances of emerging technologies in the classroom. Christine has most recently been experimenting with digital tools as a means of providing student to student and student to teacher collaborative spaces and working with teachers in her department to explore the opportunities such technologies might provide.

Steve Crapnell (M.Ed., B.Ed.) teaches Mathematics and develops and presents professional development opportunities examining the effective uses of emerging digital technologies in the classroom, specifically at developing student personal learning network through blended learning, collaborative learning and using flipped classroom models.

Workshop abstract

Leveraging cloud-based technologies to enhance personal learning environments, developing and implementing teaching and learning practices is consistent with the paradigm shift associated with emerging technologies and is a focus for 21st century educators. In this paper, personal learning environments are considered through the lens of connectivism as a learning theory, transcending traditional notions of the classroom. Subject specific examples demonstrate various affordances and implications for educators arising from employing cloud-based network access and tools that allow for teacher-student connections, student-student collaboration and student-teacher feedback.

Introduction

To respond effectively to the changes in society, both technological and social, learning theories and pedagogical practices of education must undergo constant revision, refinement or even revolution (Guder, 2010), such that students may effectively face the challenges brought about by the information and knowledge society (Pettenati & Cigognini, 2007). Educators are faced with attempting to teach in accordance with a paradigm shift caused by emerging technologies whilst effectively preparing today's learners for the world as an outcome of this shift. Bell and Pape (2012) described:

> The paradigm shift in learning associated with emerging technologies increases the scope of change beyond individuals, classrooms and institutions and provokes shifts in roles and power relations. For these reasons we need to look beyond traditional theories of learning in education (p. 107).

This places a responsibility on curriculum designers to enact teaching and learning practices that are relevant to present and future needs of students. The concept of teachers as curriculum designers is predicated on the fact that implementation decisions lie in the hands of a particular teacher in a particular classroom (Colbert et al., 2008).

An imperative to change

The contemporary teacher-designer has access to digital technologies with extensive pedagogical affordances and the potential to transform the learning environment when utilised appropriately. Through their use, the learner has the opportunity to create, share and organise their personal learning environments as well as to engage in collaborative activities. There is a fundamental shift in the way students can learn, consume and produce new artefacts through the thoughtful and informed implementation of a suitably-designed curriculum and learning environment (Tu, Sujo-montes, Yen, Chan, & Blocher, 2012). Advances in technology allow the student experience to be more interactive and distributed, including the means to be actively involved in incredibly complex networks of information, resources and instruction (Bonk & Cunningham, 1998). Shared and networked experiences are key differences between connectivism and other learning theories and, as learning environments, should be reflective of the collaborative learning and social environments discussed.

Connectivism as a learning theory

Maintaining a store of knowledge internally is no longer seen as critically important, provided that there is access to suitable knowledge through the students' created networks (Guder, 2010). Siemens (2004) proposed the learning theory connectivism as a way of conceptualising learning in the digital age, believing that students derive their competencies from making connections and, by including technology and connection making as learning activities. Also as presenting a model that acknowledges the societal shift associated with digital technologies within which learning is no longer an individualistic activity and connective knowledge can be described as distributed knowledge, spread and shared across more than one entity. Weblogs, videocasting, collaborative authoring sites, video conferencing, Learning Management Systems (LMS) plus other Web 2.0 tools have become mechanisms that enhance learning networks allowing students to utilise distributed or connective knowledge (Downes, 2006). A strength of connectivism lies in the principle of creating a lifelong learner who is connected to sources of knowledge that are current and that knowledge is no longer simply obtained through a course of study.

Personal learning environments

Connectivism provides one means of understanding the power of personal web resources which allow a networked student to transcend the concept of classroom through the creation of what are described by Drexler (2010) as personal learning environments (PLE). The organisation of the resources into suitable connections in a learner's network empowers the student. A PLE places the control and the ability to connect with subject matter experts in the hands of the learner, providing autonomous, diverse and creative knowledge development. The idea of the

PLE is that the management of learning lies with the student, not the institution, as has been the case with more traditional use of technology within education (Boitshwarelo, 2011; Downes, 2006; Drexler, 2010). The role of the teacher within this construct is to facilitate and to guide the creation of a learning environment that provides the opportunity for students to receive learning through modes and methods that best support their learning needs. The emergence of cloud-based technologies such as Office 365 and Google classroom presents classroom teachers with the opportunity to create and develop an environment for students that extend their learning beyond the classroom. This environment should allow for exploration, problem solving and discourse in which the learner is actively refining and constructing knowledge (Pugalee, 2001).

Affordances and practices

The Mathematics classroom

The use of integrated cloud-based technologies and collaborative tools allows the Mathematics classroom to move beyond transmission style teaching as the primary method of content delivery. Transmission style teaching alone provides an inadequate framework to think and act in a connected world, particularly when developing a creating, synthesising and developing mind (Colbert, et al., 2008; Koehler, Mishra, & Yahya, 2007; Marais, 2011; Richardson, 2009). Affordances of cloud-based technologies are the extension of connected learning that moves it beyond the physical classroom. Using Office 365 to host a teacher created class workspace created through OneNote is an approach that is proving to be one effective example of Mathematics teachers implementing a networked learning environment. Within a shared class workspace, students are: presented with content that has currency; provided the opportunity to receive timely feedback; connected to distributed knowledge from a variety of information sources; and afforded the ability to collaborate. It transforms the learning environment from a largely individualistic experience to more of a networked, information rich and connected experience.

The Science classroom

Strategies relating to feedback (particularly student to teacher),

student self-verbalising, self-questioning, meta-cognitive strategies and reciprocal teaching are afforded by the open, collaborative, connected classroom available using teacher creator shared OneNote, synchronised via Office 365.

Trials implemented within the Science classrooms of a metropolitan school include those relating to feedback, where the power of student to teacher feedback is maximised by gauging all individuals' progress in their shared student-teacher workspace. In such a space students can engage meta-cognitive tasks that make thinking visible, including self-verbalising and self-questioning, and the identification of key components or processes in problems posed or concepts addressed.

Meta-cognitive strategies are applied in the student-teacher workspace to elicit from learners the higher level thinking skills of modification, creation and evaluation as students write questions shared within the collaborative workspace, creating revision spaces, distilling complex concepts into efficient summaries and comparing their collective work with that of others. Seeking examples of 'good' questioning, effective summaries and the noting errors, corrections and, most importantly, misconceptions also illustrate these skills.

Reciprocal teaching, aids understanding and transfer, empowering students as they develop and reformulate questions, working and explaining solutions, identifying key components as they break down challenging concepts with screencasts that allow for repeated access, replay, asynchronous and just-in-time learning.

The implementation of such strategies, while building PLEs, allows students to regulate and to take ownership of their learning through variable modality, content, pacing, time allocation and sequencing.

The additional data also affords an enhanced student-teacher relationship, with teachers that are hooked into student PLEs typically knowing their students' learning capabilities and application better, and knowing their students as learners.

The English classroom

Emerging understandings about learning networks and their place in the

educational development of students today is working to reshape the contemporary English classroom. Lessons encouraging students to become better writers, readers and speakers take many forms, but these classroom activities, when examined objectively, often fall back to the tried and true formula of guiding students through a process of attempting a task, gathering feedback, refining the first attempt and extending into new and improved versions of the original response.

The dialogue between teacher and student guides this process, but until relatively recently, such conversations have been limited by the time available in a given lesson and the mechanics of trying to impart feedback in ways which are useful to students and sustainable by teachers in a pen and paper world. Cloud-based technologies, learning management tools and social media which allow teachers and students to engage in digital dialogues, to directly connect ideas from the world of literature to applications in the local community, and which provide a space to share learning and to connect with others engaged in a similar journey of discovery, have opened up a world of interactions which have before now been difficult to sustain.

The English classroom today increasingly draws on video-casting technology and audio-visual applications as a means of facilitating a learning-focused dialogue which is not limited by lesson time or margin space. Students use collaborative spaces to capture their emerging understandings in a variety of different contexts and from a variety of different perspectives. For learners this digital landscape means much greater control over how they access feedback, how they process such input and how they contribute to wider communities of learning.

Conclusion

Learning should not just take place in class, under specific conditions and for a limited period of time. It should just as easily take place in non-formal, informal and lifelong settings (Pettenati & Cigognini, 2007). Connectivism is an assertion that learning is primarily a distributed, networking process where knowledge for the learner is no longer limited to the course of study through a classroom, but extends beyond through active networks, limited only by the

strength and dimensions of the connections. The utilisation of cloud-based technologies by teachers allows them to create open learning networks that provide students with opportunities to collaborate and to develop their own PLEs. Engaging in this transformative practice enables teaching and learning to be relevant to the present and foreseeable future needs of learner.

References

Bell, C., & Pape, S. (2012). Scaffolding students' opportunities to learn mathematics through social interactions. *Mathematics Education Research Journal, 24*(4), 423–445. doi:10.1007/s13394-012-0048-1

Boitshwarelo, B. (2011). Proposing an integrated research framework for connectivism: Utilising theoretical synergies. *International Review of Research in Open and Distance Learning, 12*(3), 161–179. Retrieved from http://www.irrodl.org/index.php/irrodl /article/view/881/1816?utm_source=twi tterfeed&utm_medium=twitter&utm_sou rce=twitterfeed&utm_medium=twitter

Bonk, C. J., & Cunningham, D. J. (1998). *Searching for learner-centered, constructivist, and sociocultural components of collaborative educational learning tools. Electronic collaborators: Learner-centered technologies for literacy, apprenticeship, and discourse*, 25-50. Retrieved from http://publicationshare.com/docs/Bon0 2.pdf

Colbert, J. A., Boyd, K., Clark, K., Guan, S., Harris, J., & Kelley, M. (2008). *Handbook of technological pedagogical content knowledge (TPCK) for educators.* New York, NY: Routledge.

Downes, S. (2006). *Learning networks and connective knowledge.* Retrieved from http://www.ingedewaard.net/papers/co nnectivism/2006_Downes_learningNetwo rks_and_ConnectiveKnowledge.pdf.

Drexler, W. (2010). The Networked Student Model for Construction of Personal Learning Environments: Balancing Teacher Control and Student Autonomy. *Australasian Journal of Educational Technology, 26*(3), 369 – 385. Retrieved from http://www.ascilite.org.au/ajet/ajet26 /drexler.pdf.

Guder, C. (2010). Patrons and pedagogy: A look at the theory of connectivism.

Public Services Quarterly, 6(1), 36 – 42. doi:10.1080/15228950903523728

Koehler, M. J., Mishra, P., & Yahya, K. (2007). Tracing the development of teacher knowledge in a design seminar: Integrating content, pedagogy and technology. *Computers & Education, 49*(3), 740–762. doi:10.1016/j.compedu.2005.11.012

Marais, N. (2011). Connectivism as learning theory: The force behind changed teaching practice in higher education. Education, Knowledge & Economy: *A Journal for Education and Social Enterprise, 4*(3), 173–182. doi:10.1080/17496896.2010.556478

Pettenati, M. C., & Cigognini, M. E. (2007). Social networking theories and tools to support connectivist learning activities. *International Journal of Web-Based Learning and Technologies, 2*(3), 42–60. doi:10.4018/jwltt.2007070103

Pugalee, D. K. (2001). Algebra for all: The role of technology and constructivism in an algebra course for at-risk students. *Preventing School Failure, 45*(4), 171–176. Retrieved from http://search.proquest.com.ezp01.library.qut.edu.au/docview/228455386/fulltextPDF?accountid=13380

Richardson, S. (2009). Mathematics teachers' development, exploration, and advancement of technological pedagogical content knowledge in the teaching and learning of algebra. *Contemporary Issues in Technology and Teacher Education (CITE Journal), 9*(2), 117–130. Retrieved from http://www.citejournal.org/articles/v9i2mathematics1.pdf

 Siemens, G. (2004). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning, 2*(1), 3–10. Retrieved from :http://www.ingedewaard.net/papers/connectivism/2005_siemens_ALearningTheoryForTheDigitalAge.pdf

Siemens, G. (2005). Connectivism: Learning as network-creation. *ASTD Learning News, 10*(1).

Tu, C.-H., Sujo-montes, L., Yen, C.-J., Chan, J.-Y., & Blocher, M. (2012). The integration of personal learning environments & open network learning environments. *TechTrends, 56*(3), 13-19. Retrieved from http://gateway.library.qut.edu.au/login?url=http://search.proquest.com/docview/958639673?accountid=13380

Big ideas for change and innovation: Internationalising programs in an Australian offshore university campus

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Biography

Robyn Anderson has taught at all levels of schooling in Australia for more than 30 years. More recently, she taught at the Australian International School in Singapore and for the past 15 years and has been actively engaged in research both in Australia and Asia.

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Abstract

While globalisation may include the flow of people, knowledge, technology, economy, education and ideas across countries, internationalisation is a way of responding to globalisation through an integration of intercultural dimensions in learning and teaching in offshore higher education campuses. We live in a global world, and increasingly, Australian universities are offering their higher education programs through offshore campuses in Asia. While external demands to internationalise curriculum include: a need for international recognition; preparation of competitive graduates for the workplace; and a need to attract foreign students to stay financially viable, high quality, international programs must be developed to suit both local and international contexts. A case study at one offshore campus in Singapore includes the development of a Bachelor of Education (Early Childhood Education) program, offered at a university in Australia that was prepared for delivery at a branch campus in Singapore. Considerations for delivery included the context, students, and accrediting bodies both in Australia and in Asia. This paper offers Australian universities big ideas for change and innovation for one of Australia's largest export industries, education.

Introduction

International students, defined as 'students who have moved from their country of origin for the purpose of studying', have traditionally sought study destinations such as the US, the UK, Australia and Canada (Organisation for Economic Co-operation and Development [OECD], 2014, p. 354). International students from Asia, in particular, have sought such study destinations because of the perceived quality and reputation of universities in these countries (OECD, 2014). Australia, which is among one of the third largest providers of international education in the world (OECD, 2014), has developed international education to become one of its largest export industries after iron ore, coal and natural gas (Australian Education International [AEI], 2015). In 2014, international education generated a total of A$17.6 billion in export income in all international activity (AEI, 2015). This included 'offshore earnings from other educational services and royalties which generated … A$589 million' (AEI, 2015, p. 1). Offshore campuses, satellite operations of higher education institutions based in traditional study destinations such as Australia, have been a more recent and fast growing development in nearby Asian locations such as Singapore, Vietnam, Malaysia and Indonesia. To support such development in international higher education, this paper offers big Ideas from one Australian higher education offshore campus in Singapore. The case study first considers the background literature on international education and offshore campuses, followed by a methods section outlining how the study was conducted and a discussion of the findings. Recommendations are offered with the conclusion.

The literature

The literature or background to the study focuses on the demand for international higher education, Australian higher education and offshore campuses, and contextualising programs. Each will be discussed in turn.

The demand for international higher education

As economies and societies are becoming more globalised, so is education. Students are seeking a more global perspective of the world to increase their future employment prospects. The OECD reports that there is an exploding demand for higher education worldwide: 'the number of students enrolled outside their country of citizenship has risen dramatically, from 0.8 million worldwide in 1975 to 4.5 million in 2012' (2014, p. 344). 'Students from Asia represent 53 per cent of foreign students enrolled worldwide' (OECD, 2014, p. 342). In Australia, they represent the majority of international students studying at Australian higher education institutions (AEI, 2015). In 2013, there were 328,402 international students studying in Australian higher education institutions (AEI, 2014) and of these students, 84,785 were enrolled at campuses outside Australia. This represents a 5.38 per cent increase from 80,458 students in 2011 and is continuing to grow (AEI, 2014).

Australian higher education and offshore campuses

To facilitate the growing demand for higher education, offshore campuses, a new form of educational delivery, have emerged. Offshore campuses provide students with the opportunity to gain qualifications from an internationally recognised university without having to leave their home country or world region. When offered the choice of a quality offshore campus, at a much lower overall educational cost, in or near their home country within a culture familiar to them, many students see the appeal of studying at an offshore campus (Anderson, 2014). In 2012, many 'international students at Australian universities did not step ashore last year ... choosing instead to study at branch campuses overseas' (Machett, 2012, p. 1). This trend is increasing. Between 2004 and 2011, the number of international students enrolled at Australian offshore universities has increased by 35.1 per cent (Department of Education, Employment and Workplace Relations [DEEWR], 2012). Offshore campuses have been a major growth area, particularly in Asia (Sidhu, Ho, & Yeoh, 2011). However, in developing programs for offshore campuses, the different contexts in which the programs are delivered also need to be considered.

Contextualising programs: Asian learning styles

While programs for use in offshore campuses have been developed at the home educational institutions in

Australia, and remain exactly the same in content and assessment, the delivery of programs may need to be modified for an offshore audience, such as in Asia. Asian learning and teaching styles have traditionally been dominated by a teacher-centered, book-centered, rote memory learning pedagogy with which Asian students are more familiar (Rao, 2002). Littlewood (1999) advises that 'students' approaches to learning in East Asia' include: 'the collectivist orientation of East Asian societies; their acceptance of relationships based on power and authority; and the belief that success may be achieved through effort as much as through innate ability' (p. 71). Boycott and Walker (2000) further suggest that 'inter-cultural understandings must permeate the curricula, and be a shared goal and responsibility of both teachers and students' (p. 79). Rao (2002) argues, however, that while there are generalisations about learning styles of East Asian learners, such generalisations do not apply to every individual in these countries and many individual exceptions exist.

The next section considers the research question: What were the considerations in delivering an offshore higher education program? The research method outlines the research approach and how the data was collected.

The research approach

A case study approach provides an example of how one program at an offshore Australian higher education campus was implemented. Wolcott argues that a case study can be 'most appropriately regarded as an outcome or format for reporting qualitative/descriptive work' (1992, p. 36). This case study presents one lecturer's experience in developing an offshore degree program and course subjects, previously developed for delivery in Australia and for delivery to international students in Singapore.

The particular offshore campus was selected because the researcher was employed at the campus to implement different programs, in particular, a new Bachelor of Education (Early Childhood Education) or BEd [ECE] degree. Also included in the case study were findings from an online survey that aimed to understand why students chose an Australian university and why they chose

to study in Singapore. The survey, conducted in late 2012, was emailed to the Student Services Department to disseminate to international students. A total of 179 online responses were received and descriptive statistics and graphical illustrations were used to analyse the views and profiles of the students.

The data collection methods chosen for the study included participant observations, journal and field notes and document and artefact collection. Data collected from the documents available from the James Cook University (JCU) website, the subject modules and policies available through the JCU intranet, the Ministry of Education (MOE) website in Singapore and the Council for Private Education (CPE) Singapore were both qualitative and quantitative. Participant observations enabled the researcher to better understand the context of the case study, and reflect on the researcher's own practice in delivering the programs. The case study will be discussed in the following sequence: establishment of a campus in Singapore, students' preference for an Australian university in Singapore rather than one in Australia, the opportunity to offer a B Ed (ECE) in Singapore, and some considerations in the delivery of the course in an Asian context.

Case study findings and discussion

Establishment of an offshore campus in Singapore

In 2003, James Cook University (JCU) located in the tropical cities of Townsville and Cairns, Australia, established a third tropical campus in Singapore. The aim was to 'internalise its mission by extending beyond local boundaries, seeing tropical Asia as a potential location for a new campus' ('Our place in the tropics', 2013, p. 5). Singapore was not only chosen because of its location but also because projects such as the Global Schoolhouse welcomed and facilitated 'world class universities' to establish branch campuses in Singapore (Sidhu, Ho, & Yeoh, 2011, p. 12). Known as JCU Singapore, the branch campus has grown significantly from 34 students in 2003 to almost 4000 in 2015 (JCU Singapore, 2015) demonstrating a preference for an Australian university in Singapore, rather than one in Australia.

A survey was conducted to understand why students chose to study in Singapore rather than in Australia and why they chose an Australian university. The survey was preceded by a focus group interview to construct survey questions. Students who responded to the survey came from a range of countries around Asia including India, Indonesia, China, and Vietnam. Figure 1. shows reasons international students gave for studying in Singapore rather than studying in Australia which included: Singapore's proximity to their home country (57 per cent), safety and security (51 per cent), familiarity with own culture (30 per cent) and better job prospects in Singapore (24 per cent). Other reasons related to very different culture of Australia and distance of Australia to students' home countries.
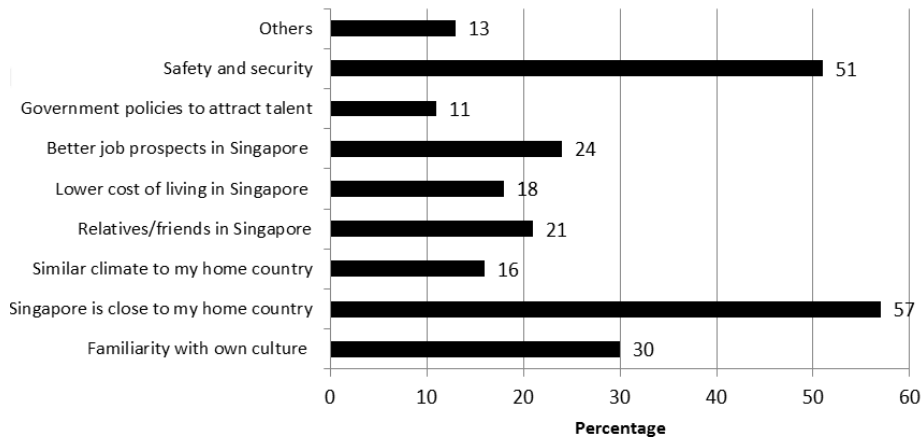
Figure 1. Reasons international students study in Singapore rather than in Australia

Figure 2. shows reasons given by international students for their selection of an Australian university in Singapore. More than half of the students (52 per cent) stated that the fast-tracking of courses was the reason they chose the university. This was followed by the availability of courses students were interested in (42 per cent) and the integrity of an Australian university (23 per cent). Mazzrol and Soutar (2002) suggested that while the fast-tracking of courses reduces the overall time spent in study, its main attraction lies in the fact that it reduces the overall time spent abroad and thus, the overall living expenses during the time of study. The integrity of the university is important for international students as Mazzarol and Soutar (2002) and Sidhu, Ho and Yeoh (2011) have similarly found. The OECD (2014) argued that students choose a university-based on its perceived quality of education.
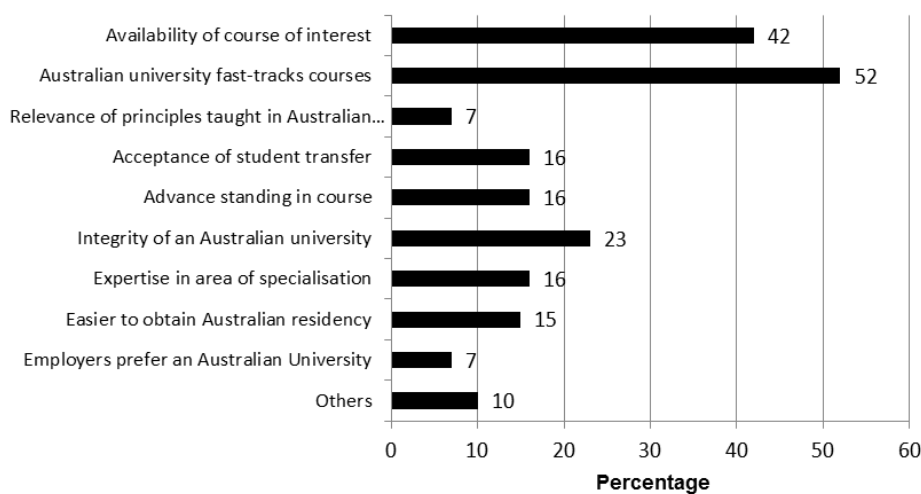
Figure 2. Reasons international students selected an Australian university in Singapore

The opportunity to offer the Bachelor of Education (Early Childhood Education) in Singapore

Although other programs had been established, an opportunity was presented to develop a Bachelor of Education specialising in Early Childhood Education following the Singapore Government's concern over a report from two Lien Foundation studies which showed that Singapore's pre-school education ranked low internationally (Heng, 2012). Included in the recommendations from the review was that Singapore's Early Childhood teachers' qualifications be upgraded. Within that context, the BEd (ECE) program was launched in Singapore.

Although the course was already registered with the Australian Institute for Teaching and School Leadership (AITSL), through the Queensland College of Teachers (QCT) with JCU Australia, registration was also required in Singapore with the Council for Private Education (CPE). One requirement of CPE registration was that it was 'exactly the same' as the course offered at James Cook University Australia. CPE registration was received in May, 2013 and the course commenced in June 2014 with eight students. It has now grown to 31 students in one year.

Delivery of the course in Singapore

While the course material for the BEd (ECE) had been prepared at James Cook University in Australia, and remained the same content wise, the teaching of the program needed to be considered for a mostly Asian group of international students. Such considerations included: different approaches to learning for students in Asia and different abilities with written English and academic writing.

Because effective pedagogical practice involves in-depth knowledge construction extending students' thinking and abilities beyond what they already know, knowledge of the students is essential. Students in Asia have generally been accustomed to being taught in highly structured, teacher-centered, book-centered classroom environments where there is limited interaction between students or students and teachers; students receive knowledge rather than interpret it (Boycott & Walker, 2000; Rao, 2002).

Teachers in Asia are considered to be the authority in the classroom with regard to knowledge of the subject and the teacher's views are more often unquestionably accepted (Littlewood, 1999). This approach to learning and teaching is quite different in Western settings where students and teachers interact to co-construct knowledge (Santrock, 2004). Although such an approach from a Western perspective may be considered pedagogically sound (Santrock, 2004), interacting with others and expressing one's opinion may present discomfort to Asian students. As many Asian students have had limited experience with such western approaches to teaching and learning, differences in learning and teaching styles needed to be accounted for. Hence, classroom discussions and interactions were gradually built. Further, Asian students are more familiar with a closure-oriented style of learning; they dislike ambiguity and uncertainty and are dependent on rules and deadlines (Rao, 2002), thus, outlining subject content becomes extremely important. Another characteristically Asian learning style is visual learning (Rao, 2002). Lectures, conversations, and oral directions without any visual support may be confusing and anxiety-producing (Rao, 2002). Such a visual learning style stems from traditional classroom teaching methods in Asia, whereby most teachers emphasise learning through reading material and place a great deal of information on the blackboard. Graphic displays through PowerPoint presentations, internet and YouTube examples can therefore support student learning.

Finally, as English is a second language for most Asian students, such students may experience difficulties with written English and academic writing. As such, support is offered to such students through an English Language Preparatory Program (ELPP) at JCU Singapore. A Learning Support Team offers general academic writing support through workshops, in-class support and individual consultations. Library staff also support students with referencing software and tutorials.

Conclusion and recommendations

This paper provides a case study of how one higher education institution has

successfully contributed to the extension of the higher education industry in Australia through an offshore campus in Singapore. The demand for higher education is growing worldwide and studies show that international students generally prefer study locations that are in close proximity to their home countries (OECD, 2014).

A survey conducted at the offshore campus in the current study confirmed that many international higher education students preferred to study at an offshore campus in Singapore rather than in Australia because it was close to their home countries. Through an offshore campus such as in Singapore, students can gain a high quality (Australian) degree, at a much lower, overall educational cost. Students further indicated that they preferred to study at an offshore Australian campus in Singapore because of their familiarity with the climate and culture of Singapore, the relative safety of Singapore and better employment opportunities in Singapore when they completed their degree. When students from Asia are given the option to study for a high quality degree in their own region, at a much lower overall cost for their education, many are choosing an Australian offshore higher education campus, as indicated by the growth of one offshore campus over a decade. Thus, this case, of how one offshore campus quickly developed and expanded its course offerings, tailoring the delivery of the course to meet the needs of students in Asia, demonstrates that there is a demand for high quality Australian higher education from students in Asian countries.

As higher education becomes more globalised, international student enrolments worldwide are likely to increase, particularly if the cost of higher education in traditional study locations such as the UK, the US or Australia remains challenging for some international students (OECD, 2014). Given that Australian education continues to be highly-regarded and sought after worldwide (OECD, 2014), offshore higher education campuses in Asia provide further opportunities for growth in higher education, one of Australia's largest export industries that contributes significantly to the Australian economy (AEI, 2015).

References

Anderson, R. (2014). International Higher Education: The attraction of Singapore. *Journal of the World Universities Forum, 7*(1), 45–47.

Australian Education International (2015). *Export income to Australia from international education activity in 2014.* Retrieved from www.aei.gov.au

Australian Education International (2014). *Transnational education in the higher education sector.* Retrieved from www.aei.gov.au

Boycott, P. & Walker, A. (2000). Teaching Abroad: Lessons learned about inter-cultural understanding for teachers in higher education. *Teaching in Higher Education, 5*(1), 79–94. doi: 10.1080/135625100114975

Department of Education, Employment and Workplace Relations [DEEWR]. (2012). *Trends in Overseas Student Enrolments 2004 to 2011.* Retrieved from http://deewr.gov.au/

Heng, S. W. (2012, August 14). Kindergarten framework to be refreshed. *Today*, p. 14.

ICF Monitor (2014). *Australia reverses three-year enrolment decline, commencements up sharply in 2013.* Retrieved from http://monitor.icef.com/2014/03/australia-reverses-three-year-enrolment-decline-commencements-up-sharply-in-2013/

JCU Singapore (2015). *International and Marketing Data.*

Littlewood, W. (1999). Defining and developing autonomy in East Asian contexts. *Applied Linguistics, 20*(1), 71–94. doi: 10.1093/applin/20.1.71

Machett, S. (2012, August 16). Home and away: growth on Australian offshore campuses. *The Australian.* Retrieved from http://www.theaustralian.com.au/higher-education/home-and-awayaustralian-offshore-campuses

Mazzarol, T. & Soutar, G. (2002). Push, pull factors influencing international students' destination choice. *International Journal of Educational Management, 16*(2), 82–90.

Organization for Economic Co-operation and Development (2014). *Education at a Glance 2014: OECD Indicators. OECD Publishing.* Retrieved from http://dx.doi.org/10.1787/eag-2014-en

JCU. (2013*). Our place in the tropics: Celebrating 10 years in Singapore 2003-2013.* Singapore: JCU Singapore.

Rao, Z. (2002). Bridging the gap between teaching and learning styles in East Asian contexts. *TEASOL Journal, 11*(2), pp. 5–11. DOI: 10.1002/j.1949-3533.2002.tb00077.

Sidhu, R., Ho, K., & Yeoh, B. (2011). Emerging education hubs: The case of Singapore. *Higher Education, 61*(1), 23–40.

Conceptualising the challenge of integrating digital technologies in pedagogy

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Abstract

The integration of digital technologies in pedagogy is positioned as an important change in education, but widespread innovative use of digital technologies is yet to be truly realised. The gap between the potential and the reality of digital technology integration is commonly attributed to a range of challenging extrinsic and intrinsic influences. Activity Theory (Engeström, 2009) is used to analyse challenges created by extrinsic influences (Nielsen, Miller, & Hoban, 2012); a complementary theory is needed to conceptualise intrinsic influences. System 1. and System 2. thinking theory (Kahneman, 2011) will be advanced as a conceptual framework for understanding conscious and unconscious aspects of teacher practice, particularly the interaction between innovation and teacher routine, attitudes and beliefs. Transformative Learning Theory (Mezirow, 2009) will be positioned to comprehend the nexus of extrinsic and intrinsic influences. This paper will propose how, when faced with extrinsic and intrinsic influences on innovative practice, educators can use these theories to conceptualise the challenge of integrating digital technologies in pedagogy.

Introduction

The integration of digital technologies in schooling is positioned as a Vygotskian mediating tool for innovation and change. The Australian Government's Digital Education Revolution, for example, was intended to 'contribute sustainable and meaningful change to teaching and learning' (Australian National Audit Office, 2013, para. 2). Michael Fullan (2013) claims that educational opportunities offered by integrating digital technologies in pedagogy have the potential to substantially improve schooling through personalisation of learning. Yet, despite increased access for students and teachers, it is argued that the transformative potential of digital technologies has not been widely realised (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012; Wastiau et al., 2013).

Teacher practice relative to the integration of digital technologies occurs at the point of interaction between a range of extrinsic and intrinsic influences, often described as first- and second-order barriers, respectively (Ertmer, et al., 2012), as illustrated in Figure 1.

Extrinsic influences include: access to resources; institutional factors; subject curriculum and assessment. Intrinsic influences include: attitudes and beliefs; implications of innovation for routine; knowledge and skill; vision and design thinking (Ertmer, et al., 2012; Hew & Brush, 2007; Somekh, 2007).
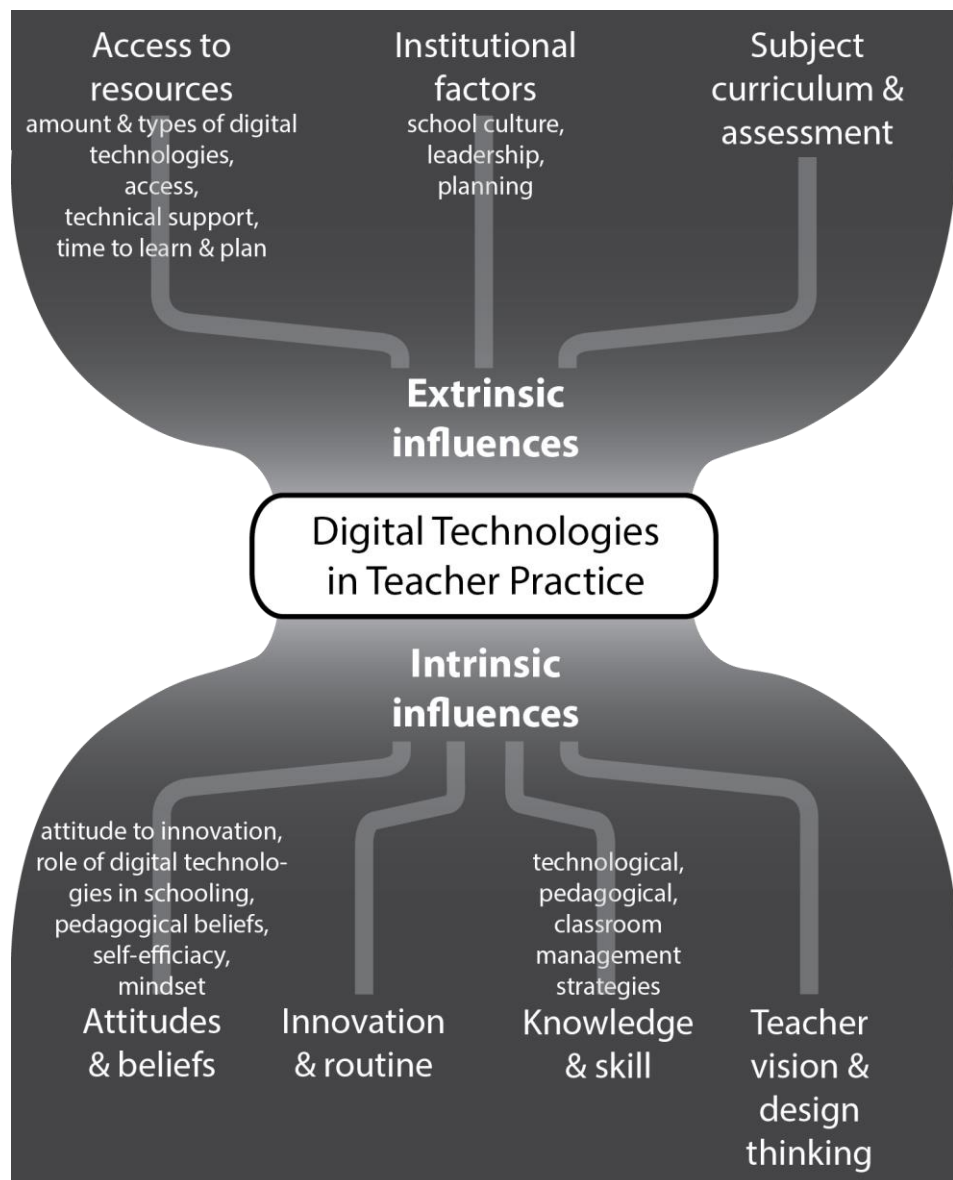

Figure 1. Extrinsic and intrinsic influences on teacher practice

This paper will propose a conceptual tool to comprehend the challenges experienced by teachers when changing practice by integrating digital technologies in pedagogy. It will briefly acknowledge how extrinsic influences are commonly conceptualised using Activity Theory (Engeström, 2009). Following this, System 1. and System 2. thinking theory (Kahneman, 2011) and Transformative Learning Theory (Mezirow, 2009) will be positioned to conceptualise the significant influence of teachers' routines, attitudes and beliefs, and how they interact with extrinsic influences. This tool is presented as a support mechanism for teachers seeking the leading edge of pedagogical practice.

Conceptualising extrinsic influences

The extrinsic influences all originate in the sociocultural context of a school and its educational milieu. As integration of digital technologies in schools is a Vygotskian mediating action for change, Activity Theory (AT) (Engeström, 2009) is used in the literature to conceptualise the complex interactions in the sociocultural context. Teachers ('subjects') use digital technologies ('tools') to facilitate pedagogy ('object') for the purpose of student learning ('outcome'). The 'tools' mediate actions of the 'subject' to achieve the 'outcome'. These are influenced by: explicit and implicit rules; community context; and division of labour. Multiple activity systems can surround a shared outcome (Engeström, 2009) as illustrated in Figure 2.
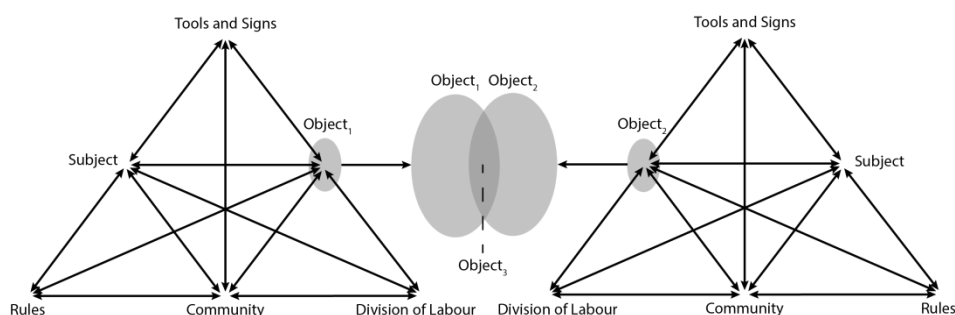
Figure 2. Second generation activity system, after Engeström (2009)

AT has been used to identify so-called contradictions in activity systems caused by the introduction of digital technologies in schools. Tay, Lim, and Lim (2013) used AT to analyse contradictions in a primary school. Similarly, Nielsen, et al. (2012) used AT to analyse the contradictions created via introduction of digital technologies in classrooms, identifying opportunities to improve pedagogical and managerial practices. AT has also been used to analyse the effectiveness of professional development in the integration of digital technologies in pedagogy (Feldman & Weiss, 2010). Engeström and Sannino (2010) argue that contradictions are 'expansive learning' opportunities where participants work to resolve contradictions by developing new strategies.

Given that the integration of digital technologies in pedagogy occurs at the point of interaction between extrinsic and intrinsic influences, AT is acknowledged as a well-understood tool for conceptualising extrinsic factors. A similarly useful tool for conceptualising intrinsic influences does not exist, which is problematic, as intrinsic influences are 'the true gatekeepers' (Ertmer, et al., 2012, p. 433).

Conceptualising intrinsic influences

In order to utilise digital technologies in pedagogy and learning, individual teachers must incorporate the technologies into their practice. This is influenced by and dependent on intrinsic factors, as illustrated in Figure 1. Large-scale surveys by Blackwell, Lauricella, Wartella, Robb, and Schomburg (2013), Hsu and Kuan (2013), and Vanderlinde and van Braak (2010) indicate intrinsic influences are dominant and more influential.

Professional learning specially focussed on integration of digital technologies, is generally directed to improving teacher knowledge and skill (Ertmer & Ottenbreit-Leftwich, 2010) or on tool affordances (Angeli & Valanides, 2009). Even the often-cited TPACK framework focuses on improving teachers' technology, pedagogy and content knowledge (Koehler & Mishra, 2009). The requisite knowledge and skill required to use digital technologies personally and professionally are significant. Attitudes towards and beliefs about the place of digital technologies in teaching and learning, as well as its impact on routine, are considered substantially more influential (Prestridge, 2012).

The following two sections will outline how System 1. and System 2. thinking theory and Transformative Learning Theory can be used conceptualise these factors.

Disruptive influence of innovation on teacher routine

As part of their everyday responsibilities, teachers need capacity to quickly read and respond in a dynamic social context over an extended period of time and in a range of ways (Hattie & Yates, 2014). To do so, teachers develop routines and intuitive practices that are based on experience and expertise (Somekh, 2007). These routines and intuitive practices are forms of pattern recognition that lead to triggered responses (Hattie & Yates, 2014). It would seem, in time, they become expert intuitions: apparently fast consciously considered responses that are, in fact, intuitive responses that did not involve conscious engagement (Duggan, 2007). These routines and intuitions become teacher-specific habits of mind (Cranton & King, 2003), and ultimately, part of a teacher's epistemic identity (Claxton, 2008).

System 1. and System 2. thinking theory is presented by Kahneman (2011) as a way to describe the nature of and interaction between unconscious and conscious thought. Unconscious functions, including pattern recognition, impressions, feelings, intuitions and creativity, are described as System 1. The term System 2. is used to describe conscious functions that are deliberate, analytical and self-aware. System 2 has limited capacity and consumes considerably higher levels of energy than System 1. While awake, System 1. constantly (though unconsciously) monitors stimuli, and when specific patterns are recognised, alerts are used to bring System 2. into action. These patterns are developed via processes associated with 'classical and operant conditioning' (Hattie & Yates, 2014, p. 292). These patterns are also associated with unconscious representations of normality. Stimuli that are inconsistent with these representations generate feelings of discomfort (Hattie & Yates, 2014). System 2. filters and System 1. alerts as an act of self-regulation, leading to conscious thoughts and behaviours. It converts intuitions into beliefs, and impulses into actions. However, tiredness and limited energy levels impede the capacity of System 2. to function (Kahneman, 2011).

In teacher practice, expert intuitions based on routines in System 1. allows for the more limited System 2. resources to be preserved for responding to dynamic, less predictable situations. The existence of reliable routines also leads to self-efficacy (Somekh, 2007). Change associated with the introduction of digital technologies in pedagogy has implications for teacher routines.

Most other classroom technologies have fixed functionality, which facilitates their incorporation into reliable teacher routines. The dynamic nature of digital technologies is more problematic because it is or becomes incompatible with existing routines (Karasavvidis, 2009). Consequently, to leverage digital technologies in pedagogy, existing routines must be modified or replaced. This may lead to teacher resistance due to loss of confidence (Somekh, 2007).

When change renders existing routines unreliable, increased levels of conscious engagement are required. Hence System 2. is more frequently activated, consuming energy and conscious cognitive resources, potentially reducing teacher capacity to respond to aspects in the classroom context. This may explain the impact of digital technologies integration on teacher energy levels. A considered approach is needed to support teachers during innovation and change; particularly, establishing new reliable routines.

Teacher attitudes and beliefs

Teacher attitudes toward the role of digital technologies in pedagogy will influence their acceptance of its usefulness and the degree to which it is integrated in practice (Palak & Walls, 2009). Pegler, Kollewyn, and Crichton (2010) argue that teachers' attitudes to digital technologies in teaching correlates with Rogers' (2010) diffusion of innovations. Teacher beliefs about the roles of digital technologies in pedagogy include: perceptions of the value and roles of digital technologies in learning (Pegler, et al., 2010); and teachers' pedagogical beliefs (teacher-centric or student-centric), and what teachers believe is good teaching (Mama & Hennessy, 2013).

An individual teacher's personal beliefs are strongly linked to professional beliefs and habits of mind, forming pedagogical beliefs (Ertmer & Ottenbreit-Leftwich, 2010) and

theories of practice (Timperley, Wilson, Barrar, & Fung, 2007). It is possible for the pedagogical affordances of digital technologies to be inconsistent with teachers' existing pedagogical beliefs (Ertmer & Ottenbreit-Leftwich, 2010).

The thinking theory behind System 1. and System 2. is useful for conceptualising attitudes and beliefs. Implicit attitudes are behavioural and are associated with tendencies to react in certain ways (Hattie & Yates, 2014). Hence, implicit attitudes would appear to be associated with System 1. thinking, explaining why they are hard to articulate. Explicit attitudes find expression through System 2. thinking. Similarly, impressions and intuitions developed in System 1. find expression as beliefs in System 2. Beliefs become filters for information, often leading to rejection of information deemed inconsistent with those beliefs (Kahneman, 2011). As dynamic, relativistic mental representations of reality, beliefs become a substantial part of an individual's identity (Galvis, 2012), connecting beliefs with the role of routine in teacher identity.

Attitudes and beliefs form frames of reference used to filter new ideas. Inconsistent ideas may be disregarded. Problematically for integration of digital technologies, beliefs on which teacher reputation is based are hard to re-examine, often leading to a gap between espoused and enacted beliefs (Mama & Hennessy, 2013; Prestridge, 2012). The influences of attitudes, beliefs and routines on integration of digital technologies in pedagogy can be conceptualised by System 1 and System 2 thinking theory. A complementary model is needed to conceptualise the interaction between extrinsic and intrinsic influences.

Conceptualising the interaction between extrinsic and intrinsic influences

In acknowledging extrinsic and intrinsic influences on teachers changing practice, Transformative Learning Theory (TLT) (Mezirow, 2009) is a useful lens for understanding the nexus. TLT posits that adults develop deeply intrinsic frames of reference. These frames are the basis for habits of mind, which in turn, are extrinsically articulated as points of view. These three facets are influenced by extrinsic and intrinsic factors (Mezirow, 2009, 2012).

Frames of reference are unconscious filters and automatic mental activities used to understand the world and are shaped by extrinsic and intrinsic experiences (Mezirow, 2009, 2012) . They seem consistent with System 1. thinking. Within the context of pedagogy, frames of reference seem to be extrinsically influenced by sociocultural factors in activity systems, and intrinsically influenced by unconscious schemes that make meaning of stimuli.

Frames of reference are the basis for habits of mind, which are broad and orientating ways to think, feel and act (Mezirow, 2009). Within the context of pedagogy, habits of mind control teacher practice. It is recognised that institutional culture shapes habits of mind (Cranton & King, 2003). Simultaneously, attitudes and beliefs informed by intrinsic frames of reference are expressed in habits of mind (Mezirow, 2009). Hence, while teacher practice and routine are an enactment of intrinsic processes, they are also shaped by extrinsic factors.

Points of view, as conscious articulations of frames of reference and habits of mind, are readily expressed and are more accessible to other people. Points of view can shift more easily due to the capacity of individuals to 'try on' other points of view, and are more open for review and critique (Mezirow, 2009). They appear to be consistent with the overtly conscious nature of System 2. thinking, and have capacity to interact with extrinsic influences.

TLT highlights that teacher attitudes, beliefs and routines are the product interacting extrinsic and intrinsic influences. It also offers a potential explanation for the observed gap between espoused beliefs about digital technologies in pedagogy and enacted beliefs. Flexible points of view allow expressed recognition of the virtues of change, but more rigid habits of mind and frames of reference may offer substantial resistance, creating discomfort for individuals due to conflict with deeply held perspectives and schemes. Mezirow (2009) describes this discomfort as a 'disorienting dilemma'.

Supporting teachers to approach the edge

As conceptual tools to comprehend the challenges of innovation and change, Activity Theory, System 1. and System 2. thinking theory, and TLT offer useful insight, refer to Figure 3. Their combined value relates to the emphasis that AT and TLT place on utilising the challenges created by change. Engeström and Sannino (2010) highlight that once identified; contradictions in activity systems can facilitate expansion or changes in the system. Similarly, disorienting dilemma for individuals can be used to reflect on and criticise frames of reference by challenging habits of mind and points of view (Cranton & King, 2003). Both theories claim that their perspectives form the basis for change-focussed professional learning.
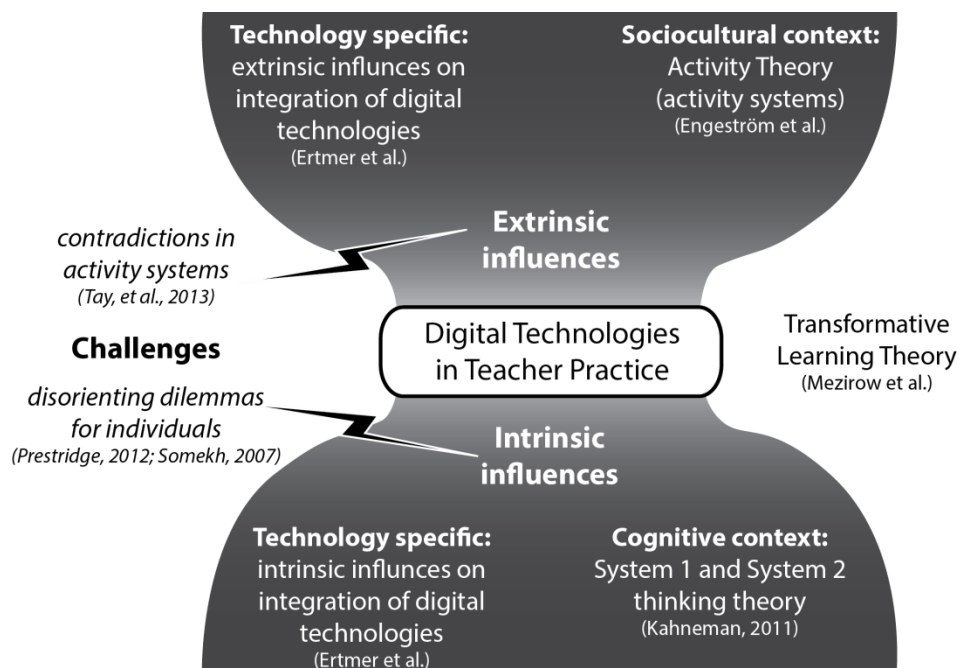
Figure 3. Visualisation of the relationship between conceptual elements

The change mechanisms presented by AT and TLT appear to be useful. However, if used independently, their specific perspectives will fail to address the significant challenges to integrating digital technologies. If used together, they will more beneficially support teachers seeking change. Activity Theory will facilitate engagement with and response to extrinsic influences that result in contradictions in activity systems. TLT, underpinned by System 1. and System 2. thinking, will facilitate comprehension of deeply intrinsic responses to change, particularly those causing discomfort. Their point of commonality–emphasis that contradictions and dilemma are productive opportunities to learn–means they can be used in a complementary fashion to support teachers working towards the edges of known practice, facilitating engagement with innovation and change.

References

Angeli, C., & Valanides, N. (2009). Epistemological and methodological issues for the conceptualization, development, and assessment of ICT–TPCK: Advances in technological pedagogical content knowledge (TPCK). *Computers & Education, 52*(1), 154–168. doi:10.1016/j.compedu.2008.07.006.

Australian National Audit Office. (2013). *Digital Education Revolution program - National Secondary Schools Computer Fund*. Retrieved from http://www.anao.gov.au/Publications/Audit-Reports/2010-2011/Digital-Education-Revolution-program----National-Secondary-Schools-Computer-Fund/Audit-brochure.

Blackwell, C. K., Lauricella, A. R., Wartella, E., Robb, M., & Schomburg, R. (2013). Adoption and use of technology in early education—The interplay of extrinsic barriers and teacher attitudes. *Computers & Education, 69*, 310–319. doi:10.1016/j.compedu.2013.07.024.

Claxton, G. (2008). Education for the Learning Age: A Sociocultural Approach to Learning to Learn. In G. Wells & G. Claxton (Eds.), *Learning for Life in the 21st Century: Sociocultural Perspectives on the Future of Education*. Oxford: Blackwell Publishing. doi: 10.1002/9780470753545.

Cranton, P., & King, K. P. (2003). Transformative Learning as a Professional Development Goal. *New Directions for Adult and Continuing Education, 2003*(98), 31–38. doi:10.1002/ace.97.

Duggan, W. (2007). *Strategic Intuition*. New York: Columbia University Press.

Engeström, Y. (2009). Expansive learning: Toward an activity-theoretical reconceptualization. In K. Illeris (Ed.), *Contemporary Theories of Learning: Learning theorists ... in their own words*. New York: Routledge.

Engeström, Y., & Sannino, A. (2010). Studies of expansive learning: Foundations, findings and future challenges. *Educational Research Review, 5*(1), 1–24. doi:10.1016/j.edurev.2009.12.002.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change: How Knowledge, Confidence, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education, 42*(3), 255–284. doi:10.1080/15391523.2010.10782551.

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*(2), 423–435. doi:10.1016/j.compedu.2012.02.001.

Feldman, A., & Weiss, T. (2010). Understanding change in teachers' ways of being through collaborative action research: a cultural–historical activity theory analysis. *Educational Action Research, 18*(1), 29–55. doi:10.1080/09650790903484517.

Fullan, M. (2013). *Stratosphere—Integrating Technology, Pedagogy, and Change Knowledge*. Toronto: Pearson.

Galvis, H. A. (2012). Understanding Beliefs, Teachers' Beliefs and Their Impact on the Use of Computer Technology. *PROFILE, 14*(2), 95–112.

Hattie, J., & Yates, G. (2014). *Visible Learning and the Science of How We Learn*. London: Routledge.

Hew, K. F., & Brush, T. (2007). Integrating Technology into K – 12 Teaching and Learning: Current Knowledge Gaps and Recommendations for Future Research. *Educational Technology Research and Development, 55*(3), 223–252. doi:10.1007/s11423-006-9022-5.

Hsu, S., & Kuan, P.-Y. (2013). The impact of multilevel factors on technology integration: the case of Taiwanese grade 1-9 teachers and schools. *Educational Technology Research and Development, 61*(1), 25–50. doi:10.1007/s11423-012-9269-y.

Kahneman, D. (2011). *Thinking, Fast and Slow*. New York, NY: Penguin.

Karasavvidis, I. (2009). Activity Theory as a conceptual framework for understanding teacher approaches to Information and Communication Technologies. , NY, 436–444. doi:10.1016/j.compedu.2009.03.003.

Koehler, M., & Mishra, P. (2009). What is Technological Pedagogical Content Knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60-70.

Mama, M., & Hennessy, S. (2013). Developing a typology of teacher beliefs and practices concerning classroom use of ICT. *Computers & Education, 68*, 380–387. doi:10.1016/j.compedu.2013.05.022.

Mezirow, J. (2009). An overview on transformative learning. In K. Illeris (Ed.), *Contemporary Theories of Learning: Learning Theorists...in their own words*. London: Routledge.

Mezirow, J. (2012). Studying Transformative Learning: What Methodology? In E. W. Taylor & P. Cranton (Eds.), *The Handbook of Transformative Learning: Theory, Research, and Practice*. San Francisco: Jossey-Bass.

Nielsen, W., Miller, A., & Hoban, G. F. (2012). The digital education revolution: New South Wales science teachers' response to laptop ubiquity. AERA Annual Meeting 2012. Retrieved from http://ro.uow.edu.au/edupapers/1086/.

Palak, D., & Walls, R. T. (2009). Teachers' Beliefs and Technology Practices: A Mixed-methods Approach. *Journal of Research on Technology in Education, 41*(4), 417–441.

Pegler, K., Kollewyn, J., & Crichton, S. (2010). Generational Attitudes and Teacher ICT Use. *Journal of Technology and Teacher Education, 18*(3), 443–458.

Prestridge, S. (2012). The beliefs behind the teacher that influences their ICT practices. *Computers & Education, 58*(1), 449–458. doi:10.1016/j.compedu.2011.08.028

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press.

Somekh, B. (2007). *Pedagogy and Learning with ICT: Researching the art of innovation* [Kindle version]. Retrieved from http://www.amazon.com/dp/B001QMT6MO/ref=r_soa_w_d.

Tay, L. Y., Lim, S. K., & Lim, C. P. (2013). Factors Affecting the ICT Integration and Implementation of One-To-One Computing Learning Environment in a Primary School – A Sociocultural Perspective. In L. Y. Tay & C. P. Lim (Eds.), *Tales from a Future School in Singapore* (pp. 19–37). Rotterdam: Sense Publishers.

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration* [PDF]. Retrieved from http://educationcounts.edcentre.govt.nz/goto/BES.

Vanderlinde, R., & van Braak, J. (2010). The e-capacity of primary schools: Development of a conceptual model and scale construction from a school improvement perspective. *Computers & Education, 53*, 5410553. doi:doi:10.1016/j.compedu.2010.02.016.

Wastiau, P., Blamire, R., Kearney, C., Quittre, V., Van de Gaer, E., & Monseur, C. (2013). The Use of ICT in Education: a survey of schools in Europe. *European Journal of Education, 48*, 11–27. doi:10.1111/ejed.12020

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Big Picture learning: Why this, why now?

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Viv has a 30-year history of international work in educational reform, research, policy and practice and has taught primary and secondary education for 13 years, worked in tertiary research for five years as a Research Fellow at Macquarie University and Victoria University, and served as an Adjunct Professor at the University of Western Sydney. She is a Fellow of the Australian Council of Education and was admitted in 2014 to the Australian Businesswomen's Network Hall of Fame.

Abstract

From just one school in 2005, Big Picture learning has reached 44 schools across Australia, trained 1633 teachers and turned around the lives of almost 5000 students. For students who have given up on learning, Big Picture Education is an authentic and successful breakthrough strategy. Students pursue their passions and interests, are connected with the community through internships, are immersed in real, complex and engaging learning, are focused on their futures, and are succeeding. Research spanning three years explains how and why Big Picture ticks all the boxes for these and other strategies needed for success (Global Education Program, 2013). The research involved three universities, substantial case studies and a thorough examination of the evidence. With the help of students, teachers and parents we tell this story: our design for learning and for schooling and why, for so many of your young people, doing more of the same in our schools isn't an option. It is a crucial message for schools, systems and governments.

Young people are switching off and disengaging from schooling at unprecedented rates (Jasperson, 2014). The response from Big Picture is personalised learning and real-world connections, committing to one student at a time in a community of learners, in schools that are small by design. The approach places the student, their passions and their interests at the centre of the learning process. Learning is organised around 12 connected school and classroom characteristics called 'distinguishers' (see Appendix).

This paper shows how these features and distinguishers contribute to the design of Big Picture learning, how this innovative design is being implemented

in Australia, and how it impacts on the lives of young people. The paper draws on extensive recent research. Just as important, it draws on and tells about, the experiences of students, teachers and parents.

Big Picture is underpinned by the belief that authentic learning takes place when each student is an active participant in his or her education. Each student develops a personal learning plan with input from other students, the teacher/advisor, and parents. Students work two days a week in an interest-based internship, supported by a mentor from the community. They regularly exhibit the outcomes of their work to a public audience. Their progress is mapped against curriculum and accreditation requirements.

The Big Picture programs operating in Australia range from within-school academies to whole school programs, and, in some cases, in greenfield sites. While it began in 2005, it is only in recent years that Big Picture Education Australia (BPEA) has completed its research and gathered the evidence needed to more strongly advocate for the design. Big Picture schools are very much at the leading edge of successful innovation.

From the outset BPEA has wanted to inform and support the authentic school change needed to improve student engagement in learning and achievement. By reaching out to underachieving students, regardless of circumstance and location, BPEA has also wanted to achieve more inclusive and socially just outcomes for young people. BPEA is now able to contribute profound lessons-lessons applicable to all schools-from educators working at the edge and successfully putting ideas for change and innovation into practice.

Introduction

The disconnection of students from learning represents a significant and intractable problem for individuals, families, schools, communities and governments. The extent of student disengagement is strongly illustrated by statistics about student retention, achievement, and qualifications. Margaret Vickers additionally points to a surprising decline in active participation in education, employment or training for 15 – 24 year olds (see Hannon, 2013).

This decline in participation strongly suggests that schools have not developed in students a sustained interest and capacity to learn for life. Teachers certainly know about the students who 'successfully' drift through school, without really becoming engaged in learning and planning for their future. Teachers in Big Picture schools regularly find that, while some students were good attenders in their previous school, they didn't do much work and stayed below the radar.

Most Australian schools have in place some programs aimed at increasing student engagement. They are commonly associated with the not-for-profit sector and a particular donor, representing a solution to particular problems, including in such areas as literacy and numeracy and school-to-work transition. But as the Global Education Leaders' Project (GELP) points out, such interventions take place within the existing model of schooling without affecting the core model of schooling– and therefore the nature of the learning experience (The Innovations Unit Limited Global Education Leaders' Program, 2013).

Valerie Hannon, a founding director of the high profile Innovation Unit (Innovation Unit, 2015), also advocates a deeper intervention aimed at the bigger group of students who don't become self-motivated and self-directed learners. She writes about a 'widening disconnect between what interests, motivates and engages young people in their 'real' lives and their experience of schooling; and that this disconnect grows steadily during the secondary school years' (Hannon, 2013).

For these young people, who represent a range of ability levels, mainstream secondary schooling is not a hospitable place for learning. Not only do the

students face myriad problems in their personal lives, the structure, pedagogy and curriculum in large high schools can be quite alienating. A GELP report states:

> To transform schooling at scale, we need clear evidence about what works in learning combined with a radical, alternative vision of what's possible. In short we need a set of rigorous and bold design principles on which transformation can be built. (Big Picture Learning Australia, n.d. a p. 3)

Sir Ken Robinson sees the future lying in forms of education that are customised to the needs and motivations of the people in them, where methods of teaching arouse students' appetites for learning–with all that this implies for the culture of schools (Washor & Mojkowski, 2013).

The message such observations convey is that if we want to connect young people to learning for the long term we can't blame the students or just do a few different things at school–we need to do school itself differently, to redesign schools around proven successful practice or distinguishers? This is what Big Picture has done.

The Big Picture design and distinguishers

Big Picture Education Australia (BPEA) was founded in Australia by Viv White and John Hogan, drawing on their own experience in school change and improvement, and supported by a committed and experienced team of innovators. BPEA is a not-for-profit company which is supported by philanthropy and from payment for provided services, including for teacher learning and coaching.

Their focus on whole school change around 12 design distinguishers arose out of the deficiencies of previous sporadic and often piecemeal interventions, and drew on the success of Big Picture in the US, especially through the work of Elliot Washor and Dennis Littky. White and Hogan reshaped the distinguishers of Big Picture learning to further emphasise academic rigour, personalisation out of student interests and passions, getting students out in the community (learning in the real world) and getting the community and families into schools. They also developed an implementation

process to reflect their own experience of successful school innovation. While they differ in some respects, Big Picture schools in several countries maintain close contact through Big Picture Learning International.

Educators will recognise all the distinguishers, indeed some have characterised innovative practice for years. But it is every single one of the distinguishers, in combination, which creates a breakthrough strategy. The 12 distinguishers influence everything that Big Picture advisory teachers, leaders, students and families do, and this extends to the way the school is structured, managed and operated. The distinguishers are outlined in the Appendix, but in summary are:

1. Academic rigour: Head, heart and hand

2. Leaving to learn: Learning through internships

3. Personalisation: One student at a time

4. Authentic assessment

5. Collaboration for learning

6. Learning in advisory

7. Trust, respect and care

8. Everyone's a leader

9. Families are enrolled too

10. Creating futures

11. Teachers and leaders are learners too

12. Diverse and enduring partnerships

The significance of these distinguishers, in combination, becomes evident to those who visit Big Picture schools. Students' Personalised Learning Plans (PLPs) are about their goals and the people and processes needed to achieve these goals: advisors, internships, assessment, mentors and parents. In addition, their work is characterised by both academic rigour and collaboration and they work towards the same standards and qualifications considered to be important for all students.

Together, the distinguishers also reduce what have often been chronic problems, including poor discipline. Through personalisation students achieve substantial ownership and commitment. Through the internships they discover relevance. Through collaboration they

develop relationships. As the evaluation of Big Picture shows, the subsequent reduction of school discipline problems is common to all Big Picture schools.

The evaluation also shows that implementation is less effective if the distinguishers are, in effect, cherry-picked. BPEA actively supports schools, but in the process insists that schools implement all the distinguishers. This isn't always easy: all schools are different and even a well-developed design will be implemented with some variations.

How schools implement Big Picture

Big Picture schools are found across all states and in a range of communities; the design is clearly appropriate for students across a range of backgrounds and abilities. Implementation is a partnership between BPEA and the relevant school authority, with BPEA providing advice, support, teacher development and networking with other schools.

There are three ways in which interested schools have implemented the Big Picture design:

1. Whole school conversion to the design

The best example is Yule Brook College (Yule Brook College, 2015), a Public School with a large Indigenous enrolment in Maddington (Western Australia). After trying a succession of intervention programs, this Year 810 high school joined BPEA in January 2007. Conversion to the design took several years and involved ongoing teacher development and substantial structural change. The considerable success of Yule Brook College is reported in the Big Picture evaluation.

2. Big Picture academies within a mainstream school

The establishment of Big Picture programs within a mainstream school is the most common form of implementation and there are many examples:

- Wanniassa School is in Canberra, where a group of self-selected Year 10 students attend Big Picture for the majority of their school time, while also attending other classes and programs where appropriate.

- Birdwood High School, East of Adelaide, operates Big Picture as one of two academies. The Big Picture academy has been very well-received and has expanded significantly.

- Brewarrina Central School in New South Wales has introduced Big Picture as one of two initiatives which have dramatically changed the school culture and improved student achievement.

- Silkwood is a Non-Government School in Queensland in which all secondary students undertake Big Picture learning-currently in three advisories-and will continue Big Picture to Year 12.

- Kingston High School south of Hobart has one third of its Year 9 and 10 students in its Big Picture Academy, taking advantage of the school's design as a series of open planned pods.

3. Greenfield sites

These are Big Picture start-up schools, the two examples are City Campus in Launceston and Cooks Hill Campus in Newcastle:

City Campus began in 2011 when principals in Launceston wanted to establish a small-scale demonstration of a new learning environment. A formal partnership was established with BPEA and the Tasmanian Department of Education funded the school.

Cooks Hill Campus (Cooks Hill Campus, 2015) in Newcastle was established in 2014 by the NSW Department of Education and Communities in partnership with BPEA. It has 85 students in six advisory classes.

Along with other Big Picture schools, both City Campus and Cooks Hill have closely monitored and researched the implementation of the design. More information is contained within a number of documents produced as part of the evaluation of Big Picture.

The evaluation of Big Picture in Australia

The Big Picture design, both in Australia and overseas, has become more widely recognised, including by the UK-based Innovations Unit which showcased Big Picture learning in its collection of the 10 best schools and 10 big ideas for 21st century education (Innovation Unit.

(2012); Australian Institute for Teaching and School Leadership, undated).

In its recent book, *Redesigning Education*, GELP outlines what it takes to transform education systems. The book cites Big Picture Learning as an example of this development. Charles Leadbeater and Annika Wong include Big Picture schools as being among those which have pioneered more personalized approaches to learning (Leadbeater & Wong, 2010). In the US, President Obama identified Big Picture as an exemplar of the kind of education required for success in life, careers and family (Big Picture Learning, 2010).

Referring to Big Picture Learning in the US, Sir Ken Robinson states that their schools demonstrate the principles and methods on which the real solutions to the crisis in education should be based (Washor, Elliot, & Mojkowski, 2013).

However, it was clear to the Board of BPEA–and to funders–that the implementation of Big Picture learning in Australian schools needed to undergo a thorough evaluation. In 2011 the Origin Foundation funded a three-year evaluation which would seek information about the effectiveness of Big Picture, the extent to which any apparent success was linked to the design, and what improvements might be needed in the future.

It wasn't an easy task; the research needed to identify and describe the learning and achievement of young people, not only in terms of measurable outcomes such as test scores and attendance but also in the extent of their engagement and commitment to learning for the long term.

The outcomes of the evaluation are available in a series of reports readily available on the BPEA website (Big Picture Education Australia, 2011). Key findings are also included in a case study of Big Picture, compiled by Leading Learning in Education and Philanthropy (LLEAP) in Growing ideas through evidence (Anderson & Curtin, 2014), a publication in its Dialogue Series. The case study refers to impacts of Big Picture in a range of areas: student learning and engagement; social and emotional wellbeing; teacher quality; student capabilities; pathways and behaviour; attendance and retention; family and community engagement.

Ethnographic research

Big Picture partnered with two universities to undertake major ethnographic research in six schools in three states. This involved extended and repeat interviews with students, parents and teachers, work which yielded a substantial depth of information not possible using other methodologies. It was undertaken by Associate Professor Debra Hayes and Ms Deb Talbot at the University of Sydney, Professor Barry Down and Dr Kathryn Choules at Murdoch University.

The research identified phenomena describing the experiences of students, parents and teachers. It identified two groups of these experiences:

- Those likely to maximise the education prospects of current and future generations of young people, particularly the vulnerable.

- Those likely to contribute to creating employment readiness training and work experience opportunities for the long term unemployed.

Adjunct Professors Margaret Vickers and Mo McCarthy at the University of Western Sydney reviewed the research and its findings (Vickers & McCarthy, 2013). They noted comments from students which reflected their commitment to learning, attendance and participation, engagement, contribution to the community, academic improvement and supportive relationships with others.

> *It is clear that students experienced wide-ranging responses to the opportunities offered in Big Picture schools. Teachers and parents also were supportive of the Big Picture initiative. Representative student statements are indicative of outcomes achieved in the schools that participated in the Big Picture research project. (Vickers & McCarthy, 2013)*

They also highlighted the issues in Big Picture schools which demand attention, including the need for further support and teacher professional development, the need to expand the implementation of internships and to continue and improve school level research and collaborative learning. Like others, they stressed the need to develop appropriate

indicators of student engagement and achievement.

As they conclude:

The research results: … speak of a significant turn-around in the lives of these students. Where NAPLAN data are available, these indicate remarkable improvements in student achievement on core academic skills. Attendance data also improved very significantly, indicating higher levels of engagement with school. Above all, it is the students' own words, captured in the qualitative research, that provide the most compelling indication that Big Picture is working well for them. (Vickers & McCarthy, 2013)

1. Measuring progress

The evaluation team was keen to explore existing data held by schools and systems. The research undertaken by Department of Education in Tasmania gathered quantitative data in such areas as student achievement, school attendance and retention. The initial findings were encouraging but it was very difficult to aggregate the data, partly arising from Big Picture's very strengths; namely its ability to be implemented in a diversity of school settings.

In Tasmania, Big Picture schools are located in a range of communities with varying socioeconomic circumstances, with the Big Picture program catering for students from a variety of backgrounds. As a result, the effect of Big Picture in different settings may have different outcomes; this can lead to an 'averaging out' of observed outcomes when looking across all Big Picture schools. (Bonnor, 2013)

NAPLAN scores as a measure of student achievement weren't useful as the Year 9 NAPLAN tests are administered at the same time Big Picture programs begin. The exception is Yule Brook College in Western Australia where students begin Big Picture in Year 8–and their NAPLAN results have proven to be outstanding (Bonnor, 2013). As a consequence much of the quantitative data used for the Big Picture evaluation was school-sourced as well as derived from surveys conducted across significant numbers of schools. One of the evaluation documents, Counting Success (Bonnor, 2013) gives substantial information about findings.

School-level data gathered since the evaluation continues to be very positive. The new Cooks Hill Campus has reported increasing student commitment to learning from its 90 students (2014)–and dramatic falls in the number of things that get in the way. Student attendance and suspension data, comparing their previous and new school experience, tells the story:

- On average, student attendance rates improved by seven per cent.

- A significant one-third of students improved their attendance on average by 27 per cent.

- Individual attendance gains ranged up to 58 per cent.

- Thirty per cent of the students had been suspended in their previous schools and this fell to 10 per cent at Cook's Hill.

- The number of suspensions for the 90 students fell from 54 in 2013 (previous schools) to just 11 in 2014.

Student engagement at Brewarrina Central School (163 students) has increased, the quality of their work has risen and students have a future plan. Student achievement is now on a par with schools with more advantaged students and the number of suspensions in 2014 fell by 50 per cent.

2. Telling the stories

Given the significance of affective domain outcomes it was also important for students, teachers and parents to relate their own Big Picture stories. These are contained in another evaluation document, Stories out of School (Bonnor & Wickert, 2014). They include observations from Rachel Grant, a student at Wanniassa High School and from Shelley Lavender a teacher at the same school. The document includes links to a large number of video clips of reflections from other students and teachers.

The stories have continued to gather since the evaluation was completed. In a recent conference a Big Picture parent recounted the depths to which her daughter had sunk in her personal and school life before she enrolled in a Big Picture school. As the parent relates, things soon changed:

[Name of student] has developed a sense of self and life goals. The mandatory weekly work placement

made her think about what she wanted to do with her career. Whilst the internship has given her a sense of direction it has also improved her skills. She's gained valuable skills from working within the hospitality industry ... such as independence, confidence, organisation, communication skills, and industry specific skills.

Issues in researching innovative practice

The search for indicators of student and school achievement showed the limitations of numerical data in evaluating a complex program administered in sometimes different ways in a diversity of sites with small numbers of students. As a measure of student progress, more useful information was obtained when student progress was assessed against previous achievement levels—but even this approach was problematic with so many students changing schools. Investigation of data and information collected by schools proved to more productive, especially data about student achievement 'before' and 'after' Big Picture.

What is clearly needed, are system wide efforts to identify and mine the greater variety of data and information that we value, collect and publish about student progress. The Australian Research Alliance for Children and Youth (ARACY) notes that Australia lacks appropriate measures of engagement with learning—and in their absence we are reliant on measures of educational performance (Australian College of Children & Young People's Nurses (ACCYPN), 2011). The Australian Institute for Teaching and School Leadership (AITSL) has also urged a better focus on what engagement at school really means (AITSL, undated). There is always more scope for peak school and education professional groups to advocate for broadening the measures of student achievement with a focus on student engagement and commitment to learning.

Given the nature and purpose of Big Picture the qualitative research methodology employed in Big Picture Education Australia: Experiences of students, parents/careers and teachers (Hayes, et al., 2013) proved to be particularly valuable. It yielded a substantial depth of information about

what the schools were and were not doing-and the extent to which the design itself explained the much reported student success. In evaluation it is certainly important to match what you are trying to find out to the most appropriate methodology.

Where to from here?

The founders of Big Picture in Australia, Viv White and John Hogan, have between them amassed a wealth of experience and knowledge in school change. The recognition that Big Picture has received in recent years may have influenced the debate about school change, but it doesn't replace the considerable effort and especially the partnerships needed to make it work. As Viv White attests:

> *... there are many willing to explore ways of developing new designs for schooling in partnership with BPEA; and we have worked successfully to connect these people to the philanthropic sector. This work extends to other government agencies such as ACARA, curriculum authorities and universities. In addition, we have found common ground with other not-for-profit companies such as the Stronger Smarter Institute and the Beacon Foundation. This three-way world is more complex, but well worth the pursuit. We now have formal relationships with systems of education, the first not-for-profit organisation redesigning and establishing public schools to achieve this. (Big Picture Education Australia, n.d. b)*

The current focus is to continue establishing demonstration sites in each state and territory and to make the improvements suggested by the evaluation. Demonstration sites are very important—visitors can see the design in action and learn from the experiences of students, teachers and parents. Frequent visitors include key people in schools, education departments, unions, philanthropy and government. They include brilliant and far-sighted educators, funders, bureaucrats at all levels and ministers. They know we must measure, value, celebrate and grow the things that make a real difference and be prepared to abandon things that don't.

There are many obstacles to expanding the design. One is the time it takes; shortcuts in planning, staffing, training and development don't work. For this reason Big Picture Education cautions against rapid expansion, favouring the current organic growth. BPEA itself is a small not-for-profit company and is not well-funded—but new schools need its support and networking. Existing support for schools provided by school authorities, while well intentioned, cannot currently sustain the design in participating schools.

Conclusion: The view from the edge

Those at the edge of innovation have an uncomfortable existence. By definition they are challenging existing orthodoxies, legacies, aspirations and even careers–in the process often creating discomfort for others. They also challenge the years and even decades of misdirected reform. Much of what passes as school reform represents distraction and avoidance of intractable problems.

The lessons learned by advocates of the Big Picture design also point to problems in the capacity of schools and systems to effectively scale or spread proven innovation. Professor Pat Thomson argues that the way we currently scale-up educational change, driven by 'beacon/lighthouse schools' and 'evidence based practice', both produces and reproduces the inequitable distribution of educational benefits (Thomson, 2014). To an extent, Big Picture learning with its focus on socially just outcomes, challenges far more than reflects existing beliefs about the 'spreadability' of innovation. This is something that somehow, Big Picture, as well as other stakeholders in school change, has to deal with.

Some things are givens: engagement of our young people in learning– in school and beyond–is the key. Nothing much else will happen without this engagement, especially for those most at risk. Schools can and do push most students through the hoops. But we can't call it success if it comes to an end when young people walk away from school, which they do too early, too often, and at great personal and national cost.

References

Anderson, M., & Curtin, E. (2014). *Growing ideas through evidence Leading Learning in Education and Philosophy (LLEAP) Dialogue Series* http://www.acer.edu.au/files/LLEAP-Guide-2014.pdf.

Australian College of Children & Young People's Nurses (ACCYPN). (2011). *The National Action Plan for Children and Young People in Australia.* Retrieved from http://www.accypn.org.au/wp-content/uploads/national_action_plan_next_steps_-_2011_final.pdf.

Australian Institute for Teaching and School Leadership (AITSL). (undated). *Engagement in Australian schools.* Retrieved from http://www.aitsl.edu.au/docs/default-source/default-document-library/engagement_in_australian_schools__grattan.pdf?sfvrsn=4.

Australian Institute for Teaching and School Leadership (AITSL). (undated). *Valerie Hannon in conversation with Anthony Mackay: Learning a Living.*

Big Picture Education Australia. (n.d a). *Enduring problems; old and new responses.* Retrieved from http://bigpicture.org.au/files/sum071_enduring_problems_4pp_-_v2.pdf.

Big Picture Education Australia. (n.d. b). *Innovation LLEAP Dialogue Series (No. 3) Growing Ideas through Evidence.* Retrieved from http://www.acer.edu.au/files/LLEAP-Guide-2014-Case4-Big-Picture-Education.pdf.

Big Picture Education Australia. (2011). *Transforming Learning and Schools.* Retrieved from http://www.bigpicture.org.au/transforming-learning.

Big Picture Learning. (2010). *President Obama's Praise for the Met and Big Picture Learning Schools!* Retrieved from http://www.bigpicture.org/2010/03/president-obama-praises-the-met/#sthash.Ktg6shla.dpuf.

Big Picture Learning. (2015). *About Us.* Retrieved from http://www.bigpicture.org/about-us/.

Bonnor, C. (2013). *Counting Success.* Sydney: Big Picture Education Australia. Retrieved from http://www.bigpicture.org.au/files/sum073_counting_sucess_bro_v3_crop.pdf.

Bonnor, C. & Wickert, J. (2014). *Stories out of school*. Sydney: Big Picture Education Australia. Retrieved from http://www.bigpicture.org.au/files/sum075_stories_out_of_school_-_v2.pdf.

Cooks Hill Campus. (2015). *One student at a time in a community of learners*. Retrieved from http://www.cookshill-s.schools.nsw.edu.au/home.

Global Education Leaders' Program. (2013). *Redesigning Education, Shaping Learning Systems around the Globe*. Seattle: Booktrope.

Global Education Leaders' Partnership (GELP). (2012). *GELP Home*. Retrieved http://gelponline.org/

Hannon, V. (2013). *Learning Futures in Innovative Learning Environments*. OECD: Centre for Educational Research and Innovation.

Hayes, D., Down, B., Talbot, D. & Choules, K., (2013). *Big Picture Education Australia –Experiences of students, parents/caregivers and teachers*. Sydney: Big Picture Education Australia. Retrieved from http://www.bigpicture.org.au/files/sum067_experiences_report_v4.pdf.

Innovation Unit. (2012). *Innovation Unit Home*. Retrieved from www.innovationunit.org.

Innovation Unit. (2015). *Our People: Valerie Hannon*. Retrieved http://www.innovationunit.org/our-people/our-staff/valerie-hannon.

Innovations Unit for the Global Education Leaders' Program. (2013). *Redesigning Education: Shaping Learning Systems Around the Globe*. Retrieved from http://gelponline.org/news-and-events/news/redesigning-educationshaping-learning-systems-around-globe.

Jasperson, P. (2013). *In Australia, Student Engagement Dips With Each Year in School*. Retrieved from http://www.gallup.com/opinion/gallup/175085/australia-student-engagement-dips-year-school.aspx.

Leadbeater, C. & Wong, A. (2010). *Learning from the Extremes Cisco Systems Inc*. Retrieved from https://www.cisco.com/web/about/citizenship/socio-economic/docs/LearningfromExtremes_WhitePaper.pdf.

Thomson, P. (2014). 'Scaling up' educational change: some musings on misrecognition and doxic challenges. *Critical Studies in Education, 55*(2), 87–103.

Vickers, M. & McCarthy, M. (2013). *Reviewing the Big Picture learning design: The story so far*. Retrieved from http://www.bigpicture.org.au/files/sum0067_review_v3_crop.pdf.

Yule Brook College. (2015). *Yule Brook College Multi Award Winning School*. Retrieved from http://www.yulebrookcollege.wa.edu.au/

Washor, E. & Mojkowski, C. (2013). *Leaving to Learn—How Out-of-School Learning Increases Student Engagement and Reduces Dropout Rates*. Portsmouth: Heinemann.

Appendix A

Big Picture distinguishers

1. Academic rigour: Head, heart and hand

Big Picture schools have a strong intellectual purpose for each and every student. Students are continually challenged to deepen their learning and improve their performance across five learning goals: quantitative reasoning, empirical reasoning, social reasoning, communication skills and personal qualities. A high standard of academic work is expected of all students.

2. Leaving to learn: Learning through internships

Students work two days a week in an interest-based internship with a mentor from the community on an intellectually rigorous real-world project that is connected to their learning goals.

3. Personalisation: One student at a time

With the help of the advisory teacher and parents, each student develops a learning plan that explores their interests and passions, and identifies personal learning goals, authentic project work and wider curriculum requirements. This plan is reviewed and updated regularly.

4. Authentic assessment

Each term the students exhibit their portfolios of work to a panel made up of the advisory teacher, family, peers, the mentor, and others from the community. They provide evidence of progress against their learning goals and they reflect on the process of their learning.

5. Collaboration for learning

Students work in one-on-one or small group learning environments around their interests both inside and outside the school. Through internships, the community plays an integral role in the education of the students.

6. Learning in advisory

Students are in an advisory group of no more than 17 students and an advisory teacher. They stay in the same advisory for much of their secondary education. The advisory teacher manages each student's learning plan and ensures that all learning goals and the National Curriculum are covered.

7. Trust, respect and care

One of the striking things about Big Picture schools is the ease with which students interact with adults in both the school and the wider community. A culture of trust, respect and care is shared between students and adults, as well as among students themselves.

8. Everyone's a leader

In Big Picture Schools, leadership is shared between the principal, staff, students, family, and community partners. Opportunities for leadership are created for everyone.

9. Families are enrolled too

Big Picture schools aim for real family engagement. Parents or carers are regarded as essential members of the learning team, beginning with the application process and progressing through to learning plan development, exhibitions and graduation.

10. Creating futures

All students are expected to graduate from school to further learning. They are prepared for, and connected to, opportunities for learning at university and/or other further education.

11. Teachers and leaders are learners too

New ideas constantly emerge as part of the learning cycle process. Teachers and leaders in Big Picture schools and programs regularly attend to new ideas and learn new ways of working. They develop reflective practice and find ways of sharing this learning with others.

12. Diverse and enduring partnerships

A Big Picture School has a strong focus on building and creating external partnerships. These include partnerships with: the family, mentors, local councils, businesses, universities, TAFE colleges and other training providers. These partnerships give students the opportunities to pursue their learning and achieve their goals.

The performance edge: Optimising wellbeing and achievement

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Biography

Catherine Brandon is the Director of Programs: Research and Performance at Genazzano FCJ College. She has a Masters in Educational Psychology and an interest in promoting adaptive thinking to enhance wellbeing and performance. Catherine has written articles for various publications on the topics of resilience, coping, Sports Psychology and performance. She is currently developing a course for students in positive achievement and is the co-author of classroom-based programs including: 'Thinking Skills for Peak Performance' (Brandon & Ivens, Macmillan 2009), 'The Best of Coping' (Frydenberg & Brandon, 2007) and 'Bright Ideas: Optimistic Thinking' (Brandon and Cunningham, OzChild 1999).

Workshop abstract

Performance Psychology techniques have long been utilised in the fields of sports, business and entertainment to assist individuals to optimise achievement. The skills aim to develop a positive mindset to enhance motivation, performance technique, confidence and self-esteem. Importantly, the skills also focus on a reduction of anxiety and mental obstacles that so often undermine performances. Such skills are fundamental to all aspects of education including examinations, learning, public speaking, sports, music, drama and team challenges.

Genazzano FCJ College has developed and implemented a whole school program to explicitly teach performance psychology techniques alongside resilience and positive education principles to promote student wellbeing and achievement.

Research conducted in collaboration with the University of Melbourne to examine the effects of a school-based performance psychology skills program showed significant benefits in the improvement of motivation, engagement and resilience as well as a significant reduction in anxiety. A recent survey on general student wellbeing showed very high levels of student engagement and resilience.

This interactive workshop will highlight some key aspects of Performance Psychology theory and research. In addition, practical applications for the classroom adaptable for different ages and subject areas will be explored.

Introduction

For decades Australian schools have recognised that wellbeing education is a necessary and important part of the teaching and learning that can occur in schools. The implementation of wellbeing skills training originated from a need for interventions to redress deficits or presenting issues, such as learning or behavioural concerns (Noble & McGrath, 2008). In the late 1980s, Psychologist Martin Seligman argued that depression in young Americans was reaching 'epidemic proportions' and that schools can, and must, do more (Seligman, Reivich, Jaycox & Gillham, 1995). He was amongst those leading the call for schools to explicitly teach skills in resiliency. Seligman and his colleagues developed and researched a universal classroom-based program to achieve this; namely the 'Penn Prevention Program.' This was a proactive undertaking designed to boost adaptive coping and, importantly, to prevent mental illness (Seligman et al., 1995). Research in the area of stress and coping provided evidence that it was beneficial for young people to learn to develop a coping skills repertoire to assist them deal with life's challenges and stressors (Frydenberg, 2010). By the early 2000s, many schools began to embrace the idea of explicit teaching in coping and resiliency to assist students to develop the necessary skills to manage the multiple challenges in their lives. The research and writings of leaders in the field laid the groundwork for the development of Australian universal classroom based programs, such as 'Bounce Back' (McGrath & Noble, 2003) and 'The Best of Coping' (Frydenberg & Brandon, 2009), designed to promote resilience and adaptive coping. The value of using evidence-based wellbeing programs in the school context as a means to reduce depression and anxiety is well supported by the literature (Frydenberg, 2010; Green & Norrish, 2013).

Beyond 'OK'

Subsequently, Seligman extended his thinking in the area of wellbeing, resulting in the birth of 'Positive Psychology.' This branch of Psychology aims to assist people to not only cope or survive, but to flourish. It is about increasing positive emotion, positive relationships, achievement, engagement and meaning for personal and community fulfilment and happiness. The application of Positive Psychology in school education was first introduced by Seligman and his team at the Geelong Grammar School, Victoria (Seligman, 2008). The work further evolved and the term 'Positive Education' now describes a well-designed framework for the promotion of wellbeing built around the fundamentals of Positive Psychology and complementary psychological and educational research (Noble & McGrath, 2008). Positive Education has gained momentum as schools recognise this as a useful, common sense and evidence-based model to assist school communities to flourish (Green, 2014).

Along with a focus on wellbeing, the Positive Education model also recognises the vital importance of educational attainment (Seligman, 2008). In 2015, demands on students to achieve have never been higher, with strong competition for tertiary places and future employment. In both education and leisure, achievement is highly valued by students and parents. However, while moderate stress or arousal can serve to enhance a performance, excessive anxiety or pressure can undermine accomplishment and wellbeing (Osborne, 2013). Anecdotally, many educators have seen capable students fail to perform or become ill, due to debilitating anxiety around achievement.

Performance pressure or anxiety has been explored by many researchers, including Dr Carol Dweck (2006) who introduced the concepts of 'Mindsets'. Dweck contends that a 'growth' mindset is required for optimal learning and development. This mindset embraces growth through effort and working through challenges. Conversely, the 'fixed mindset' perceives errors or unacceptable grades to be intolerable. It drives the avoidance of failure, disappointment, negative feedback or any perceived slight on intellectual capacity. Dweck maintains that the fixed mindset hampers learning and development opportunities, as students may avoid hard tasks to ensure they do not fail or appear less competent. In addition, the fear of failure or a perceived failure, may lead to serious mental health issues (Dweck, 2006). A possible way of avoiding such outcomes is to explicitly teach adaptive thinking strategies to promote a healthy and

positive approach to performance and achievement.

Performance Psychology is a discipline incorporating principles of coaching and cognitive behavioural therapy, and is closely-aligned with Positive Psychology (Terry, 2008). It aims to promote strategies to enhance effectiveness and wellbeing. These strategies include: a positive and growth mindset; a holistic and systematic approach to optimising accomplishment featuring purposeful effort, planning and reflection; performance technique; enhanced motivation; anxiety reduction and confidence. Strategies to overcome disappointment and mental blockers, set new challenges and embrace learning and feedback are essential to the process of accomplishment and growth. There is a substantial and growing body of evidence supporting the use of performance and coaching techniques in sports, business and entertainment to assist individuals to optimise performances (Orlick, 1990). Improving achievement is also relevant to all aspects of education including examinations, public speaking, sports, learning, music, drama and team challenges.

The strategic incorporation of coaching principles alongside Positive Psychology has been endorsed by researchers who contend that utilising both approaches to wellbeing will facilitate optimal functioning for students. Evidence-based coaching techniques may facilitate the development and transfer of positive psychology skills to real world situations (Green & Norrish, 2013).

Teaching skills for peak performance

Promoting optimal achievement alongside wellbeing has been an important feature of Genazzano FCJ College's wellbeing education program since 2008. The College's program aims to foster growth and development by providing a structured whole school model that is sequenced for each age and stage. It has been developed utilising the current research in wellbeing and Psychology and in consultation with students and staff to determine the particular needs of each cohort. The program incorporates sessions to promote aspects of Positive Psychology, health and safety plus Performance Psychology education

classes. Activities underpinned by Performance Psychology are also offered as part of the co-curricular program, or as seminars to support activities such as Sport or Music performances. The program is regularly reviewed and evolving with the intention of ensuring it remains current and relevant.

A case study in music performance

In 2012, the College partnered with the University of Melbourne's Centre for Music and Mind to examine the effectiveness of the Performance Psychology skills training used at the College. Dr Margaret Osborne led the study which evaluated the perceptions and performances of Music students pre and post skills training using the classroom-based program 'Thinking Skills for Peak Performance: Unleash Your Potential' (Brandon & Ivens 2009). The program, based upon principles from Performance Psychology and Positive Psychology, aims to support young people to optimise achievement through the development of skills including: goal setting, relaxation, performance techniques, overcoming setbacks, mental rehearsal, promoting focus and flow, optimistic thinking and relaxation.

Sixty-two music students participated in the wait-list control designed study. Students were administered questionnaires related to performance anxiety, motivation and engagement pre, post and two months post the intervention. Results indicated that music performance anxiety was significantly reduced. In addition, students' reports of optimism, persistence and self-belief were significantly increased. Students were significantly less likely to avoid a performance due to a fear of failure, and they also reported a reduction in behaviours such as ineffective preparation and procrastination, which can sabotage performances. The findings provide evidence for the effectiveness of Performance Psychology skills training in educational programs (Osborne, 2103).

Conclusion

Green & Norrish (2013) endorsed the idea of schools creating tailored wellbeing programs to meet the unique needs of their students, staff and community. While no two schools are alike, it is clear that student wellbeing is of vital importance and a critical

companion to teaching and learning in all schools. Current theory and research supports the use of evidence-based programs to teach skills for achievement and wellbeing in schools. There is an opportunity and a need for the development of additional evidence-based curriculum resources (especially interactive, online or computer based programs) in order to provide choice and flexibility to support the teaching of these skills at different levels.

For schools wishing to implement, refresh or redesign their wellbeing education, there are a number of considerations and challenges including: designing a model; sourcing suitable curriculum materials; staff training and support; incorporating the program into the curriculum; parent education and program evaluation. The task may seem overwhelming or confusing, but advancements in the area of wellbeing education offer a valuable framework to assist schools with planning and design (Noble & McGrath, 2008). In addition, there are a number of schools that have already enthusiastically headed down this path, taking on opportunities to design models, pilot programs, trial different approaches and participate in research projects.

The Positive Education Schools Association (PESA) is an emergent organisation that is inspiring collaboration between schools, universities, researchers, organisations and practitioners nationally and internationally. PESA provides a forum that fosters networking and cooperation in the pursuit of enhanced student achievement and wellbeing (Murray, 2015). Schools interested in developing a flourishing community can benefit from the sharing of experiences, resources, models and research emanating from the growing contributions in this field; many of these having been made available by leading schools and researchers in Australia.

References

Brandon, C. & Ivens, C. (2009*). Thinking skills for peak performance: Unleash Your Potential!* Melbourne, VIC: Macmillan Education Australia.

Dweck, C. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Frydenberg, E. (2010). *Think positively!: A course for developing coping skills in adolescents*. London, UK: Continuum International Pub. Group.

Frydenberg, E. & Brandon, C. (2007). *The best of coping: Developing coping skills for adolescents*. Melbourne: ACER.

Green, L. S. (2014). Positive Education: An Australian Perspective. In Furlong, M. J., Gilman, R. & Huebner, E. S. (Eds.). *Handbook of positive psychology in schools*. (2nd Ed.) (pp. 401–415). New York, NY: Taylor & Francis.

Green, L. S. & Norrish, J. M. (2013). Enhancing well-being in adolescents: Positive psychology and coaching psychology interventions in schools. In Proctor, C. & Linley, P. (Eds.), *Research, applications, and interventions for children and adolescents: A positive psychology perspective*. (pp. 211–222). New York, NY: Springer.

Murray, S. (2015). *PESA: Positive education schools association*. Retrieved 28 May 2015, from http://pesa.edu.au

McGrath, H. & Noble, T. (2003). *Bounce back! A classroom resiliency programme*. Sydney: Pearson Education.

Noble, T. & McGrath, H. (2008). The positive educational practices framework: A tool for facilitating the work of educational psychologists in promoting pupil wellbeing. *Educational and Child Psychology, 25*(2), 119-134.

Orlick, T. (1990*). In pursuit of excellence*. Champaign, IL: Leisure Press.

Osborne, M.S. (2013). Maximising performance potential: the efficacy of a performance psychology program to reduce music performance anxiety and build resilience in adolescents, in A. Williamon & W. Goebl (Eds.), *Proceedings of the International Symposium on Performance Science* (Brussels: Association Européennedes Conservatoires), 303-310.

Terry, P. (2008). Performance Psychology: Being the best, the best you can be, or just a little bit better? InPsych: *The Bulletin of the Australian Psychological Society, 30*(1), 8-11.

Seligman, M. (2008). Positive Education and the new prosperity: Australia's Edge. *Education Today, 8*(3) 20-21.

Seligman, M., Reivich, K., Jaycox, L. & Gillham, J. (1995*). The optimistic child*. Milsons Point, NSW: Random House Australia.

Understanding creativity and innovation: The power of building a professional learning community that supports staff to lead school improvement

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Biographies

Brian Burgess has an extensive background working in Australian Government Schools. Brian is a former Principal and is the former President of the Victorian Association of Secondary School Principals. He has worked on a range of projects related to leadership, school climate and school effectiveness in a wide range of school contexts. This has enabled Brian to gain considerable experience in the use of school improvement methodologies. In particular, Brian is an expert in enabling schools to design, develop and deliver on school improvement strategies that incorporate both 'top-down' (leadership) and 'bottom-up' (staff-led) components.

Peter Hart has worked with a range of schools and organisations throughout Australia and internationally in the areas of leadership, culture, wellbeing, engagement and performance. His guidance has enabled many schools and systems to bring about sustained improvements in school climate, resulting in improved absence and workers' compensation costs, enrolments, parent satisfaction, and student outcomes. Peter developed the conceptual frameworks and diagnostic techniques that are used in a wide range of school systems throughout Australia.

Peter is also an Adjunct Professor at Deakin University and has published extensively in the education, Organisational Psychology and Management literature.

Clare Scollay has a strong background in the design, development, implementation and evaluation of projects in both the education and corporate sectors. These projects have included organisational development and school improvement programs conducted in a range of settings across Australasia. Clare has extensive experience in the collection, management and analysis of data, and is currently involved in the evaluation of a number of programs related to school climate, school improvement and student outcomes in both Government and Catholic School Systems.

Abstract

Delivering sustained school improvement requires ongoing creativity and innovation. A strong body of empirical evidence in the education, Organisational Psychology and management literature shows that creativity and innovation can only be achieved when school leaders harness the energy and enthusiasm of staff and the broader school community. This requires school leaders to use 'bottom-

up', rather than 'top-down', strategies to engage staff in school improvement. Longitudinal data obtained from 63872 staff and 319474 students in 1902 Australian Catholic and Government Schools supported this view, and showed how a team-based professional learning culture contributes to students' socio-emotional and academic outcomes. Moreover, this data showed that 'bottom-up' school improvement strategies were significantly more powerful than 'top-down' strategies in bringing about sustained improvements in school effectiveness. The results of this study provide strong empirical support for the notion that school leaders will achieve the best outcomes when they empower staff to lead school improvement.

Delivering sustained school improvement requires ongoing creativity and innovation (e.g., Hopkins, Stringfield, Harris, Stoll & Mackay, 2014). A strong body of empirical evidence in the education, Organisational Psychology and Management literature shows that creativity and innovation can only be achieved when school leaders harness the energy and enthusiasm of staff and the broader school community (for example, Hart, Cotton & Scollay, 2015; Marquardt, Leonard, Freedman & Hill, 2009; Sarros, Cooper & Santora, 2008). This requires school leaders to empower staff in a way that enables staff to design and implement a 'bottom-up' school improvement strategy (for example, Scollay, Hart & Brockhus, 2015). This is quite different to the leader driven or 'top-down' strategies that are typical of many school improvement initiatives.

A colleague once said that: 'staff engagement is the engine room of school improvement'.

If school leaders apply what we know about student learning to their staff, then this statement makes a lot of sense. We know that the most effective classrooms harness the energy and enthusiasm of students. This energy and enthusiasm provides the motivational force that enables students to engage in learning. Indeed, engagement is the precursor to learning (for example, Wang and Holcomb, 2010), and without engagement there can be no learning.

Likewise, adult learning needs to harness the energy and enthusiasm of staff if school leaders are to engage staff in building more effective schools (Marquardt et al., 2009; Dufour & Eaker, 1998). This raises an important question about how school leaders can best create the energy and enthusiasm that will result in staff taking responsibility for school improvement. By enabling staff to take responsibility for school improvement, school leaders will be able to harness the creativity and passion of staff to develop innovative solutions that are more likely to result in improved student outcomes.

Objectives

In this paper, we report on a study that examined the differences between schools that did or did not improve as a result of engaging in a system wide school improvement strategy. The

results showed that despite staff putting similar amounts of effort into school improvement, in those schools that improved there was a significant improvement in supportive leadership, the empowerment of staff, and learning through feedback and professional development activities. The results suggest that schools are more likely to improve when leaders actively and openly support and empower staff to bring about change, and when improvement strategies facilitate learning through knowledge building, action learning, and reflection.

Perspectives

Over the past decade, the rise of positive psychology has prompted academics, policy-makers and practitioners alike to increase their focus on identifying and enhancing factors that enable students and school communities to flourish (McLaughlin, 2008). This is, in part, based on research that has linked flourishing in schools to a number of positive staff and student outcomes, including improved wellbeing, engagement and performance (Suldo & Huebner, 2004; Howell, 2009; Hart, Cotton & Scollay, 2015). However, despite this focus, there has been little research into why some schools seem to improve and flourish while other schools either stagnate or decline in their effectiveness.

Although there have been many conceptualisations of what it means to flourish, it is now widely agreed that flourishing has two key dimensions. The first is feeling good, as demonstrated by the experience of frequent and ongoing positive emotion, whereas the second is functioning well (for example, Huppert & So, 2013; Keyes & Annas, 2009). Hart et al. (2015) have recently extended this two dimensional view by introducing a third dimension which focuses on the success that occurs as a consequence of positive functioning. This new conceptualisation aligns the flourishing literature with definitions of engagement and wellbeing at work (c.f., Hart & Cooper, 2001; Rich, LePine & Crawford, 2010). Engagement at work has been defined as a positive psychological state that contributes to performance (for example, Bakker, Schaufeli, Leiter & Taris, 2008; Kahn, 1990: Rich et al., 2010), whereas wellbeing has been defined in terms of positive and negative emotional

experiences (for example, Cotton & Hart, 2003). Engagement and wellbeing have been linked to a number of indicators of success in schools and other organisations (Christian, Garza & Slaughter, 2011; Harter, Schmidt & Keyes, 2003; Hart, Sutherland, Tan & Fisher, 2013).

In schools, staff success has traditionally been defined in terms of improvements in student academic and socio-emotional outcomes (Cilliers & Herman, 2010; Donovan, Sousa, & Walberg, 2001; Polirstok & Gottlieb, 2006). Fostering flourishing among school staff is likely to enhance their engagement, wellbeing and success in improving student outcomes (Hart et al., 2015). When staff and students flourish, this will also be apparent to parents, resulting in increased student enrolments (Ham, Johnson, Weinstein, Plank & Johnson, 2003) and more positive views about the school among the parent community.

In order to bring about flourishing in schools, it is necessary to understand the causal antecedents of flourishing. The quality of a school's climate has been identified as one of the key factors that explain the differences between schools on a range of student outcomes (e.g., Wang, Haertel & Walberg, 1998; MacNeil, Prater & Busch, 2009; Resnick et al., 1997). In a recent review of the culture and climate literature, however, Schneider, Ehrhart and Macey (2013) emphasized the importance of recognizing that all organisations have at least two different climates. The first is then general organisational climate or climate for wellbeing, which consists of the core leader and team behaviours that underpin the way people work together to deliver outcomes in all school and other organisational settings (Hart & Cooper, 2001; Hart et al., 2015). The second is the job-specific climate that relates to the performance-related behaviours that are relevant to a given context. In school settings, this will typically mean the teaching policies, practices and processes that contribute to the quality of teaching (e.g., Hattie, 2009). Accordingly, the behaviours that underpin the quality of teaching can be described as the teaching climate. The distinction between organizational and teaching climates is consistent with Hart, Wearing, Con, Carter & Dingle's (2000) approach to school organizational health, which emphasized the need to focus on both generic and job-specific

components when assessing school climate.

As recently noted by Hargreaves and Fullan (2012), school leaders need to implement strategies that focus on building a strong general organizational climate if they are to enhance the staff, student and parent outcomes that will enable a school community to flourish. This means that it is necessary to develop the collaborative team-based processes that will enhance teaching climate, by improving the wellbeing, engagement and professional practice of staff. Action learning is ideally suited to bringing about improvements in general organizational climate (Hart et al., 2015). An action learning strategy involves programmed learning to build knowledge and self-awareness, action to foster a collaborative approach to problem solving and dealing with adaptive challenges, and reflection to review and adjust actions to maximize learning and future success (Marquardt et al., 2009). This approach is consistent with enquiry methods of school improvement.

Hart et al. (2015) have outlined a number of key principles that are necessary for an action learning strategy to be successful. They argued that action learning is most effective when the solutions to the improvement challenge are not known, when validated conceptual frameworks are used to guide improvement activities and local data and evidence is used to inform the process. Action learning should also focus on improving school climate through a strong team-based approach that allows staff to work collaboratively with one another to co-construct the solutions that will result in improved outcomes. These principles are consistent with the conditions that have been associated with creativity and innovation (e.g., Barczak, Lassk & Mulki, 2010; West & Altink, 1996). It is also necessary to begin with specific and tangible goals that align with the school's overall strategic intent. Finally, coaching should be provided to guide reflection and ensure this is linked to learning and future action. These principles align with the mainstream literature on action learning (Marquardt et al., 2009).Methods

Data sources and materials

Our contentions were examined using data from 63872 staff and 319474 students in 1445 government and 457 Catholic Schools. Each school completed two sets of staff, student and parent opinion surveys, with a one year interval between surveys. The staff opinion survey used was based on the School Organisational Health Questionnaire (Hart et al., 2000) which measures seven key aspects of organisational climate that have been found to underpin staff wellbeing, engagement and performance. It also measures aspects of teaching climate, including the policies, practices and processes that contribute to the quality of teaching in schools. The student opinion survey measured student wellbeing, relationships with teachers, engagement in learning, and relationships with peers. The parent opinion survey measured the extent to which parents felt involved in their child's school and education.

Data from these surveys were used to classify schools as declining, improving or unchanging, depending on whether the teaching climate had declined by more than two points (out of 100), improved by more than two points, or changed by less than two points during the one year period between surveys. Once schools had been classified, we investigated the major differences between the groups in order to identify factors that made a difference to schools' improvement efforts.

Results

We began by looking at whether schools that improved the quality of their teaching climate also improved in other areas. As shown in Figure 1., we found that schools that improved their teaching climate also improved their organisational climate (M = 4.3) (M represents the mean change on a particular factor between the first and second survey), student wellbeing (M = 1.2) and parent engagement (M = 1.1). In contrast, schools whose teaching climate declined also declined on organisational climate (M = –6.2), student wellbeing (M = –0.3) and parent engagement (M = –1.1). This suggests that schools that improved or declined in the quality of their teaching climate also improved or declined in other areas of performance.
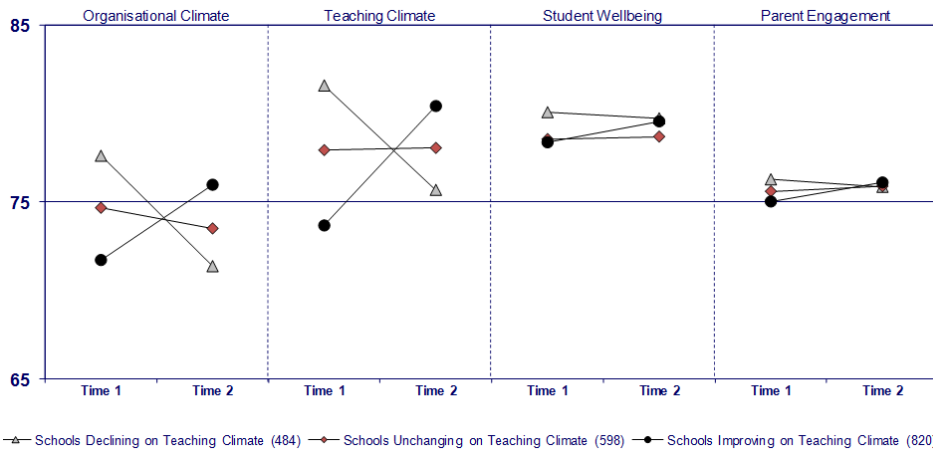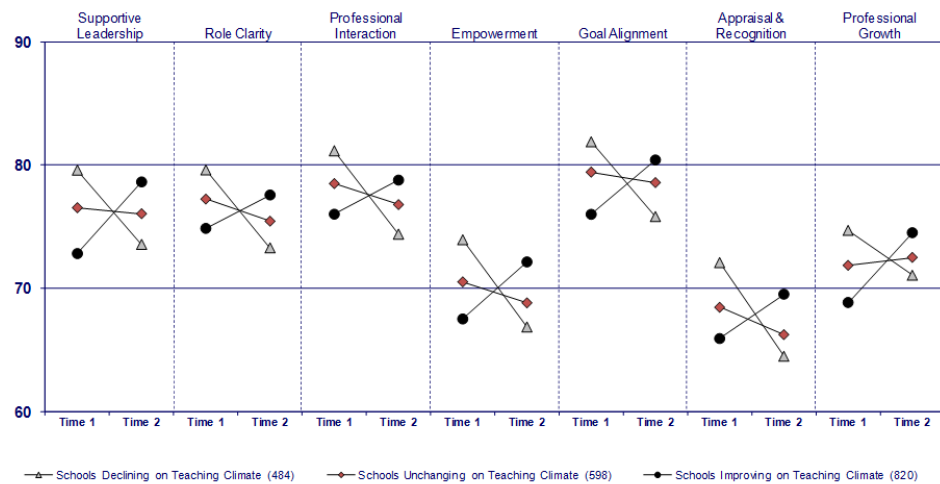
Figure 1. Differences in organisational climate, teaching climate, student wellbeing and parent engagement among schools that declined, improved, or did not change on teaching climate

We then aimed to identify those factors that made a difference to school improvement efforts. We began by examining whether a focus on school improvement made a difference to whether schools declined or improved. We found that at the time of the second survey, schools that declined had a similar level of focus on school improvement to schools that improved (see Figure 2.). This suggests that the extent to which schools focus on, and put effort into, improvement is not sufficient to bring about change.
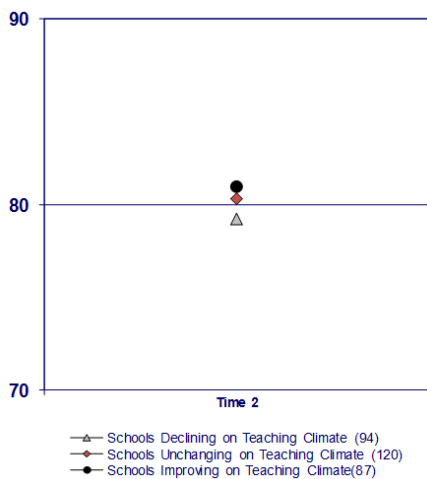
Figure 2. Differences in focus on school improvement among Catholic Schools that declined, improved, or did not change on teaching climate

Next, we examined the major differences between those schools that declined and improved. We focused on organisational climate as this has been found to underpin teaching climate in schools (e.g., Hargreaves and Fullan, 2012; Scollay et al., 2015). We found that the greatest differences in organisational climate were in supportive leadership and staff empowerment. In improving schools, leaders increased the extent to which they visibly and intentionally supported and empowered staff (M = 5.8 and M = 4.6). In declining schools, staff felt that leaders became less supportive (M = –6.0), and empowered staff less to lead school improvement (M = –7.1) (see Figure 3.).

Figure 3. Differences in organisational climate indicators among schools that declined, improved, or did not change on teaching climate

In addition to supporting and empowering staff, improving schools had a greater focus on staff learning than declining schools. Staff learning was cultivated through feedback received from leaders and peers (M = 3.6 in improving and M = –7.6 in declining schools) and professional learning activities (M = 5.7 in improving and M = –3.6 in declining schools).

Discussion and practical implications

Overall, these results indicate that schools that improve are those in which leaders actively and openly support and empower staff to bring about change. This suggests that improvement is less likely to occur where leaders set the improvement priorities and strategies for addressing these priorities. It also suggests that short-term improvement strategies, such as one-day professional development days will not be effective in bringing about lasting change, as they do not empower staff to set and work towards improvement goals. The results also highlight the importance of having a strong staff learning focus. Effective adult learning is based on knowledge building (through professional development and feedback from leaders and peers), action learning (through implementing and trying out new ideas) and reflection (through identifying what worked and what could be done differently next time) (Marquardt et al., 2009).

Effective improvement strategies need to incorporate knowledge building, action learning, and reflection. This can be achieved through the implementation of staff-led engagement processes that are bottom up and are visibly and intentionally supported by the school's leadership team. There is evidence to suggest that such strategies are effective in bringing about improvement. For example, Scollay et al. (2015) recently demonstrated that a school improvement program that used an action learning methodology to empower, encourage and enable staff to lead school improvement was effective in bringing about improvements in staff, student and school outcomes.

A Bottom-up strategy

Although there are many ways in which schools can implement a bottom-up school improvement strategy, the action learning methodology reported by Scollay et al. (2015) drew on principles of distributed leadership (Spillane, 2006), appreciative enquiry (Bushe, 2012; Cooperrider, Whitney, & Stavros, 2008), and positive psychology (for example, Hart et al., 2015) to bring about significant improvements in school climate, student outcomes and enrolments. A key component of this methodology was the selection of School Improvement Team that was delegated the responsibility of engaging staff throughout the improvement program. The way in which this team was selected, was highly consistent with the results of this study.

Importantly, staff directly selected the School Improvement Team. The leadership team announced that the school was establishing a team of staff to facilitate the whole staff in identifying areas for school improvement. The size of the team was predetermined and represented approximately 10 per cent of all staff. Each member of staff was asked to nominate the entire team by writing down the names of the teaching and non-teaching staff who they thought would best satisfy five criteria: 1. the members of the team should represent the school; 2. they should be professional, 3. they should be open to learning; 4. they should be able to hold appropriate confidences, while being transparent in what they are doing; and, 5. they should not be a member of the school's senior leadership team. The principal was the only senior leader who was allowed to be on the team. The nominations were then collated, and those staff who had the most nominations were invited to form the School Improvement Team. This process allows a free reign for staff to nominate whom they think best suits the criteria and school improvement needs of the school.

According to Scollay et al. (2015), the role of the School Improvement Team was to facilitate dialogue and inquiry among staff to build a shared understanding of the school's ideal future, before working with staff to determine the school's current strengths and opportunities for building a bridge to its desired future. By engaging staff during each step of the school improvement process, the School Improvement Team was able to use the principles of appreciative enquiry to role model the adaptive behaviours (c.f.., Heifetz, Grashow, & Linsky, 2009) that underpin creativity and innovation (for example, Barczak, et al., 2010; West & Altink, 1996).

By drawing on the results of this study, and the evaluation of the school-based action learning program reported by Scollay et al. (2015), a typical school improvement process might include: a staff selected school improvement team that is delegated the responsibility of leading staff through the dialogue and inquiry that will build shared ownership of the school's adaptive challenges and improvement strategies; working with staff to develop a shared understanding of their 'ideal school' in one-to-two years' time; developing with staff a shared understanding of the school's current strengths, challenges and opportunities for improvement; conducting a professional learning day to build knowledge about school effectiveness and moving towards identifying 'two-to-three' big picture priorities; draw on staff input to determine school improvement priorities; use school level data on school climate, students' socioemotional and educational outcomes, and parent opinions in a reflective process that builds on staff input; and, work with leaders and staff to agree on school improvement priorities and establish action.

Teams to take responsibility for those priorities

This staff empowerment process releases formal school leaders from the hierarchical strictures that are often, unintentionally, allowed to blossom. It permits all staff to be leaders and allows the formal leaders to learn the art of supporting distributive leadership.

This action learning methodology gives schools permission, to move from the predominant leadership paradigm of authority and/or rescue, to one based on coaching and learning. An environment based on coaching and learning fosters responsibility and accountability. Staff are used to being coached through issues so that they learn how to handle it themselves next time. They are likely to be more risk taking because it is accepted that you can't learn if you don't try new things. They are more likely to challenge each and hold each other accountable because this is seen as learning, not a personal attack.

This staff empowerment strategy helps schools develop a learning environment by engaging staff in real school improvement that they have identified. It allows leadership to spread and allows the opportunity for change and innovation to grow and flourish across the school.

References

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*, 187–200.

Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. *Creativity and Innovation Management, 19*(4), 332-345.

Bushe, G.R. (2012) Appreciative Inquiry: Theory and critique. In D. Boje, B. Burnes, & J. Hassard (Eds.) *The Routledge Companion To Organizational Change* (pp. 87–103). Oxford, UK: Routledge.

Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with and contextual performance. *Personnel Psychology, 64,* 89–136.

Cilliers, F. J., & Herman, N. (2010). Impact of an educational development programme on teaching practice of academics at a research-intensive university. *International Journal for Academic Development, 15*(3), 253–267.

Cooperrider, D.L., Whitney, D., & Stavros, J.M. (2008). *Appreciative Inquiry Handbook* (2nd ed.). Brunswick, OH: Crown Custom Publishing.

Cotton, P., & Hart, P. M. (2003). Occupational wellbeing and performance: a review of organizational health research. *Australian Psychologist, 38,* 118–127.

Donovan, J. F., Sousa, D. A., & Walberg, H. J. (1987). The Impact of Staff Development on Implementation and Student Achievement. *Journal of Educational Research, 80*(6), 348-351.

Dufour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement.* Bloomington, IN: National Educational Service.

Ham, C.L., Johnson, W., Weinstein, A., Plank, R., & Johnson, P.L. (2003). Gaining competitive advantages: analyzing the gap between expectation and perceptions of service quality. *International Journal of Value-Based Management, 16,* 197-203.

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school.* New York, NY: Teachers College Press.

Hart, P. M., & Cooper, C. L. (2001). Occupational stress: Toward a more integrated framework. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational psychology, vol. 2,* 93 –114. London: Sage.

Hart, P.M., Cotton, P., & Scollay, C.E. (2015). Flourishing at Work: Improving Wellbeing and Engagement to Foster Fulfilling and Successful Work Lives. In R.J. Burke, C.L. Cooper, C.L., & K.M. Page, (Eds.). (2014). *Flourishing in Life, Work and Careers.* Cheltenham, UK: Edward Elgar Publishing.

Hart, P. M., Sutherland, A. L., Tan, J. & Fisher, S. S. (2013, August). *Understanding engagement: How team engagement drives performance.* Paper presented at the 73rd Annual Meeting of the Academy of Management, Philadelphia.

Hart, P. M., Wearing, A. J., Conn, M., Carter, N. L., & Dingle, R. K. (2000). Development of the School Organizational Health Questionnaire: A measure for assessing teacher morale and school organizational climate. *British Journal of Educational Psychology, 70,* 211–228.

Harter, J. K., Schmidt, F. L., & Keyes, C. L. M. (2003). Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies. In C. L. M. Keyes, L. M. Corey, & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived,* (pp.205-224). Washington: American Psychological Association.

Hattie (2009). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* New York, NY: Taylor & Francis.

Heifetz, R.A., Grashow, A., & M. Linsky. (2009). *The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World.* Harvard Business Review Press.

Howell, A. J. (2009). Flourishing: Achievement-related correlates of students' well-being. *Journal of Positive Psychology, 4,* 1–13.

Huppert, F. A., & So, T. T. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research, 110*(3), 837-861.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33,* 692-724.

Keyes, C. L. M., & Annas, J. (2009). Feeling good and functioning well: Distinctive concepts in ancient philosophy and contemporary science. *Journal of Positive Psychology, 4*, 197–201.

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education, 12*(1), 73–84.

Marquardt, M. J., Leonard, H. S., Freedman, A. M., & Hill, C. C. (2009). *Action learning from the future*. American Psychological Association.

McLaughlin, C. (2008). Emotional well-being and its relationship to schools and classrooms: A critical reflection. *British Journal of Guidance & Counselling, 36*(4), 353–366.

Polirstok, S., & Gottlieb, J. (2006). The Impact of Positive Behaviour Intervention Training for Teachers On Referral Rates for Misbehaviour, Special Education Evaluation and Student Reading Achievement in the Elementary Grades. *International Journal of Behavioural Consultation Therapy, 2*(3), 354-361.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J.,…Udry, J. R. (1997). Protecting Adolescents From Harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association, 278*, 823–832.

Rich, B. L., LePine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal, 53*, 617–635.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies, 15*(2), 145–158.

Schneider, B., Macey, W. H., Lee, W. C., & Young, S. A. (2009). Organizational service climate drivers of the American Customer Satisfaction Index (ACSI) and financial and market performance. *Journal of Service Research, 12*(1), 3–14.

Scollay, C. E., Hart, P. H., & Brockhus, M. (2015 April). *Flourishing at School: A Positive Psychology Approach to School Improvement*. Paper presented at the American Education Research Association, Chicago IL.

Spillane, James P. (2006). *Distributed leadership*. San Francisco, CA: Jossey-Bass.

Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly, 19*, 93–105.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal, 47*(3), 633-662.

Wang, M. C., Haertel, G. D. & Walberg, H. J. (1998). Models of Reform: A Comparative Guide. *Educational Leadership, 55*(7), 66-71.

West, M. A., & Altink, W. M. (1996). Innovation at work: Individual, group, organizational, and socio-historical perspectives. *European Journal of Work and Organizational Psychology, 5*(1), 3–11.

Contributive leadership: How can you sustain a collegial culture within your organisation?

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Biography

Brett Darcy is Principal at Rose Park Primary School, Adelaide, an International Baccalaureate (IB) school offering the Primary Years Programme. He has been a Principal for over 26 years, the last 14 years in IB schools. His current school has an action research agenda for all staff, plus a whole school action research project—'Authentic Inquiry Democratises the Learning'. This workshop was presented at the IB Asia Pacific Annual Conference in Singapore March 2014, and has been updated to reflect new evidence since that time. 'The concept of a sustainable culture of collegiality' was also published in the autumn edition of Leadership in Focus (Darcy, 2014).

Workshop abstract

From the premise that 'Culture eats strategy for breakfast', this workshop explores organisational culture and leads participants to an understanding of contributive leadership. Based on current ongoing action research, the workshop states the case for a change in the culture of the site as the means for driving successful strategic change and the evidence of longer term sustainability in the direction of the organisation through contributive leadership.

The workshop analyses a model that moves organisations from association through to cooperation, collaboration and collegiality, and actively differentiates between distributive and contributive leadership. The audience will be active participants in a contributive leadership process through their opportunities to drive and direct the debate over the course of the hour, leading to their personal analysis of their own leadership style and some pondering on the current culture of their workplace. By the end of the workshop, participants will leave with some considerations for the culture and change process for their own sites, and on their leadership style and its impact on these processes.

Introduction

It is not a remarkable revelation to cite that education is in a constant state of change. What is noteworthy is that, despite change being the leader's constant companion, many leaders do not do it well. Leadership courses on change management abound and remain well subscribed. This paper and accompanying workshop moves the focus from change processes to organisational culture and a shift in the way leaders can operate. This quote captures some of the thinking behind this leadership shift:

> As … gave the course to them, there was stunned silence. No sounds, no hands raised. The tension kept rising. Finally, one person… raised her hand and the discussion began. Within a half hour, the remaining three days of the course had been filled with workshops, participant-led seminars, and night meetings. The result was an explosion of creativity, largely possible because … was patient, not letting the silence disturb the pregnant pedagogy.

> This was a turning point in my view of education moving from a position that strong theory mattered more than participatory process, to one where both should be in balance with each other. While I had always believed in workshops after lectures so as to flesh out what the content meant to each person, I was not used to the conceptual shift of having students transform into course directors, into letting them define the process and create their own pedagogical structures (Wildman & Inayatullah, 2013).

The emergence of the concept through practice

Mitcham Hills College was, at the time of its inception, the largest cluster of International Baccalaureate (IB) schools in the world-by schools, not students. The coming together of six primary schools and one secondary school to deliver the IB Middle Years Programme (IBMYP) as one site was a significant undertaking. Not only because of involving 3000 students and their families, more so because of the organisational cultures of the seven schools. What emerged from our work together, particularly obvious from my role chairing the cluster for six years, was the impact of change in seemingly similar schools–similar sizes (in the primary sector), similar demographics and similarly experienced leadership–yet very different ways in which each site managed the change process and the varying degrees of success. The leader's conversations at this time were very rich around change–strategies for dealing with resistance, strategies for ensuring ownership and buy-in of stakeholders, and leaders sharing good practice in their sites where successes were emerging.

The success of the process, particularly its sustainability, was accepted because the International Baccalaureate Organisation (IBO) changed its rules about IBMYP clusters and allowed their entry as one world school. Fifteen years later, this cluster continues to deliver the IBMYP, albeit with modifications along the way.

What I took from this, as chair and as a site leader, was a question why a strategy worked in one school and not another. Was this leadership? Were there more difficult resistors in another site? Why was one group more resistant than another? What was this telling us about individual schools particularly when we have viewed them originally as being fairly homogenous? What did it tell me about my own school? The reflections on these questions highlighted my focus on the culture of each site, and the impact of organisational culture on change.

The context of this workshop is to take time to explore organisational culture. It is attributed that Peter Drucker (see Serewicz, 2013) said 'Culture eats strategy for breakfast', a quote made more famous by Mark Fields, CEO of the Ford Motor Company who had it framed in his office. A simple but effective phrase that explained for me many of the questions posed above; strategies can be limited in their success if the school does not have a culture open to accepting change.

Developing a model

During the process of bringing the schools together, the leaders chose to depict our journey visually, as shown in Figure 1., as a strategy to assist schools getting on board and understanding the long term goals of the project.
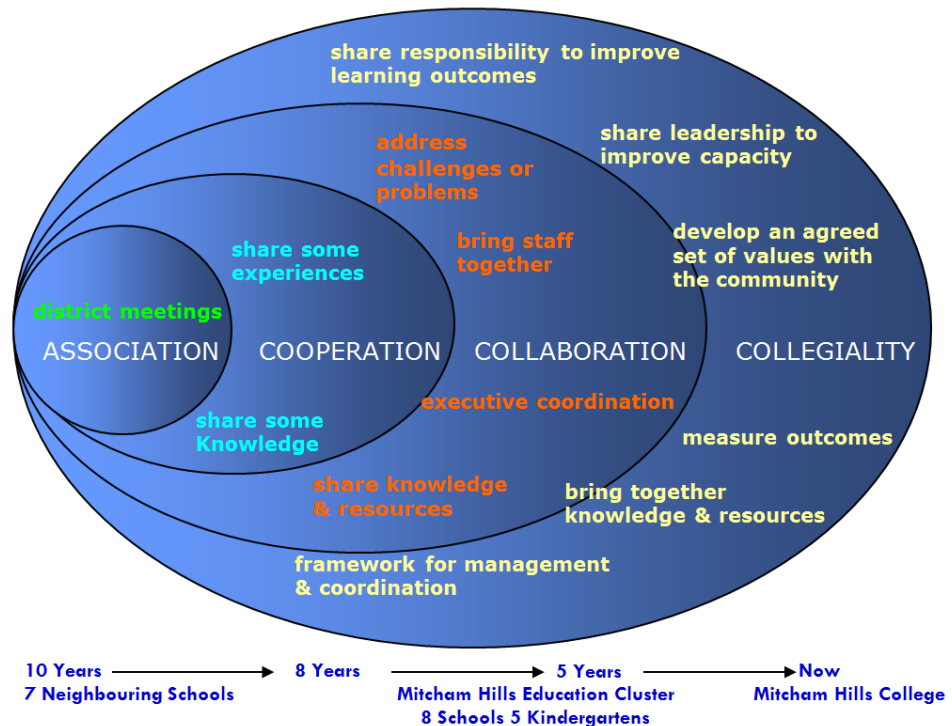
Figure 1. Model 1 (Source: Darcy & Hyde, 2005; 2006)

The model is useful in mapping a journey but is not a strategy in itself for ensuring success. While the concept of collegiality was a shared one between leaders as an ideal, it did not necessarily have ownership of staff or parents as their ideal, notwithstanding the overall process and sustainability of the group has proven to be a success.

A move to action research

A change of schools for me brought with it an opportunity to engage in action research around organisational culture, particularly given that my new leadership position was in an environment experiencing some significant difficulties; me being the seventh principal in seven years.

The baseline data was collected early in my tenure. A two-hour workshop–'The Culture Conversation'–put culture on the table and gave staff time to explore the current culture:

- How did our community perceive the school? The wider educational community?

- Our strengths?

- Our areas for development?

- What would you not change?

- What is the first thing you would change?

- What are the stories we are telling?

- How do the stories teachers tell differ from that of leadership?

- What is the story we want to tell?

Organisational culture is as much about story telling as anything else. When the stories coming out of the site talk positively about change, direction and innovation, the stories become self-fulfilling prophecies and the reputation of the site grows exponentially. Staff enjoy coming to work; they have improved job satisfaction and amass greater support from their community. The reverse is also true–negative stories make the job less enjoyable, less satisfying, and therefore the quality of the work suffers–another self-fulfilling outcome.

So how do we change the stories?

Mr. Bill Cossey (2005) AM, retired from the State Courts Administration Authority in 2004, and for a short time thereafter was acting CEO of the Education Department in South Australia. He addressed a leader's conference during 2005 where he talked about the organisational culture of our system, and the importance of the office photocopier. He found it a great place to start changing stories, listening to employees as they stood waiting for their copies, and then acting on what he heard. A simple start, but soon the employees on the floor began telling different stories, which then moved to another floor and so on. While he did not hold the position for long before the permanent appointee was placed, using this same methodology wherever he travelled, what he had done was commence a process of organisational change. My evidence from the way he related this story to our group, and the way our colleagues related to him and his presence was a clear message of the impact good messages have on an organisation.

Leadership courses often discuss the importance of the visibility of the leader. The underlying message is not so much about being seen, but about the conversations and the messages that are being delivered–the creation of stories from the workshop floor, from the corridor, the photocopier, the car park or wherever. It is well-known that leaders are the most watched person in the organisation–staff study them, observe them, analyse their every move, consciously or not, so the visibility combined with the positive message has a more direct impact.

Workshop participants will spend time discussing resistors to change–critical connectors in the fabric of the site's stories. Rather than how to deal with resistance as per leadership course 101, a better question might be around why are they resisting change? What happens to eager young teachers, new to the workforce and keen to be a part of a successful, lively worksite environment, that turns them into disgruntled staff members deliberately (passively or actively) blocking change in the organisation? When and where did the change come? What does this say about us as leaders and what we do to people, and the stories circulating around our offices? How do we find a way for them to contribute?
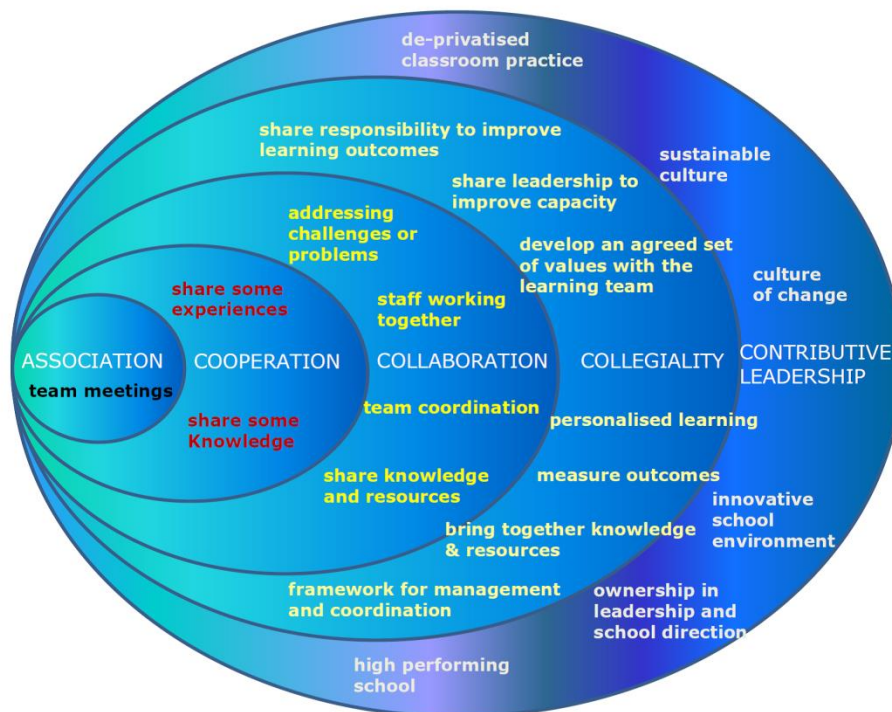

Figure 2. Model 2 (new model) , (Source: Darcy & Hyde, 2014)

It is neither the purpose of the workshop nor the purpose of this paper to give a blow by blow account of the process to develop a culture of collegiality. This is counter-intuitive to earlier comments that workplaces are all different and therefore each needs to find their own path.

What Figure .2 shows is the perspective of the staff after they have worked on the culture of the site for a period of time in their learning teams. This model, developed by the learning teams, is an evolution from the first model, now based on classroom teachers and learning teams as opposed to the first model coming from a group of schools perspective. It also extends to the fifth circle, adding the concept of contributive leadership and adopting some descriptors from other schools of leadership innovation (Darcy & Hyde, 2014).

During the workshop, attendees will take considerable time exploring this model and the 'culture eats strategy for breakfast' adage, with one of our first conversations being where to start and why? What does the 'culture' adage mean for you in your context?

A further question worth exploring is where leaders see themselves on the model, and why, and where do they want to see themselves–and why? Contributive leadership may not be where some principals want to be, and there is a good conversation to be had regarding the culture, relationships and tensions in the site that this model infers, dependent on where one is placed in the model.

Why contributive and not distributive?

For all intents and purposes, contributive is a made-up word, deliberately chosen to take a stance on process. (Hyde, 2014, pp. 4-6) In its simplest terms, distributive conjures the view of leadership handing out/delegating authority and responsibility. Contributive conjures the view of staff taking ownership and leading the organisation in innovation and change, from the teams of staff working together to drive progress and continual improvement. This signifies a cultural change in the organisation, and the workshop can take time to explore the action research behind this thinking and some of the evidence. While it

remains true the principal is ultimately responsible for the site, the change to a contributive approach can change the culture and, while there is no such thing as a perfect site, there will always and should always be some tensions and issues. The achievements of a collegiate culture drive a successful and innovative environment.

Some notable evidence from the action research is the stability and growth occurring in the school. The unstable leadership preceding my appointment also led to high staff turnover and artificially low enrolments (from a low of 320 students in December 2010, to a current enrolment over 550 with 250+ applications for enrolment in 2014, and 20/20 classroom teachers the same three years running). These are indications that very positive stories are being told about the site, internally and externally.

Conclusion

If the question is posed: 'Of the things that you can change, what is the first thing you would change about your site?' then the follow-up question is asked, 'Why haven't you?' A different but equally useful approach asks: 'Name some things about your site you would not change'. In struggling to name them, this also tells us a lot.

Usually there are a host of reasons proffered as to why something hasn't happened, and when they are pared back, it often comes down to an inability to get changes enabled due to cultural constraints of the organisation. The strategies didn't work.

This workshop will not solve this problem. What it will do is that it will give participants the chance to put culture on the table as the agenda, to explore for themselves just what type of culture they see as their preferred position in a site, some debate regarding the merits of a contributive leadership process, and some thinking to leave with regarding where each individual may see a new point of learning for themselves and their site.

References

Cossey, B. (2005). Cited from the Eastern Adelaide Regional Conference, Novotel Hotel, Barossa Valley, August 2005.

Darcy, B. (2014, Autumn Edition). Collegiality, action research and

innovation. Leadership in focus, *Journal for Australasian School Leaders*.

Darcy, B. & Hyde, S. (2005). *Mitcham Hills College IB accreditation process*.

Darcy, B. & Hyde, S. (2006). Collaborative schools—the way of the future. *Snapshots, 4* (2), September 2006, pp. 6–8.

Darcy, B. & Hyde, S. (2014). *Towards a culture of sustainable collegiality*. Presented at the International Baccalaureate Asia Pacific Conference, Singapore, March 2014.

Hyde, S. (2014). Contributive leadership. *School Link, 19* (10) pp. 4–6.

OECD Centre for Educational Research and Innovation. (2012) *Innovative Learning Environments Inventory Case Study—Australian Science and Maths School*, South Australia. Retrieved from http://www.keepeek.com/Digital-Asset-Management/oecd/education/innovative-learning-environments_9789264203488-en#page1 and page21.

Serewicz, L. (2013). *Thoughts on Management: Culture eats your structure for lunch*. Retrieved from http://thoughtmanagement.org/tag/peter-drucker/.

Wildman, P. & Inayatullah, S. (1996). Ways of knowing, culture, communication and the pedagogies of the future. *Futures, 28* (8), October 1996, pp. 723–740. Retrieved from http://www.metafuture.org/articles-by-sohail-inayatullah/ways-of-knowing-and-the-pedagogies-of-the-future/.

Leadership on the edge: Big ideas for change and innovation—Exploring the leadership profiles

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Biographies

Margery Evans has spent her career in education. She has held positions as a Teacher, School Principal and Senior System Leader in Victoria, South Australia and Western Australia before coming to the Australian Institute for Teaching and School Leadership (AITSL) as inaugural CEO in July 2010. Under Margery's leadership, AITSL has successfully introduced a range of national reforms. These initiatives have made an important contribution to the improvement of teacher and school leader quality in Australia.

Julie Hyde is currently the Manager of School Leadership at AITSL. Julie brings to the job her knowledge of leadership gained in the school principal role, plus her additional extensive experience within the Victorian education system, managing the development and implementation of leadership professional learning.

Abstract

This paper focuses on the challenges and demands of the environment in which current Australian school leaders are working, the importance of school leadership to student outcomes, and how this is linked to the work of the Australian Institute for Teaching and School Leadership (AITSL) that supports the development of school leaders.

In response to the need for greater understanding of the school leader role, the Australian Professional Standard for Principals (the Standard) was developed. Following the successful implementation of the Standard, the Leadership Profiles were created, with extensive involvement of the profession, and using the framework of the Standard.

The Leadership Profiles have been developed to provide current and aspiring school leaders with a comprehensive view of the leadership actions and behaviours inherent in the Professional Practices and Leadership Requirements of the Standard. In addition, through the Leadership Emphasis focus, the Profiles include acknowledgment of the effect of the context in which a leader works.

The paper concludes with a view into how the Leadership Profiles can assist school leaders to develop their professional learning pathways.

Introduction

Enshrined in the Melbourne Declaration is the recognition that successfully-led Australian schools will develop and sustain learning environments that will enable every child to grow up to become creative, confident, active and informed learners and citizens. This achievement is not managed through a one-off exercise of leadership but is a continuous process, with the principal responsible for developing the necessary capability and capacity within their schools for this to become a reality.

School leadership is undergoing a period of change as 'the international trend is toward the devolution of school management, which makes decisions at school level progressively more important to the success of the system' (Barber et al. 2010). Indeed in Australia there is a clear trend towards increased school autonomy and greater publicly accountability. To lead with strength and conviction in this environment, contemporary school leaders must be able to interact in a daunting array of roles.

This places enormous responsibility on the principal as the committed leader and key player in improving the educational outcomes for all students. According to Darling-Hammond et al. (2007), principals who understand instruction and focus their time and efforts on practices that have greatest impact on the learning environment of their school and consequently the outcomes of their students, are critical to the achievements of the school.

The most effective leaders strive to achieve these outcomes, and in so doing see professional learning as central to their lives. Effective leaders adapt their practice to meet the needs of their community and to reflect the changes taking place in wider society. They recognise that powerful learning occurs on the job, and see feedback as critical to their growth and the success of the school. Such leaders reflect on their actions and impact, seeking out others from whom they can learn.

'The job of leading a school has expanded and become more complex' (Stoll & Temperley, 2009). In this changing role, today's principals are expected to master increasingly disparate tasks some of which include recruitment and succession planning, significant management of staff, responsibility for and allocation of resources, establishment of priorities, policies, programs and courses, and control and management of facilities. It is a time-consuming and challenging role. To achieve success, 'high-performing principals do not work longer hours than other principals but do spend their time differently' (Barber et al., 2010). As high-performing systems have a collective ambition for all schools to be great and to be led by high-performing principals, it is imperative that school leaders are assisted in the task of achieving this level of effectiveness.

The Australian Professional Standard for Principals—A history

AITSL has worked hard over the past half-decade to understand, capture and describe the role of the principal in ways that support the vital and challenging work they do. In 2011, AITSL's establishment of the Australian Professional Standard for Principals (the Standard) was amongst the first of its tasks. Extensive consultation with the profession during the Standard's development has done much to ensure its broad uptake. Substantial evidence from AITSL's 2015 evaluation demonstrates the Standard's widespread usage within Australian education systems and sectors, with over 76 per cent of school leaders indicating that they are familiar or very familiar with the Standard.

To meet the demands of leadership our school systems require exemplary school leaders to undertake the principal role in Australian schools. When the Australian Government asked AITSL to work with the profession to develop an Australian standard for principals, the challenge was enthusiastically taken up. The Standard was completed and endorsed by Ministers in July 2011.
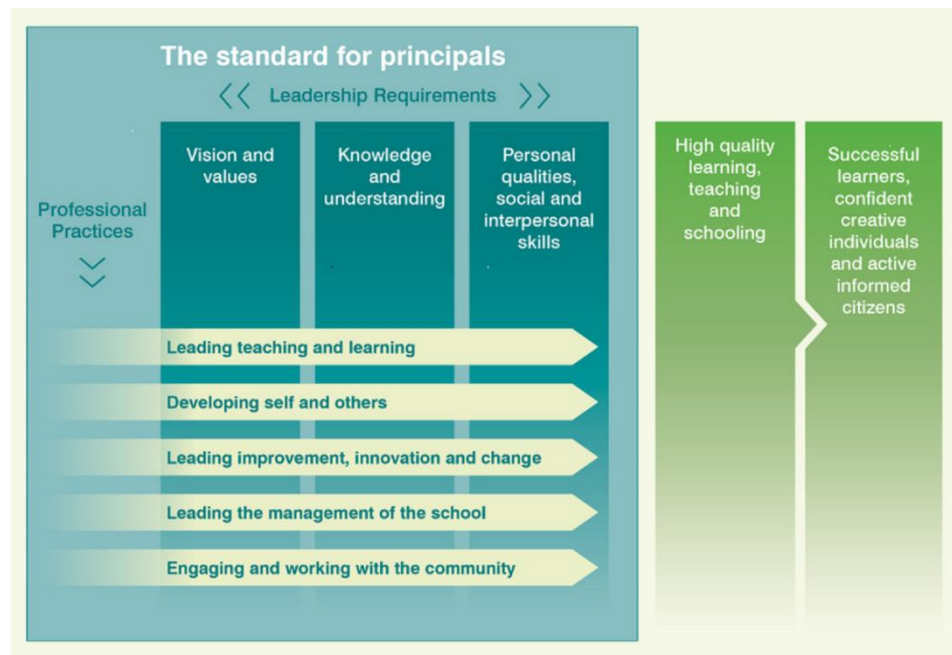
Figure 1. The Australian Professional Standard for Principals

The Standard is a public statement, resulting from extensive research, and consultation with the profession, which sets out what principals are expected to know, understand and do in their role. The Standard is an integrated model that recognises three leadership requirements a principal draws upon within five areas of professional practice. It was important that the Standard was easily accessible and written in plain language, and that the model used made sense of what is a highly complex and important role.

Whilst developing the Standard particular attention was paid to international research about successful school leadership. Leithwood et al. (2006) claimed school leadership was second only to classroom teaching as an influence on pupil learning and almost all successful leaders draw on the same repertoire of basic leadership practices. This claim confirms the critical importance of the Standard and the need for those leading our schools to be aware of their potential to impact of student achievement.

The Standard has now been widely adopted throughout Australia. It is linked to a number of system priorities, policies and processes, ranging from recruitment to leadership development programs. It is supported by accessible online resources including the AITSL School Leadership eCollection and AITSL 360[0] Reflection Tool.

1. The Leadership Profiles—A further step

In 2014, the Leadership Profiles (the Profiles) were developed to provide more detailed support for school leaders in their quest for leadership excellence.

'What has become clear is that leadership generally, including educational leadership, is a more contentious, complex, situated and dynamic phenomenon than thought previously' (Dinham, 2013). Given our understandings about the needs of principals to carry out this complex leadership role, the Profiles were designed to be dynamic and interactive, recognising contemporary thinking about leadership.

Once again, AITSL connected with school and system leaders across Australia to develop this leadership resource. Throughout the consultation to scope and then build the Profiles, principals indicated they did not want 'lists and tick boxes'. This echoes the words of Senge (1992) that 'the real leverage in most management situations lays in understanding dynamic complexity, not detail complexity'.

Professor Patrick Griffin of the Assessment and Research Centre, University of Melbourne, worked with AITSL to carry out initial research, online surveys and a series of workshops, the results of which underpin the Profiles. The final shape and content of the Profiles was further tested and refined through consultation with school and system leaders across Australia.

Timperley (2011) stresses that the effective leader must know enough themselves to help teachers to interrogate and improve their practice. They must know 'What the teachers already know and do well and what they need to learn….How to engage the teachers to build on what they already know and can do'. This emphasis on working closely and effectively with all staff is central to the Profiles.

Throughout the Profiles development process there was a strong consensus amongst the leaders themselves that the primary task of the school and its leadership is to improve teaching and learning and make a difference to the lives of young people in Australia as described in the Melbourne Declaration.

2. The Leadership Profiles—Leadership through lenses

The Profiles are an exciting, dynamic and challenging approach to understanding and framing leadership development, underpinned by a focus on the leadership of teaching and learning. They are based on and expand upon the Standard. The Profiles describe the role of the school leader on a continuum displaying aspects of the role from least to most complex. They promote a common language and a shared understanding of highly-effective school leadership.

The Profiles are designed to help leaders understand their current practice and impact in relation to their context, and to plan their next stage of development. These progressive statements enable the principal to review, reflect, learn and improve.

As previously indicated, all successful principals draw on a repertoire of basic practices done consistently well; with the way principals apply these practices changing to match need. Interestingly, this demonstrates responsiveness to, rather than dictation by, the contexts, in which they work, a point that principals consistently reinforced throughout the consultations around the Profiles.
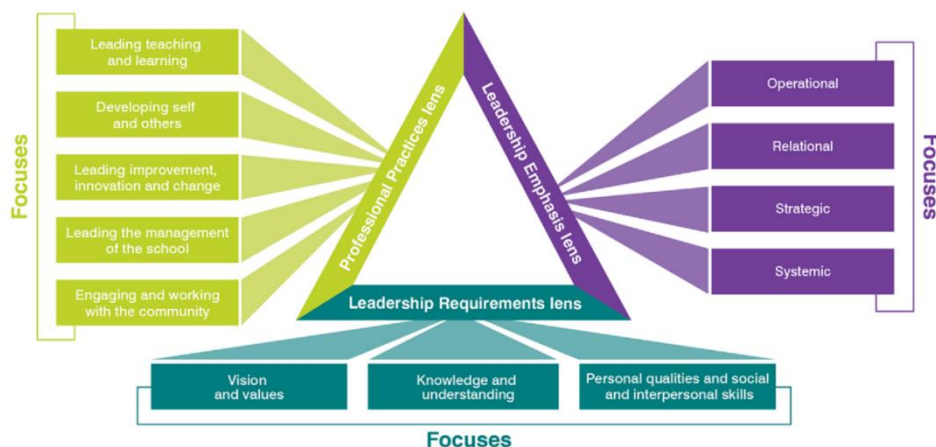
Figure 2. Leadership Profiles—three leadership lenses diagram

The Profiles allow principals to examine their leadership through three distinct lenses.

- The **Professional Practices lens** which is made up of the five Leadership Practices of the Standard

- The **Leadership Requirements lens** which is made up of the three Leadership Requirements of the Standard

- The **Leadership Emphasis lens** which is made up of four focuses that reflect the dynamic nature of the leadership context.

The Professional Practices and Leadership Requirements are familiar to school leaders as they make up the framework of the Standard. The new lens of Leadership emphasis acknowledges the influence of leadership context on a leader's actions.

The additional lens that takes particular account of context, the **Leadership Emphasis lens**, enables principals to locate and understand their practice in relation to their context, career stage and capability. This lens of the Profiles outlines four focuses that principals bring to their role–operational, relational, strategic and systemic.

The *operational focus* centres on the communications, organisational and resourcing management that is required within the school to maintain the smooth and effective running of day-to-day operations.

The *relational focus* tends to concentrate on consultation and feedback, in order to establish, develop and enhance relationships with students, staff, community and other stakeholders, both internal and external to the school, to ensure a shared culture and vision.

The *strategic focus* describes actions that are about deliberately optimising relational, organisational and management thinking to effect and monitor change, in order to realise short and long term school goals.

A *systemic focus* works to build networks, collaboration with educational groups, and make connections beyond a school and system to influence and lead greater educational impact.

A leader's actions and leadership style are contingent on the context in which they operate. The same principle applies when it comes to their leadership emphasis. Multiple contextual factors can, and should, influence a principal's leadership emphasis. These include, but are not limited to a principal's experience, their time at their current school and the challenges facing their school. As such, principals should not be aspiring to be always operating at the more complex leadership emphasis levels, strategic and systemic. Rather, their emphasis should be dictated by the current needs of their school.

AITSL has launched the Interactive Leadership Profiles as an online interactive tool that allows principals to explore their leadership from their own unique perspective and consider areas of strength and development. In addition, an online School Leader Self-Assessment Tool is under trial and soon to be released on the AITSL site. It will link to the Leadership Profiles and facilitate school leader reflection, goal setting and targeted development planning around all three leadership lenses.

Learning leaders

Principals grow and change throughout their career. To assist school leaders to understand the complexity of personal change and its link to professional learning, the Profiles include a five-step model of change, developed from the theory of change studies by Ajzen and Fishbein.

> *The major purposes of professional learning are to deepen understanding, transform beliefs and assumptions, and create a stream of continuous actions that change habits and affect practice. Such learning most often occurs through sustained attention, study and action (Sparkes, 2004).*

The model of change echoes Sparkes' understandings through its outline of the change process, beginning with the first step of gaining an awareness of the personal benefits associated with a particular change. The model then goes on to describe how developing strength of intention to make a desired change is a critical second step.

Building knowledge around how to understand, prepare for and move towards achieving a desired change is the essential next stage. At this point individuals take the next step, the action of performing and then maintaining the change which requires significant effort, persistence and recognition of the importance of having the support of trusted networks. The final stage of the change process is achieved when new behaviours are automatic, although practice is needed to maintain any change.

For an active learner, such instances of change are not isolated events. The most effective principals learn continuously, seek feedback from others and are prepared to adapt their behaviour and actions to changing circumstances. The Standard and Profiles aim to support principals to do this throughout their career.

Next steps

According to a recent extensive AITSL study of global trends in profession learning and performance development:

> *teachers and school leaders are progressively taking greater ownership of their professional growth, and schools and education systems are reviewing the development opportunities they offer to find the balance between flexibility and personalisation, and organisational and system goals (AITSL, 2014).*

To facilitate this transition, AITSL is committed to ensuring that future resources developed from the Standard and Profiles will continue to explore and describe the nature of the school leadership role. Furthermore, AITSL will continue to develop tools and resources to grow school leaders, to enable them to clearly understand the next level of their development, and see how this can be incorporated into their professional learning.

Professional learning can take many forms from the formal to the informal, the local to the national, and from one-off programs to ongoing enquiry, coaching and mentoring. The Profiles provide the basis for auditing performance and subsequent learning need, assisting in the design of professional learning opportunities focused on building expertise in specific areas and structuring mentoring and coaching programs for school leaders. They will also help identify and showcase effective practice for use in the professional learning of both current and aspiring principals.

As well as improving oneself as a leader, growing the next generation of leaders is one of the most important roles of a principal. Those strategies that deliberately build the capabilities required of outstanding leadership are more likely to motivate and inspire future leaders and create the environment in which they can thrive.

We are confident the Leadership Profiles will play an important role in improving the leadership of our present and future principals.

References

Australian Institute for Teaching and School Leadership (AITSL). (2014). *Global Trends in Professional Learning and Performance & Development*, AITSL, Melbourne viewed on 04 May 2015, http://www.aitsl.edu.au/docs/default-source/aitsl-research/insights/re00077_global_trends_in_professional_learning_and_performance_-amp-_development_innovation_unit_may_2014.pdf?sfvrsn=4

Australian Institute for Teaching and School Leadership (AITSL). (2014). *Australian Professional Standard for Principals and the Leadership Profiles*, AITSL, Melbourne viewed on 04 May 2015, http://www.aitsl.edu.au/docs/default-source/school-leadership/australian-professional-standard-for-principals-and-the-leadership-profiles.pdf?sfvrsn=4.

Australian Institute for Teaching and School Leadership (AITSL). (2015). *Evaluation of the Australian Professional Standard for Principals*, AITSL, Melbourne [to be published].

Barber, M. & Mourshed, M. (2007). *How the world's best performing school systems come out on top*, McKinsey and Company, viewed 04 May 2015, http://mckinseyonsociety.com/downloads/reports/Education/Worlds_School_Systems_Final.pdf.

Barber, M., Whelan, F. & Clark, M. (2010). *Capturing the Leadership Premium: How the world's top school systems are building leadership capacity for the future*, McKinsey and Company, viewed 04 May 2014, http://mckinseyonsociety.com/downloads/reports/Education/schoolleadership_final.pdf.

Darling-Hammond, L., et al. (2007). *Preparing school leaders for a changing world: lessons from exemplary leadership development programs*. Stanford University, Stanford Educational Leadership Institute, Stanford, CA.

Dinham, S., Collarbone, P., Evans, E. & Mackay, A. (2013). *The development, piloting, and introduction of Australia's first national standard for principals*, American Educational Research Association Annual Conference, San Francisco, viewed 04 May 2015, http://www.aitsl.edu.au/research-and-evaluation/aitsl-research-repository/detail/?id=the-development-piloting-and-introduction-of-australia-s-first-national-standard-for-principals-aera-conference-paper.

Fishbein, M. & Ajzen, I. (2010). *Theory of reasoned action*. New York, NY: Psychology Press, retrieved from http://www.utwente.nl/cw/theorieenoverzicht/Theory%20Clusters/Health%20Communication/theory_planned_behavior/

Leithwood, K., Day, C., Sammons, P., Harris, A. & Hopkins, D. (2006). *Seven strong claims about successful school leadership*, National College for School Leadership, Nottingham, viewed 04 May 2015, http://dera.ioe.ac.uk/6967/1/download%3Fid%3D17387%26filename%3Dseven-claims-about-successful-school-leadership.pdf.

Ministerial Council on Education, Employment, Training and Youth Affairs. (2009). *Melbourne Declaration*, viewed 31 July 2015, http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf.

Robinson, V. (2011). *Student Centred Leadership*, San Francisco, CA: Jossey-Bass.

Schwarzer, R. (2008). *Modeling Health Behaviour Change: The Health Action Process Approach (HAPA)*, viewed 04 May 2015, http://userpage.fu-berlin.de/gesund/publicat/ehps_cd/health/hapa.htm.

Senge, P. (1992). *The Fifth Discipline*. London, UK: Random House.

Southworth, G. (2009). 'Learning-centred Leadership', in B Davies (ed.), *The Essentials of School Leadership*, (2nd ed.). London, UK: Sage.

Sparkes, D. (2004). *Leading for Results—Transforming Teaching, Learning, and Relationships in Schools*. London, UK: Sage.

Stoll, L. & Temperley, J. (2009). *Improving School Leadership: The toolkit*, viewed 04 May 2015, http://www.oecd.org/education/school/44339174.pdf.

Timperley, H. (2011). *Realising the power of professional learning*. Berkshire, UK: Open University Press.

Pastoral care in times of high stakes testing and accountability

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Kate Hall has been involved in education for many years. Her studies have taken her around the globe but she prefers the home comforts of Brisbane. Kate's recent PhD thesis on the 'Attrition of early career teachers' was awarded a Queensland University of Technology, Outstanding Doctoral Thesis. Kate is passionate about sustaining teachers for the future.

Judy Smeed (PhD, MA, BA, FACEL) is a Senior Lecturer at Queensland University of Technology, in the faculty of Education. Judy is a Researcher, Teacher and practitioner in the field of School and Systems Performance and use of data. In this capacity, Judy's work includes intensive, extended consultations with many schools and systems in support of their school improvement efforts, particularly focusing on the use of data to inform strategies for improving student learning outcomes. Judy also focuses on the socially just use of data and has developed performance indices to reflect this.

Abstract

The unknown future is a challenge to educators in preparing young people for life post school. While history can be said to repeat itself, the reality is that each generation is faced with new challenges and threats. Therefore, the challenge for contemporary schooling is to prepare students to live in a fast paced, complex world where threats such as terrorism, cyberbullying and depleted resources are juggled with high stakes testing and curriculum accountability. This presentation draws on the notion of a future of supercomplexity while critically examining current pastoral care delivery in schools to develop a new model of practice in preparing students for an unknown future.

Introduction

The Australian teacher of the 21st century is expected to be many things. In 2000, David Kemp, the then Australian Minister for Education, Training and Youth Affairs, in the foreword of *Teachers for the 21st Century: Making the difference* (2000), described the Australian teacher of the new millennium as a teacher of exceptional quality who would deliver an educational programme of the highest quality and create learning environments and curriculum to empower students to rise to the social, cultural, economic and technological challenges of the new millennium (2000).

The new millennium was an unknown factor pre-year 2000. At that time, teachers were equipping students to deal with Y2K issues and the acceptance of technology as a tool to assist with assignments. Fast forward 14 years and today's students born post-'Y2K' would simply google the phenomenon on their smart phones or iPad device. Teachers waking up on 11 September, 2001 would never have suspected that in 14 years' time, society would be considering asking them to incorporate topics such as the prevention of radicalisation into their classroom programmes.

In this new millennium, educators are constantly being required to integrate new technology and new concepts such as, child safety and financial management education into their teaching programmes. As the future is an unknown entity, and therefore no one knows definitely what is going to happen, Barnett (2004, p.1) poses the question as to 'what kind of learning is appropriate' for these new times? This paper will discuss Barnett's (2004) notion of supercomplexity and his suggestion that teaching programmes need to prepare students for an unknown future that addresses 'human qualities and dispositions' and values he identifies will be necessary for withstanding supercomplexity. This paper suggests that pastoral care programmes in schools should better equip students for an unknown future.

Supercomplexity

How do teachers prepare students for a future which is unknown? Barnett (2004) acknowledges that the future has always been unknown and schools and teachers have continued to plan and do their work assuming that all will be fine. In the world today, where change happens at a very fast pace, Barnett (2004) suggests that schools should be considering 'unknown-ness', and that the world we are entering into is very different to that of previous times. It can be argued that change has always been a part of evolution and without change we would not have evolved or developed to this point. The ferocity of change in these modern times, Barnett (2004) argues is intense and there is an 'impact' upon the individual. Change in previous times was slower and an individual could experience the same world order within their lifetime without substantial variation (Barnett 2004). He further argues that terms such as 'chaos', 'complexity' and 'fragmentation' have become distinctive parts of our vernacular and that the changes experienced in this time in history have greater 'intensity', 'impact' and uncertainty than ever before in history.

It is this blurriness of change that is unclear or uncertain, that Barnett (2004) coins as 'supercomplexity'. It is a change that is difficult to grasp, as it happens so quickly and is so intensive that it can result in an individual experiencing stress and overload. Barnett (2004) continues that it is the complexity of navigating ever-changing systems that causes great concern to individuals. To illustrate, in recent times, change has become so rapid in schooling that over the course of 12 years of compulsory education, a student in Queensland could experience enormous and varied change in technology and systems. The graduating students of 2015 began school in the new millennium learning how to use an analogue phone. Today, they can perform the greater part of their school work and home work on their iPhone with e-learning text books and digital apps. Pedagogies that assist students to deal with this supercomplexity of change are pedagogies that will sustain students as they make their way forward in life.

Our current students learn in an era of high stakes testing and technology dependence. They are taught by teachers who have to adapt and make meaning of syllabus and educational requirements while fighting a tide of societal and technological influences. How can schools meet all of the requirements massed upon them as well as prepare students for a future that is

unknown? Barnett (2004) proposes that having a certain disposition and relationship with the world is the first step in preparing for an unfamiliar future. At the heart of this disposition is the acquiring of values such as 'carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness' (Barnett, 2004). These values, 'offer in short, the fashioning of being that may thrive' (Barnett, 2004, p. 259). These values need to be the underpinning element of pedagogies for the future as according to Barnett (2004) current skills or knowledge will have limited use. It is through the transmitting of certain values, that students are able to cope with supercomplexity of an unknown future. It is the building of the 'being' that can sustain and cope with the supercomplexity Barnett (2004) notes is the way forward. Individuals who are authentic in character will be able to weather change and move through the supercomplexity of the future without being 'paralysed into inaction' (Barnett, 2004, p. 259).

The role of pastoral care in schools

Pastoral care finds its origin in the good deeds of Christians (Aronson, 1994). This is not to ignore the good works performed by citizens of other religious orientation, but as Aronson (1994) argues, the range and type of pastoral care that has been shaped through the Christian lens has had a significant impact upon the social outcomes of humanity. The concept of caring for an individual to bring out their personal best or to sustain them through life's journey has been the cornerstone of Christian practice (Hall, 2013). Best (1999) suggests that pastoral care within education has been a constant theme for many centuries and while curriculum and pedagogy may change over time, the role of the educator in loco parentis has not.

There have been times, and some circumstances, where the care of the child was not at the forefront of some educators, but as Best (1999) concedes, in the main, the care of the child has not 'significantly shifted' in ideology. Throughout the 20th century, educators began to explore the role of pastoral care on the developmental growth and academic outcome of the student. The Western Australian Government

Department of Education and Training (2006) chronicled the number of conferences that began to arise during the latter half of the 20th century and identified that there was a growing demand from society and schools for information on how best to support students as an individual moving through the schooling system. Trying to improve the deliverance of educational programmes to its schools has led the Western Australian Government to commission a wider study into the practice of pastoral care (The Western Australian Government Department of Education and Training, 2006). In recent times, there has also been a rise in authors and researchers such as Seligmann (2002; 2004; 2011), Carr-Gregg (2009; 2010; 2012), Fuller (2002; 2007; 2009) who have written a host of books and articles about the pastoral care and well-being of children for educators and parents that can be found in popular bookshops and on line.

A feature of pastoral care programmes for children in recent years has been the inclusion of resilience building. Programmes that concentrated not on identifying risks or problems in children's lives but rather, on identifying the strengths and potentials of the individual were seen to be aiding the building of resilience and wellbeing (The Western Australian Government Department of Education and Training, 2006).

Researchers such as Burns (1996) and Nadge (2006) note that children with strong resilient skills coped well with difficulties or obstacles, worked through problems, showed persistence and could envisage a sense of purpose. Those students who were exposed within the school experience to resilience activities and situations that would promote greater self-efficacy where better equipped than those students with little exposure or training (Nadge, 2006).

The role of the educator is paramount in this transmission of resilience. Konu and Rimpela (2002) suggest that carefully constructed pastoral care or well-being programmes yield greater student outcomes in resilience whereas, Henderson and Milstein (2003) note that poorly prepared teachers or ad hoc pastoral care programmes did very little to promote resiliency. Nadge (2006) identified that those schools that do promote resiliency within their programmes produce adults that have

greater confidence, empathy, problem solving skills and autonomy. This fits well with Barnett's (2004) education for an unknown future which recognises values for the future–one of these being resilience. Those students who have been exposed to situations in the curriculum that develop their resiliency and values will as Barnett (2004) asserts 'thrive' and cope with the supercomplexity of change in an unknown future. As the world changes and evolves, this paper argues that the one constant in the lives of these 'thriving' students will be their values and particularly their resilience to apply them when faced with new situations and systems.

Time marches on. As the new millennium dawned and moved on into a decade, the instigation of pastoral care programmes began to evolve. In Australia, programmes that included elements of pastoral care of students such as the Ministerial Council on Education, Employment Training and Youth Affairs (2003) began to publish guidelines on the care and support of students. *The National Safe School's Framework* (2003) noted the responsibility that schools had to ensure the safety of students, and stressed the inclusion of pastoral care programmes. Programmes such as the Health and Wellbeing in Schools (Department of Education Western Australia, 2001), the New Basics Programme—Queensland (State of Queensland, 2004,) identified that the pastoral care of students was important for their well-being as well as academic progress. These programmes have been adapted and developed to meet the needs of specific schools and education systems. Indeed, schools are now proudly displaying their beliefs about pastoral care on their websites (All Hallows' School, 2015; St Rita's College, 2015). We are now at a point in education where the value of pastoral care is just as important as the academic care of students. If Barnett's (2004) concept of preparing students for an unknown future is to be realised, then it is significant for current pastoral care programmes to ensure that values and particularly resilience building are firmly established within the framework of these programmes.

Barnett and pastoral care—a model proposed

At the beginning of this article it was noted that preparing students for an unknown future is a difficult task. Students in Australian schools today are faced with many challenges such as high stakes testing, peer pressure, cultural obligations, technological influences, social media pressures and personal hopes. Figure 1. shows an emerging model of these influences. As every student's experiences are different, this emerging model is an attempt to diagrammatically represent some of these challenges.
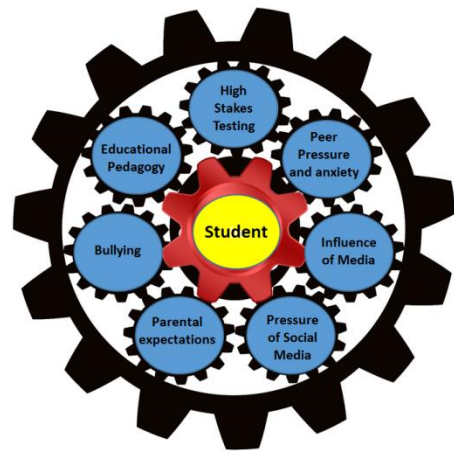
Figure 1. A model of suggested influence on a student for an unknown future

Pastoral care or wellbeing, as it is sometimes referred to in contemporary times, has become an important consideration when looking at the holistic education of a student. Embedding Barnett's (2004) suggested values: 'carefulness; thoughtfulness; humility; criticality; receptiveness; courage stillness and resilience' into a pastoral care programme with carefully trained teachers, as Henderson and Milstein (2003) suggest, becomes a formula that will allow students to develop fortitude to navigate their way through the supercomplexity of change. When considering this in diagrammatic form, as noted in Figure 2. an applied model of Barnett's (2004) theory emerges.
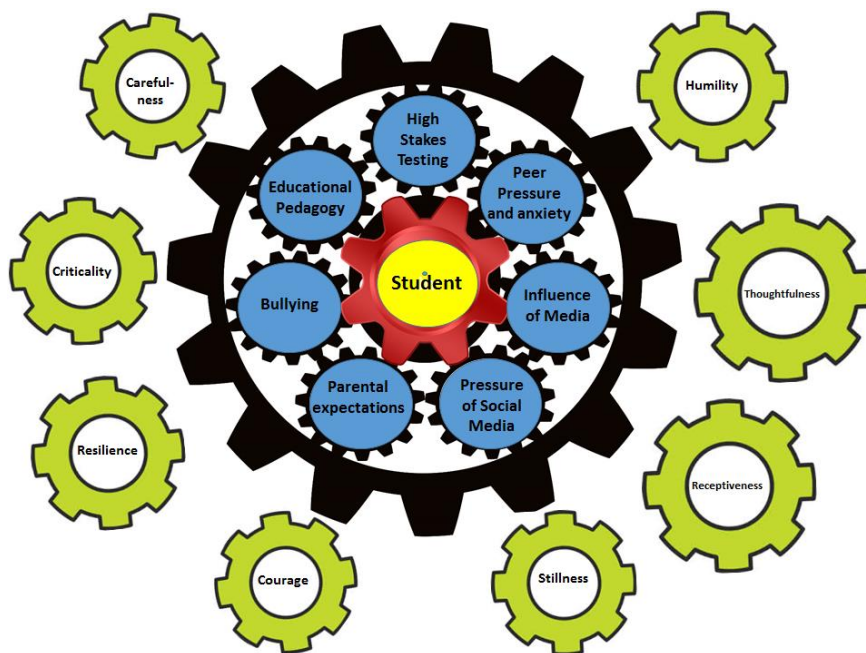
Figure 2. An applied new model of preparing students for an unknown future as based on the work of Barnett (2004.)

Considering Barnett's (2004) suggestion for underpinning educational pedagogy with values and research on resiliency from authors such as Burns (1996), Konu and Rimpela (2002), and Nadge (2006) it can be suggested that new understandings of pastoral care be envisaged to better prepare students for the future. The previous model as noted in Figure 2., added in the values, however, as resilience building has been identified as a key factor in preparing students, it can be further suggested that resilience supports the individual's ability to meet the challenges of an unknown world. Figure 3. illustrates the applied model of supercomplexity.

This emerging model suggests that as the individual moves into an unknown future their values base and resilience will support them as they navigate through systems and fast moving change. As school programmes emerge to support students in their endeavours to embrace the future, this new model of preparing students for an unknown future suggests that schools carefully underpin any emerging pedagogical programmes with values or use this model to critically analyse any external programmes that they wish to add to their curriculum.
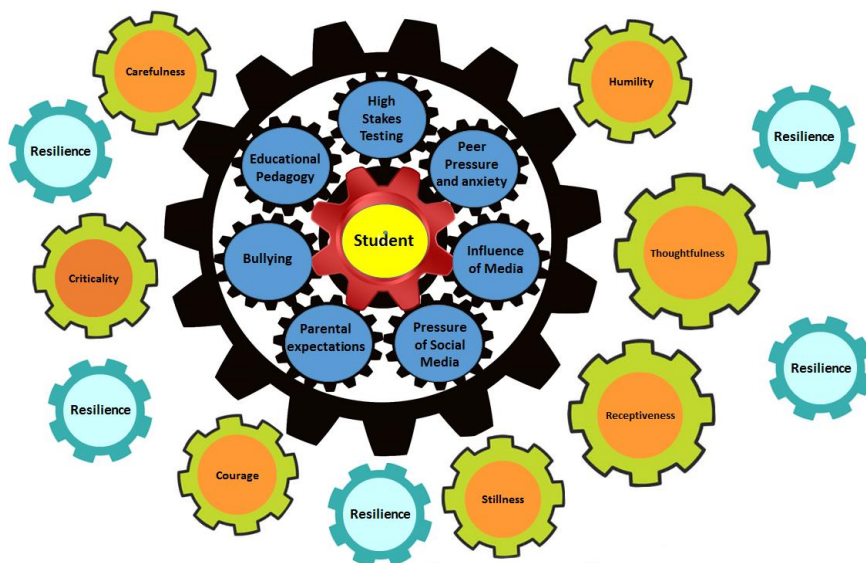

Figure 3. A proposed new model of preparing students for an unknown future based on the work of Barnett (2004.)

Conclusion

The world, as we know it, changes constantly. It is changing at a faster pace than in previous generations. The work of Barnett (2004) strongly suggests that change is bringing with it supercomplexity of systems that our students need to navigate and understand if they are to survive and thrive. Barnett (2004) offers the suggestion that pedagogical programmes that are underpinned with values will help prepare students for this future are the foundations of character they will defer to when making decisions or facing challenges. When these values are strongly underpinned with resilience then the individual has a strong base from which they can critically analyse and critique the challenges that they will encounter.

References

All Hallows' School Brisbane. (2015). *Pastoral Care*. Retrieved June 13, 2015, from https://www.ahs.qld.edu.au/index.php?option=com_content&view=article&id=52&Itemid=62

Australian Government. (2000). *Teachers for the 21st century: Making the difference*. Retrieved from http://www.dest.gov.au/sectors/school_education/publications_resources/profiles/teachers_21st_century.htm#publication.

Australian Government. (2003). *National Safe Schools Framework*. Commonwealth of Australia: Canberra. Retrieved from http://www.mceetya.edu.au/pdf/natsafeschools.pdf

Aronson, A. (1994). *Pastoral care in historical perspective*. USA: Roman and Littlefield Publishers.

Best, R. (1999). Pastoral care and the millennium. In A. Collins, & J. Mc Niff, (Eds.), *Rethinking Pastoral Care*. London, UK: Routledge.

Burns E, (1996). From risk to resilience: a journey with heart for our children, our future. Texas: The Marco Polo Group.

Fuller, A. (2009). *Tricky people: how to deal with tricky types before they ruin your life*. Sydney, NSW: Finch.

Fuller, A. (2007). *Tricky kids: transforming conflict and freeing their potential*. Sydney, NSW: Finch.

Fuller, A. (2002). *Raising real people: creating a resilient family*. Sydney, NSW: Finch.

Hall, K. (2013). *Early career teacher attrition: a case study of independent Catholic girls' schools in Queensland*. (Unpublished PhD dissertation). Queensland: Queensland University of Technology

Henderson, N. (1998). Make resiliency happen. *The Education Digest, 63*(5), 15.

Henderson, N., & Milstein, M. (2003). *Resiliency in Schools: Making It Happen for Students and Educators*. 2nd ed. California: Corwin Press Inc.

Konu, A., & Rimpela M. (2002). Well-being in schools: a conceptual model. *Health Promotion International, 17*(1), 79–87.

Nadge, A. (2005). Academic care: building resilience, building futures. *Pastoral Care 2005; 23*(1), 28-33.

Seligman, M. (1998). *Learned optimism*. New York, NY: Knopf.

Seligman, M. (2002). *Authentic Happiness*. New York, NY: Free Press.

Seligman, M. (2007). Coaching and positive psychology. *Australian Psychologist, 42*(4), 266-267.

St Rita's College. (2015). *Pastoral Care*. Retrieved June 13, 2015, from http://www.stritas.qld.edu.au/school/Pages/Pastoral-Care.aspx

State of Queensland. (2004). *The New Basics Research Report 2004*. Retrieved June, 13, 2015 from:http://education.qld.gov.au/corporate/newbasics/pdfs/1_keyelt.pdf.130. State of Queensland. New basics project 2004.

Treston, K. (1989). *Pastoral care for schools*. Brisbane: Creation Enterprises.

Western Australia Department of Education. (2001). *Pathways to Health and Well-Being in Schools: A focus paper*. Retrieved from http://www.health.wa.gov.au/mentalhealth/symposium/ChildYouth/pdfs/Pathways_to_health_wellbeingin_schools.pdf.

Educators on the edge… Of what?

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Biography

Winner of the ACE | ASG Student Educator Writing the future National Award, 21-year-old Rachael Heritage is in her third year of a Bachelor of Primary Education degree, majoring in Junior Secondary at Griffith University, Mt Gravatt. As part of her winner benefits, Rachael will be presenting her paper 'Educators on the edge...Of what?' at the conference.

Growing up in Toowoomba, Rachael attended Harristown State High School, where to support her study; she worked part-time as a swim instructor at Griffith University. Throughout her university study, Rachael discovered a passion for teaching, more specifically for teaching in smaller rural schools. After completing her third practice experience at a small school south-west of Toowoomba, Rachael came to realise the life-changing impact a teacher can have on students, and also the indescribable impact students can have on a teacher.

Abstract

As educators on the edge, what are we on the edge of? What is our purpose? What are we trying to inspire in the future generation? All teachers want to fill their students with desire, drive and passion, but the question is where are we directing that passion? Too often students are trained to jump through all kinds of hoops, assessments, exams and standardised tests, and this becomes their passion. They certainly have a drive, but that drive is for a higher grade, a better mark, a greater report card. As educators on the edge, our passion should be in cultivating a lifelong love of learning, a sense of wonder at the world, and an unquenchable thirst for knowledge. We stand on the edge for many reasons, but our main purpose should be so that our students may one day stand on an edge of their own.

As educators on the edge, opening the eyes of future generations to the wonders of the world should be one of our core passions. It should be the reason we spend years at university, hours planning insightful and engaging learning experiences, and weeks and months getting to know students and what makes them 'tick'. So far, in my journey towards becoming an educator, I have been astounded at the level of dedication that teachers have; getting to school hours before the first bell and remaining hours after the last, giving up weekends and well deserved holidays, surviving off sheer willpower and coffee.

Unfortunately, instead of focusing all of this dedication and educative energy towards developing the confident and creative, global citizens as described in the Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008), it is aimed towards shifting data, improving NAPLAN results, good OP's and QCS marks.

Somewhere along the way, teaching has become less about the passion and more about the mark on the page, creating a generation of students who define themselves by a number or letter. As educators on the edge, we need to step out from under the rock of 'good grades' and we need to shift the focus from marks to exciting, meaningful and lasting learning. In Australia, we have many documents and policies carefully designed to encourage lifelong learning, the Melbourne Declaration (MCEETYA, 2008) and the Early Years Learning Framework for Australia (Department of Education, Employment and Workplace Relations, 2009) to name a few examples. It seems that too often teachers are forgetting to embed the necessary key values of these guiding documents into their classrooms and pedagogies (Arawi, 2002). The main purpose of education in Queensland is to prepare students for community life, for citizenship, for vocational activities and for lifelong learning (Schofield, 1999). Are these purposes being communicated in our classrooms? Are we, as educators, developing successful learners, confident and creative individuals and active and informed citizens (MCEETYA, 2008), or are we using these documents to fuel the drive for good marks, and creating machines set on simply meeting task requirements?

Already, we have a generation of learners–my generation–who are struggling to find their way back from defining themselves as a mark or grade. As a Year 11 and 12 student, a good OP and QCS mark seemed the 'be all and end all' of the educative experience. I meticulously studied task and criteria sheets, and pestered teachers into reading countless drafts. Was this preparing me for community life or vocational activities, as Schofield (1999) suggests?

After achieving a relatively high OP score, I failed my first year at university in an abysmal fashion. I felt my education, past teachers, classes and report cards had failed me. My confidence as a learner evaporated. It was only after changing course, and meeting a tutor brimming with passion for learning and teaching that this began to change. This tutor was unconventional, unreserved and unafraid in his stance on teaching. His emphasis was on good learning, with good marks being the happy by-product. Thinking back to my school journey, I wonder how different it could have been if, in my early educational experiences, I encountered a teacher of a similar opinion, who encouraged me in my passion for learning and understanding, rather than simply encouraging me to reach a higher grade.

The early experiences of a child are crucial in forming their outlook on the world and themselves (Yuping, 2014). Teachers have the power and responsibility to set the tone of these early experiences. Will they be engaged from day one, excited about the world and what it holds for them, for everything they are about to discover? These early experiences form an outlook they will have for life, and one they will pass on to their children (Jennings & Niemi, 1968). What will the children in your classroom tell their children on their first day of school? Will the message be that, if they study hard, they might get a good grade? Or that they are about to embark on a journey where they will learn about almost anything and everything in the world, from seeds in the ground, to the birds in the sky, to words written on a page almost 200 years ago? Education has the ability to inspire far beyond the here and now of the classroom. All it requires is a teacher who is willing to step out onto the edge.

So what are we on the edge of? Knowledge? Reason? No, as educators we must go to the edge to bring back students who have gone over, losing their interest and passion for learning. At the same time, we are guiding students to the edge, where they can stand, lean out and marvel at all there is to discover, in themselves, the world, and beyond. For us to truly be educators on the edge, we need to shift the emphasis from good grades to good learning. We need to encourage the confident and creative individuals and promote the active and informed citizens, so that one day they may stand confidently on an edge of their own.

References

Arawi, T. (2002). Values in Education. *Journal of College and Character, 3*(6). doi: 10.2202/1940-1639.1326

Department of Education, Employment and Workplace Relations. (2009). *Belonging, Being and Becoming: The Early Years Learning Framework*. Australia.

Jennings, M. K., & Niemi, R. G. (1968). The transmission of political values from parent to child. *American Political Science Review, 62*(01), 169–184.

Ministerial Council on Education, Employment, Training and Youth Affairs. (2008). *Melbourne Declaration on Educational Goals for Young Australians*. ISBN: 978-0-7594-0524-0

Schofield, K. (1999). *The Purposes of Education 3 Final Report*. retrieved from http://education.qld.gov.au/corporate/qse2010/pdf/purposesofed3.pdf.

Yuping, Z. (2014). Educational Expectations, School Experiences and Academic Achievements: A Longitudinal Examination. *China: An International Journal, 12*(1), 43–65.

Innovative approaches to the design of inclusive online learning environments

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Biography

Denise Wood is Professor of Learning, Equity, Access and Participation at Central Queensland University, and an Adjunct at the University of South Australia and the University of the Western Cape in South Africa.

Denise's research focuses on the use of accessible information and communication technologies to increase social and educational participation, as well as the pedagogical benefits of social media in learning and teaching.

Denise has been awarded over A$5 million dollars in national research income focusing on projects designed to improve pathways and access to education and employment for young people from diverse backgrounds.

Abstract

The increasing focus on widening educational participation to a broader student demographic has amplified the need for more effective strategies to address the diversity of student needs, particularly in regional contexts.

This may include students who experience geographic isolation from living in remote regions, those in socio-economically disadvantaged situations, those with family and cultural responsibilities, disability related factors, and/or a range of other potential aspects of diversity, which can make participation in traditional modes of education challenging for students.

This paper describes an innovative approach to gathering evidence and responding to such needs through the design of accessible online learning environments that address the challenges facing students from such diverse backgrounds. Drawing on the findings of nationally-funded higher education research exploring usability and accessibility, as well as other sources of data, an inclusive design framework plus accessibility features are presented. These can be integrated into learning management systems to provide teachers with a comprehensive strategy for designing online curricula that are responsive to the needs of their diverse students.

Introduction

The widening participation agenda in Australian higher education gained significant momentum following the Review of Australian Higher Education in 2008 (Bradley, Noonan, Nugent & Scales, 2008). Since the introduction of higher education reforms in 2009 (Transforming Australia's Higher Education System, 2009) in response to these recommendations, there have been gains in the numbers of students from equity groups accessing higher education. The most significant increases are for students located in regional areas and students of low socio-economic backgrounds, with increases also apparent in the number of students with disabilities and those of non-English speaking background now accessing university (see Figure 1.). While the numbers of students from specified equity groups remain below parity (Naylor, Baik & James, 2013), the demands on universities and teachers resulting from the changing demographic has been accompanied by both opportunities and challenges.
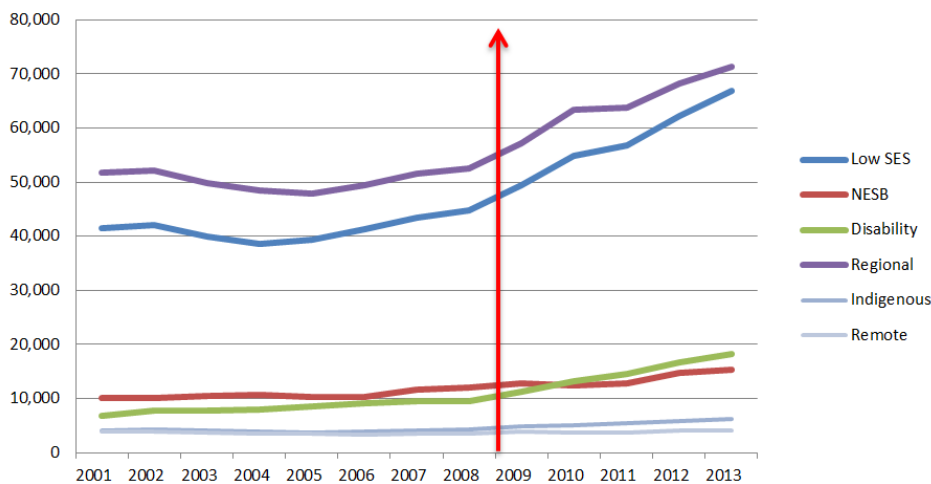
Figure 1. Impact of the higher education reforms introduced in 2009

(Source: Department of Education, 2013)

At the same time, increasing reliance on the delivery of courses fully online or in blended mode has created opportunities for students who may have traditionally found attending university difficult or impossible, yet also contributed to greater challenges for the very students most able to benefit from technology enhanced learning (Kent, 2015; Wood, 2010). This paper explores some of the challenges for students from diverse backgrounds drawing on interim findings from research funded by the Australian Government, Office for Learning and Teaching and presents a framework for the inclusive design of technology enhanced learning in higher education to address these challenges.

Review of the literature

The term inclusive education has varying meetings depending on the context and the particular focus of the agenda. In the context of the inclusive design of online learning, and drawing on World Wide Web (W3C) Web Accessibility Initiative's (WAI) definition of inclusive design (W3C, WAI, 2011), inclusive technology enhanced learning can be defined as an approach designed to ensure that the technologies employed in education are available to and usable by all students and teachers, whatever their abilities, age, race, gender, nationality, language, economic situation, prior experience with technology, geographic location, or any other aspect of diversity.

Based on this definition and informed by the literature, the following framework of inclusive design of technology enhanced learning has been developed for this study.

Framework for the inclusive design of technology enhanced learning

The principles of universal design for learning (UDL) developed by the Center for Applied Special Technology (CAST), which are concerned with ensuring that curricula are developed in ways that provide multiple means of engagement, representation, action and expression (Meyer, Rose and Gordon, 2006) underpin the framework developed for this study.

There are four dimensions to the framework. Technology enhanced learning should be: 1. accessible; 2. usable; 3. personalised; and 4. transformative in pedagogical approach. This section elaborates on each of these dimensions in further detail (see Figure 2.).
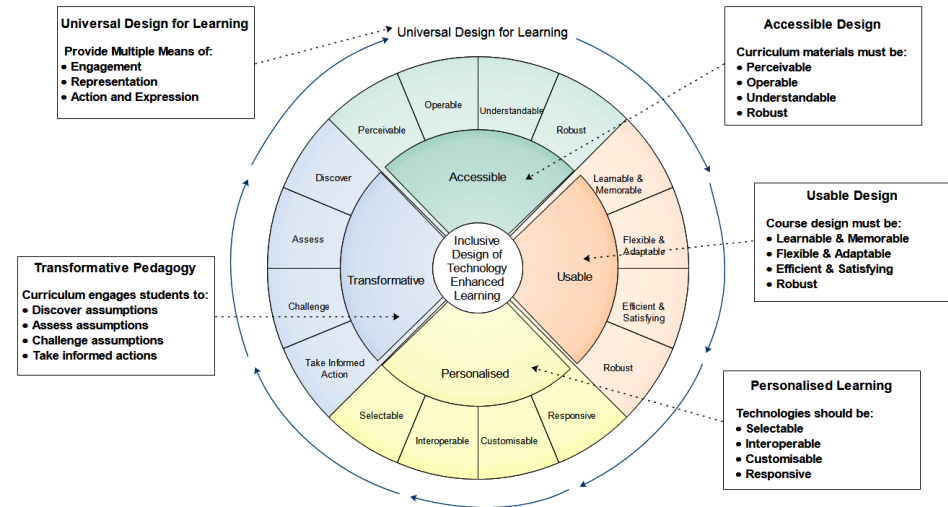

Figure 2. Framework for inclusive design of technology enhanced learning

Accessibility

In the education context and in keeping with the principles of universal design for learning, accessibility can be defined as ensuring that curriculum materials can be accessed by any student and staff member, using any device or platform from any location. This definition acknowledges that accessibility is not specifically about accommodating the needs of students with disabilities; all students regardless of their situation benefit from the design of more accessible curricula. The World Wide Web Consortium (W3C) Web Accessibility Guidelines (WCAG 2.0, 2008), which have been adopted by the Australian Government as the standard for the accessibility of government sites, provide content authors with guidance in the strategies they can employ to ensure that the websites they create are accessible to a broad range of users. Those who benefit include those with visual impairments, hearing impairments, mobility impairments and learning disabilities, as well as those from linguistically diverse backgrounds, those with varying digital literacy levels, people from non-English speaking backgrounds, those who prefer different modalities of learning and those located in remote locations.

There are four design principles on which WCAG 2.0 (2008) is based. These principles state that online content must be:

1. *Perceivable (for example, information and user interface components must be presentable to users in ways they can perceive).*

The four guidelines related to this principle are concerned with ensuring that all non-text content such as images, animations, video clips and audio have text equivalents (alternative text for images, captions for moving video and transcriptions for audio), ensuring content is logically structured (for example using headings in a hierarchical order) and ensuring that sensory information (such as audio, shapes or colour) is not the only means for conveying information.

2. *Operable (user interface components and navigation must be operable).*

The four guidelines related to the second principle refer to strategies for ensuring all content can be accessed via the keyboard (for example, not relying on mouse for interactions), that adequate time is provided for users to read content, the use of flashing content does not trigger seizures, the user can bypass blocks of content (via skip links), the order of content is logical and navigation and identification of pages is consistent.

3. Understandable (information and the operation of user interface must be understandable).

The third principle is concerned with ensuring text is readable and understandable by specifying the language of a page and content in a page when it changes language via the language attribute, ensuring web pages behave in predictable ways (for example, warning user if a new window will open when they click a link), providing instructions and labels and providing a means for users to correct errors.

4. Robust (content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies).

The final principle applies primarily to web developers and is concerned with ensuring mark-up (for example html) is valid and error free and ensuring compatibility with different assistive technologies.

Testable success criteria associated with each of the guidelines provide the means by which the conformance of a Website can be evaluated against the three levels of conformance specified by the W3C, namely: A (lowest level of conformance); AA (the level accepted by a large number of organisations including the Australian Government as a realistic level of attainment); and AAA (highest level of conformance).

Usability

The International Standards Organisation (ISO) which sets the international standards to ensure that products and services are safe, reliable and of good quality, defines usability as 'the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use' (ISO 9241-11, 1998). Koivunen and May (2002) further define the three core elements described in ISO 9241-11 as:

1. Effectiveness—the accuracy and completeness with which specified users can achieve specified goals in particular environments;

2. Efficiency—the resources expended in relation to the accuracy and completeness of goals achieved; and

3. Satisfaction—the comfort and acceptability of the work system to its users and other people affected by its use.

According to usability.gov, usability is impacted by several factors including the intuitiveness of the design, the ease with which a user can learn to accomplish basic tasks, the efficiency with which a user can accomplish tasks, how easily users can remember the site to use it effectively in the future, the robustness of the site in avoiding user error and allowing users to correct errors, and finally, the extent to which users are satisfied with their experience using a site.

In the context of higher education, the usability of online learning is impacted by the same factors, yet unlike the practices employed by web professionals, few if any teachers are equipped with the understanding or knowledge of usability approaches (Alelaiwi & Hossain, 2015). The lack of attention to usability in course design is further complicated by the interrelationship between usability and accessibility, which, as Cooper, Sloan, Kelly and Lewthwaite (2012) argue, necessitates a more context-based approach to accommodating diverse user needs. Usability testing also responds to the calls of several researchers who argue for greater involvement of students in informing continuous improvement of learning environments (Jara & Mellor, 2010).

Various techniques can be employed by teachers in undertaking usability testing with their students including observation of student interactions, the use of heuristics involving expert evaluation of usability against established standards, focus groups, automated usability tests, and/or online surveys (Van Der Linden & Van De Leemput, 2015). The approach adopted in this study involves a combination of semi-automated usability testing involving 'think aloud' strategies, and interviews and focus groups with students and teachers.

Personalisation

The third component of the framework focuses on personalisation of the learning environment, defined by Siemens (2007, para. 2) as 'a collection of tools, brought

together under the conceptual notion of openness, interoperability and learner control'. Learning Management Systems (LMSs) such as Moodle and Blackboard have the potential to provide students with some control over the sequencing and flow of information as well as the media formats from which they can choose to develop understanding of the topics. However, as several authors argue, most course sites afford very little flexibility for the student given the teacher has control over what content to incorporate and the tools that are activated for the course (Bateman & Willems, 2012). As McLoughlin and Lee (2010, p. 31) argue, PLEs stand in 'stark contrast to such institutionally controlled, content-centric LMSs by providing the ability for the learner to adjust, select, integrate and use various software, services and options based on their needs and circumstances'.

One such approach which focuses on personalisation of the learning environment for students with accessibility needs, involves incorporating open source solutions such as Flexible Learning for Open Education (FLOE), developed by the Inclusive Design Research Centre, OCAD University, which enables students to customise the look and feel of the online content, the text size, colour contrast and whether the content is read aloud (see Figure 3.).
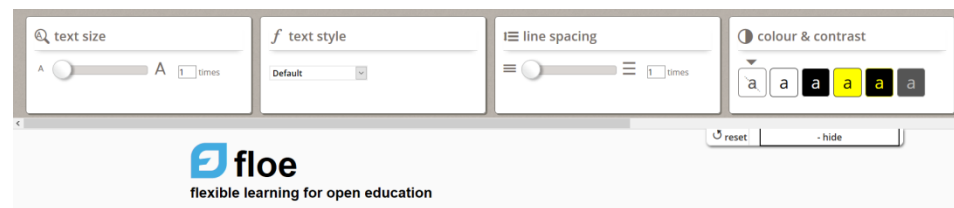
Figure 3. FLOE open source solution enabling students to personalise the LMS environment
www.floeproject.org/

Transformative pedagogy

The final component of the framework focuses on the importance of also adopting pedagogical practices that engage students in transformative learning experiences. This approach is based on critical social theory, which is premised on the assumptions that: 1. Western democracies are highly unequal societies; 2. the dominant Western ideology is perpetuated by an assumption and acceptance that inequality is the norm; and 3. the role of critical theory is to critique the reasons for such ideologies in order to bring about change (Brookfield, 2005).

One way in which students can be engaged in transformative learning experiences designed to challenge existing ideologies is by adopting learning and teaching strategies designed to develop their critical thinking skills (Wood, in press). Following Brookfield (2012), the transformative approach advocated in this paper is based on four elements of critical thinking: 1. discovering the assumptions that influence the way we think and act; 2. assessing whether these assumptions are valid and thus appropriate guides for action; 3. challenge the assumptions by attempting to view them from multiple perspectives; and 4. taking informed actions based on the process of critically evaluating assumptions and determining if the available evidence supports the proposed actions. Thus, the final element of the model seeks to equip teachers with the skills to engage students in activities that facilitate critical thinking in order to challenge their existing assumptions about diversity, and engage in a constructive way with difference (Allan, 2004).

Methodology

This project commenced in August 2013 and will conclude in March 2016.

The research employs a mixed-methods approach involving systematic review of the literature, usability and accessibility testing of a minimum of 12 undergraduate courses offered in different disciplinary fields across four Australian higher education institutions. Ethics approval was obtained by the respective university human research ethics committees prior to implementation of the study.

Accessibility testing has involved a combination of manual and semi-automated testing evaluated against the W3C Web Content Accessibility Guidelines (WCAG 2.0, 2008). Usability testing has involved recruiting four to five undergraduate students from each

of the courses included in the study. The participating students are asked to complete a survey exploring their prior experiences using technology followed by a series of 10 tasks relating to their online course. They are then asked to complete a final survey at the end of the testing period, in which they describe their experiences completing each of the tasks. A semi-automated usability testing tool, (Morae) has been employed to collect data including qualitative data via video (webcam) and quantitative data relating to keyboard/mouse use.

The evidence gathered from initial accessibility and usability testing is being analysed, and in collaboration with the educational developers, academics and team members, the course materials are redesigned and then trialled in the next offering of the course.

The final stage of the project involves the implementation and trialling of open source solutions designed to enable students, particularly those with particular accessibility requirements, to personalise the learning environment to meet their specific needs.

The guidelines under development informed by individual case studies drawn from the participating courses will be trialled by academics, who will participate in focus groups at the end of the project to share their experiences of the guidelines and suggest modifications based on those experiences.

The next section demonstrates the interrelationship of the elements of the framework through a case study of a student enrolled in a non-award accessibility course offered by one of the participating universities, who agreed to participate in the study. A pseudonym is used to protect the anonymity of the participant.

Case study

Sue is a mature aged student who works full-time and was enrolled part-time in a non-award certificate course offered by one of the participating universities in 2014. The course focuses on providing students with transformative learning experiences designed to facilitate their understanding of diversity and the importance of designing websites that are accessible to people from diverse backgrounds. The student identified herself as blind and a proficient screen reader user.

Given the focus of the course, the coordinator (the author) had designed the course to be compliant with W3C WCAG 2.0 guidelines. Heuristic testing and the use of semi-automated accessibility testing tools indicated that the course met Level AA conformance standards. However, formal usability testing with this student identified a range of usability and accessibility issues which impacted on her ability to engage in many of the learning activities of the course. In this way the course fell short of achieving any of the four elements of the inclusive design framework. Table 1. shows the list of usability tasks undertaken by the student, the accessibility and usability issues she encountered and associated recommendations.

Conclusion

This paper presents an innovative approach to the design of online courses that are inclusive of students with diverse needs, which is being trialled by several universities across Australia. The framework on which the research is based is informed by the literature, and the case study presented in the paper illustrates the importance of all four components of the framework for inclusive design of online learning. While accessibility testing is core to ensuring online courses are inclusive, without formal usability testing, many issues that create both accessibility and usability challenges for students from diverse backgrounds remain obscured. Formal accessibility testing of the course described in the case study failed to identify inherent problems that usability testing revealed. The lack of personalisation features available within the LMS limited the ability of the student to modify the course presentation in ways that might have improved accessibility for her (for example by presenting a table of contents). However, personalisation components still rely on the course content being designed to conform to standards. Thus many of the benefits of personalised components may not be realised if the teacher has not designed the course with accessibility in mind.

Table 1. Usability and accessibility issues identified and associated recommendations

Usability task	Issues identified	Recommendations
Find the contact details of the course coordinator and send the coordinator an email.	As a screen reader user, the student relies on skimming content quickly by locating major headings for the sections of the site. While a block with a label was clearly marked 'coordinator contact details' the label by default was not marked up as a major heading, which meant the student skipped past the section several times and was only able to locate the relevant section by laboriously tabbing through every link on the page until she came to the relevant section.	While W3C guidelines do require the appropriate use of semantic mark-up of pages using headings (Guideline 1.3), by default, labels differentiating blocks of content do not create heading level text in this implementation of the university LMS. There are two recommendations arising from this observation. Teachers should ensure that they apply headings to all major sections of online course materials including labels. LMS administrators should modify the default template to ensure that labels automatically assign headings when created.
Go to the course Wiki and join a group for assessment 3 by adding your name to the group with whom you would like to collaborate.	This task also posed many challenges for the student. The first challenge was that she could not find the link to the Wiki without prompting from the facilitator. This was because the link to the Wiki appeared in the Assessment block of content underneath the link to Assessment 3 criteria. Although a sighted user would have easily located the link directly below the relevant assessment link, this student relies on linear navigation through voice, so could not see the link and naturally assumed she would find the link inside the section describing assessment 3 criteria. The next challenge for the student having located the Wiki with the help of the facilitator knew where to type her name, as the Wiki appears to a screen reader as one large form with no designated fields in which to input content.	WCAG 2.0 guidelines require content developers to employ approaches to navigation which help users to find the content and locate where they are (Guideline 2.4) and for pages to operate in predictable ways (3.2). The navigation approach used in this course with respect to guiding students to the Wiki fails on both these criteria. Guideline 1.3 requires the use of appropriate labels to mark-up forms. Since the Wiki is essentially one large form, the compliance with Guideline 1.3 could not be met. This is an inherent accessibility issue within many LMS systems, so, beyond the capacity of a teacher to address, however the following recommendations would still improve the accessibility and usability of the course for students. Ensure that links relating to major sections are located within that section to save unnecessary steps in navigating to related content. Provide alternative means for students to sign up or contribute to Wikis if they are unable to access the technology.
Make a posting to the course discussion forum.	The student located the link to the discussion forum without difficulty, but when she went to add a post to the forum, an unexpected window popped up because she inadvertently clicked in the 'add file' option which triggered a pop-up window enabling the selection of a file to attach.	This is an inherent problem with the structure and function of the LMS. WCAG 2.0 guidelines require web pages to operate in predictable ways (3.2). While teachers cannot alter the functionality of the LMS, the provision of clear guidelines to students about what each of the functions in the discussion forum mean and what behaviours are actioned when selecting different options would provide students in Sue's situation with contextual help to warn them in advance of unexpected behaviour on the page.

Although the course clearly created challenges for this student and limited her capacity to fully engage in many of the learning activities, the experience did provide the teacher with an opportunity to engage all the students in critical reflection of the challenges of the course for some students, how they as future designers might address these challenges and how the class collaboratively could ensure that their peers were not disadvantaged by any inherent accessibility and usability challenges. In this way, the teacher sought to draw on the diverse experiences of the class to come up with solutions for the redesign of the course site to better address the needs of diverse students, while at the same time facilitating transformative learning opportunities through the shared experiences of the class.

Although this paper has only reported preliminary findings from the study underway, it serves to illustrate the interrelationship between the components of the framework while also highlighting the value of usability testing during the design or redesign of online learning. Future research involving larger cohorts of students and in other contexts using a similar framework will further contribute to the growing awareness of the importance of inclusive design to support students from diverse backgrounds.

Acknowledgments

References

Alelaiwi, A., & Hossain, M. S. (2015). Evaluating and testing user interfaces for e-learning system: Blackboard usability testing. *Journal of Information Engineering and Applications, 5*(1), 23–30.

Allan, J. (2004). Deterritorializations: Putting postmodernism to work on teacher education and inclusion. *Educational Philosophy and Theory, 36*(4), 417–432.

Bateman, D., & Willems, J. (2012). Facing off: Facebook and higher education. In: L. Wankel & C. Wankel (Eds.), *Misbehaviour online in higher education: Cutting-edge technologies in higher education*. Emerald Group Publishing, (pp.53–79).

Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian Higher Education: Final Report*. Canberra: Commonwealth of Australia.

Brookfield, S. (2005). The power of critical theory: Liberating adult learning and teaching. San Francisco: Jossey-Bass.

Cooper, M., Sloan, D., Kelly, B. & Lewthwaite, S. (2012). *A challenge to Web accessibility metrics and guidelines: putting people and processes first*. Proceedings of W4A 2012: 9th International Cross-Disciplinary Conference on Web Accessibility, Lyon.

ISO 9241-11. (1998). *Ergonomic requirements for office work with visual display terminals (VDT)s – Part 11: Guidance on Usability, International Standard*. Retrieved February 6, 2015, from http://www.iso.org/iso/catalogue_detail.htm?csnumber=16883.

Jara, M., & Mellar, H. (2010). Quality enhancement for e-learning courses: The role of student feedback. *Computers and Education, 54*, 709–714.

Kent, M., (2015). Disability and e-learning: Opportunities and barriers. *Disability Studies Quarterly, 35*(1), 4.

Koivunen, M-R. & May, M. (2002). *Exploring usability enhancements in W3C process*. Retrieved June 6, 2015, from http://www.w3.org/2002/Talks/0104-usabilityprocess/slide1-0.html.

McLoughlin, C., & Lee, M. (2010). Personalised and self-regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology, 26*(1), 28–43.

Meyer, A., Rose, D., & Gordon, D. (2006). *Universal design for learning*. Wakefield: Cast Professional Publishing.

Naylor, R., Baik, C., & James, R. (2013). *A Critical Interventions Framework for advancing equity in Australian higher education*. Report prepared for the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education. Centre for the Study of Higher Education.

Siemens, G. (2007). *PLEs—I acronym, therefore I exist. elearnspace: learning, networks, knowledge, technology, community* [weblog] Retrieved June 6, 2015, from http://www.elearnspace.org/blog/archives/002884.html.

Transforming Australia's Higher Education System (2009). Canberra: Commonwealth of Australia.

Van Der Linden, J., & Van De Leemput, C. (2015). Observatory of students' uses of computer-based tools. Psychologie Française, 60, 145–157.

W3C WAI. (2011). *Design for inclusion.* Retrieved February 13, 2015, from http://www.w3.org/WAI/users/Overview.html.

W3C. (2008). *Web Content Accessibility Guidelines (WCAG) 2.0.* Retrieved February 13, 2015, from http://www.w3.org/TR/WCAG20/.

Wood, D. (in press). *Problematizing the inclusion agenda in higher education: Towards a more inclusive technology enhanced learning model.* Paper accepted for publication in 2015 issue of First Monday journal.

Wood, D. (2010). Communicating in virtual worlds through a Web 2.0 application, *Telecommunications Journal of Australia, 60*(2), 19.1–19.16.

Wood, D. & Willems, J. (2012). Responding to the widening participation agenda through improved access to and within 3D virtual learning environments, *Australasian Journal of Educational Technology, 28* (Special issue, 3), 459–479.

Improving students' outcomes through the use of assessment diagnostics

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Biography

Alec Young (RFD, FACEL, MACE) has many years' experience in leadership positions in secondary education and professional teacher associations. Alec's work is underpinned by the belief teachers need time saving resources and powerful diagnostic tools if they are to improve the outcomes of all students.

Alec has collaborated with consultants and schools in three states to develop insightful productivity tools to assist teachers reduce their work load and improve student outcomes. As Alec's work is built on the latest evolving educational research, it is ongoing and his collaborative research work is supported by Commonwealth Government Research and Development Grants.

Abstract

The author collaborated with schools in three states to develop a 'world first' means for teachers to monitor the quality of their teaching using assessment for learning. This has enabled teachers to 'change their lives and that of their students', or as a speaker at the ACEL 2012 conference put it; 'The students in her school, on average, learn at twice the pace of the nation and at twice the usual depth'. Teachers achieve this by using their school's photocopier as a high speed scanner for providing forensic feedback on each student's learning needs. Participants will be shown how they can diagnose the nature of student flawed thinking when a student is not having success. This methodology assists teachers to lift student outcomes in ways that were not previously possible. This has transformed teaching enabling huge productivity gains and improved teacher satisfaction.

Introduction

This paper will address just two of the many challenges confronting teachers every day.

They are:

1. What are the learning needs of each of my students? Are my perceptions much better than other teachers in my school?

2. How effective is my teaching compared with other teachers?

The Australian Institute for Teaching and School Leadership (AITSL) relies on a number of standards to assess teachers and teaching which are necessary but not sufficient, in the author's opinion, to answer these two questions. Why is it there is a greater gap within schools than between schools as teachers are meeting the necessary requirements of AITSL, as illustrated in Figure 1.?
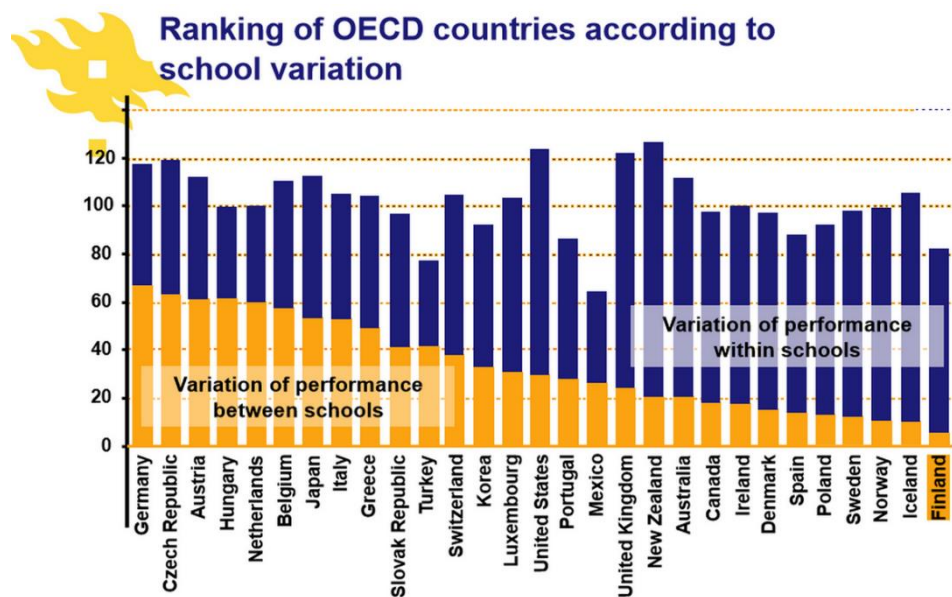

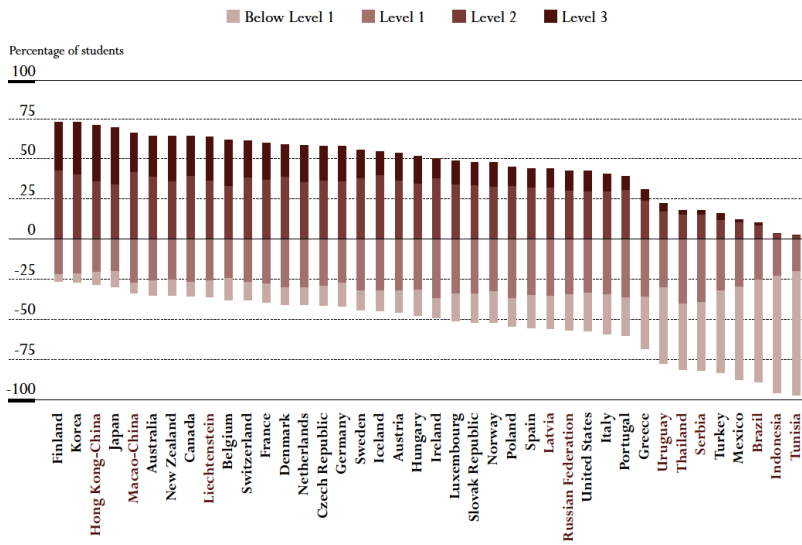**Figure 1. Ranking of OECD countries according to school variation**

(Source: Hays & Challinor, 2015)

In addition on an international comparison of PISA results, Australia has lost its position from being in the top 10 countries in 2003 to being just inside the top 20 countries in 2012 as shown in Figure 2.

Will these results encourage governments to spend even more on education? After all, the Rudd Government spent over half a billion dollars to improve literacy and numeracy with non-discernible difference to the results of the schools taking part (*Courier Mail*, 1 Aug 12, p. 23).

Part of the cause for the decline in Australia's competitiveness on the world stage has been put down to much the same reason that has caused Finland to lose its former PISA ranking status. As Sahlgren (2015) indicates, there is an '…increasing amount of evidence, which suggests that pupil-led methods, and less structured schooling environments in general, are harmful for cognitive achievement' (p. 64), and '… the strongest policy lesson is the danger of throwing out authority in schools, and especially getting rid of knowledge-based, teacher-dominated instruction' (p. 64). This points to the fact that the education profession needs to ensure that changes in philosophy and methodology need to be evidence based, data led and well researched rather than fad and fashion led.

Figure 2.3 ■ **Percentage of students at each level of proficiency on the problem-solving scale**

Countries are ranked in descending order of percentage of 15-year-olds in Levels 2 and 3.
Source: OECD PISA 2003 database, Table 2.1.

	Country	Mean score	SE	Confidence interval	Difference between 5th and 95th percentiles	Distribution of scores
Significantly higher than Australia	Shanghai–China	613	3.3	606–619	331	
	Singapore	573	1.3	571–576	344	
	Hong Kong–China	561	3.2	555–568	318	
	Chinese Taipei	560	3.3	553–566	375	
	Korea	554	4.6	545–563	323	
	Macao–China	538	1.0	536–540	306	
	Japan	536	3.6	529–543	309	
	Liechtenstein	535	4.0	527–543	310	
	Switzerland	531	3.0	525–537	308	
	Netherlands	523	3.5	516–530	297	
	Estonia	521	2.0	517–525	268	
	Finland	519	1.9	515–523	281	
	Canada	518	1.8	514–522	293	
	Poland	518	3.6	510–525	296	
	Belgium	515	2.1	511–519	335	
	Germany	514	2.9	508–519	314	
Not significantly different from Australia	Vietnam	511	4.8	502–521	283	
	Austria	506	2.7	500–511	301	
	Australia	**504**	**1.6**	**501–507**	**315**	
	Ireland	501	2.2	497–506	280	
	Slovenia	501	1.2	499–504	298	
	Denmark	500	2.3	496–505	272	
	New Zealand	500	2.2	495–504	325	
	Czech Republic	499	2.9	493–505	309	
	France	495	2.5	490–500	321	
	OECD average	**494**	**0.5**	**493–495**	**301**	
Significantly lower than Australia	United Kingdom	494	3.3	487–500	312	
	Iceland	493	1.7	489–496	302	
	Latvia	491	2.8	485–496	266	
	Luxembourg	490	1.1	488–492	310	
	Norway	489	2.7	484–495	297	
	Portugal	487	3.8	480–495	307	
	Italy	485	2.0	481–489	306	
	Spain	484	1.9	481–488	287	
	Russian Federation	482	3.0	476–488	285	
	Slovak Republic	482	3.4	475–488	334	
	United States	481	3.6	474–488	295	
	Lithuania	479	2.6	474–484	293	
	Sweden	478	2.3	474–483	298	
	Hungary	477	3.2	471–483	310	
	Croatia	471	3.5	464–478	289	
	Israel	466	4.7	457–476	347	
	Greece	453	2.5	448–458	289	
	Serbia	449	3.4	442–456	296	
	Turkey	448	4.8	439–457	302	
	Romania	445	3.8	437–452	266	
	Cyprus	440	1.1	438–442	308	
	Bulgaria	439	4.0	431–447	307	
	United Arab Emirates	434	2.4	429–439	294	
	Kazakhstan	432	3.0	426–438	235	
	Thailand	427	3.4	420–433	273	
	Chile	423	3.1	417–429	264	
	Malaysia	421	3.2	414–427	267	
	Mexico	413	1.4	411–416	245	

Note: See Reader's Guide for interpretation of this graph. This relates to all graphs with similar formatting in this chapter.
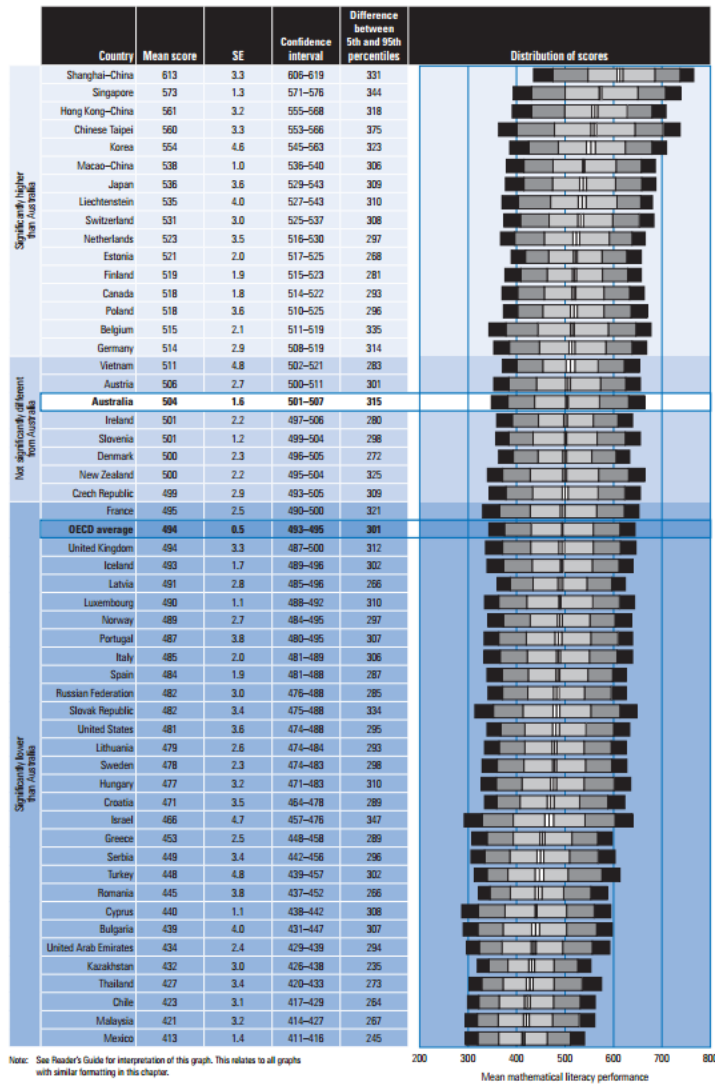
Figure 2.5 Mean scores and distribution of students' performance on the mathematical literacy scale, by country

(Source: Watanbe & McGaw, 2003, p. 41)   (Source: Thomson, De Bortoli, Buckley, 2013, p. 24)

Figure 2. OECD PISA comparisons 2003 and 2012

The author contends that teacher supervisor reports on teacher performance do not take into account how well students have advanced. Unless the progress of students is measured, there remains a large gap between reality and observation.

Data

The concept of still relying on a bold score per test for each student as an indicator is as crude a process as for more than a century ago. 'Data Walls' (Sharratt & Fullan, 2012, p. 78) are quite valuable and are currently popular with many schools, but they still rely on crude data. Although the use of data walls in schools improves teacher consciousness of the importance of data, they are limited by the nature of the crude data which does not provide clear answers for teachers to the two questions outlined above.

If the medical profession only relied on the same tools for diagnosis of patients as a century ago, the survival of the average citizen in Australia would be quite precarious. The author has long held the view, that the education profession needs an educational version of the medical profession's pathology facility in our schools and universities; forensic tools to provide real time feedback that answer the two questions above.

As a former pupil of the late Don Palmer (Don was a recipient of a Churchill Fellowship on Educational Assessment), the author was inspired to solve the problem posed by the two questions above. He hired a computer software company, Modulo Software, to produce a number of tools for teachers, namely;

1. Making using a standard photocopier, an innovative use of an existing resource.

2. Assessment of the reliability of each test, something that has been sadly lacking.

3. Analysis of the quality of multiple choice questions to give greater credibility to our assessments. 4. Scrutiny of the strands of learning in each test to facilitate deeper understanding of students learning needs.

4. Disclosure of each student's 'index of educational growth' so that students are compared with

themselves rather than their peers. Athletes do this, as a matter of course.

5. Calculation of the effect size of the teaching, as this has been talked about for years, as a powerful concept.

6. Investigation of the segments of understanding in a multiple choice test to give teachers insights as to the nature of a students' mistakes rather than holding the centuries old concept, 'You were wrong!'

7. Assessment of practical work, multiple choice questions and written work.

The first version of AutoMarque had just 10 icons of analysis. The early sales of the software was backed with the offer of, 'If you come up with suggestions as to how we might better manage the data we will provide you with it in a free upgrade'. This brought about the suggestion, from a Tasmanian school, of learning needs analysis being expanded to cover many classes such as a year group. A school in Victoria suggested enabling teachers to e-mail pre-test/post-test analysis. A NSW school pointed out that the confidence intervals on the item analysis were too long as we, at that time, had enabled calculation on any group size. As a consequence, we modified the software's calculation of item analysis to a minimum of 100 candidates. As you will see in Figure 3., AutoMarque now has 17 icons for ease of teacher use.

According to Hattie (2009), students already know about forty per cent of the material the teacher is planning to teach. That being the case, it is essential that teachers can quickly identify the student knowledge base and adapt their pedagogy accordingly. AutoMarque is ideal for this.

To maximise progress, teachers are encouraged to plan their teaching as a series of units. As part of the planning, an end of unit assessment is constructed. Used as a pre-test, it enables the teacher to ascertain each student's learning needs and to better target the teaching. 'Better targeted tests also provide more accurate measures of progress over time' (Masters, 2014, p. 2).

Research by academics such as Petty (2006), Glasson (2008), Hattie (2009) and

Timperley (2010) all emphasise the importance of teachers' feedback to enhance student learning. AutoMarque automatically prints out feedback sheets for students; Figure 4. is an example of this. The author submits that teachers also have a need for feedback to enhance their effectiveness. Based on the feedback delivered by one of the icons as per Figure 5., the teacher chooses a strand of learning to concentrate on. Deciding to work on 'problem solving' the teacher clicks on the learning needs analysis icon producing Figure 6.

How to deal with differentiated learning will vary from school to school. In this scenario the teacher chooses to group the students in the following manner and to address the specific needs of each group.

Group 1. Those students who obtained less than 40 per cent

Group 2. Those students who ranged in score from 40 to 60 per cent

Group 3. Those students who obtained 70 per cent or better.

The dilemma facing a teacher who implements differentiated instruction is how to ensure that each student remains engaged and yet has her/his learning needs addressed while still retaining some sense of control of the class.

Other circumstances may result in a number of classes being merged and regrouped along the above lines enabling teachers to better meet each groups learning needs. This is preferable as it should prove to be a more effective use of resources.

At a glance, Figure 3., informs the teacher:

1. The position for each student by their traffic light colouring.

2. The raw score for each student.

3. The weighted percentage-score for each student.

4. The class average raw and weighted percentage scores.

On a deeper level, the icons on top of the table provide exceptional analysis for the teacher enabling the following:

Feedback for students:

5. Paper printout for each student showing success per question.

Paper or email feedback for each student per strand of learning compared with a class, school, state or national standard.

Feedback for teachers:

6. Results of the class per question.

7. Results of the class average success per strand of learning.

8. Learning needs analysis of the class in one strand of learning. This enables the grouping of students for differentiated learning.

9.   An analysis of the quality of the questions and reliability of the test.

10. Guttman analysis, also enabling the grouping of students for differentiated learning.

11. Comprehensive spreadsheets of every response.

	Last Name	First Names	Score	W%
1	Zeeland	Abergail	8	14.2
2	Yoland	Barnaby	26	47.8
3	Xee	Christine	28	50.1
4	Williams	Douglas	8	10.4
5	Vince	Elaine		
6	Udress	Fred	18	30.4
7	Thomson	Gailene		
8	Smith	Harry	17	27.2
9	Roland	Irene	21	37.0
10	Quince	Jack	24	41.0
11	Pear	Kellie	11	14.1
12	Orchard	Laurie	35	67.9
13	Nolan	Margaret	25	45.5
14	Mango	Neil	15	22.2
15	Lime	October	15	22.5
16	King	Paul	21	37.4
17	Juice	Queenie	12	19.3
18	Island	Ross	38	79.3
19	Hunter	Sally	12	19.0
20	Garden	Tom	9	16.4
21	Fig	Ursula	18	28.9
22	Eggplant	Victor	33	67.0
23	Douglas	Willamena	28	51.3
24	Cherry	Xan	28	55.2
25	Berry	Yevette	16	25.2
26	Apple	Zorro		
27	Raspberry	Alec	9	11.8
28	Blueberry	Bronwin	25	46.9
29	Apricot	Charlie	18	32.8
30	Peach	Debbie		
		Class Average	19.9	35.4%

Figure 3. Class list of results produced upon scanning the student response sheets on a school photocopier

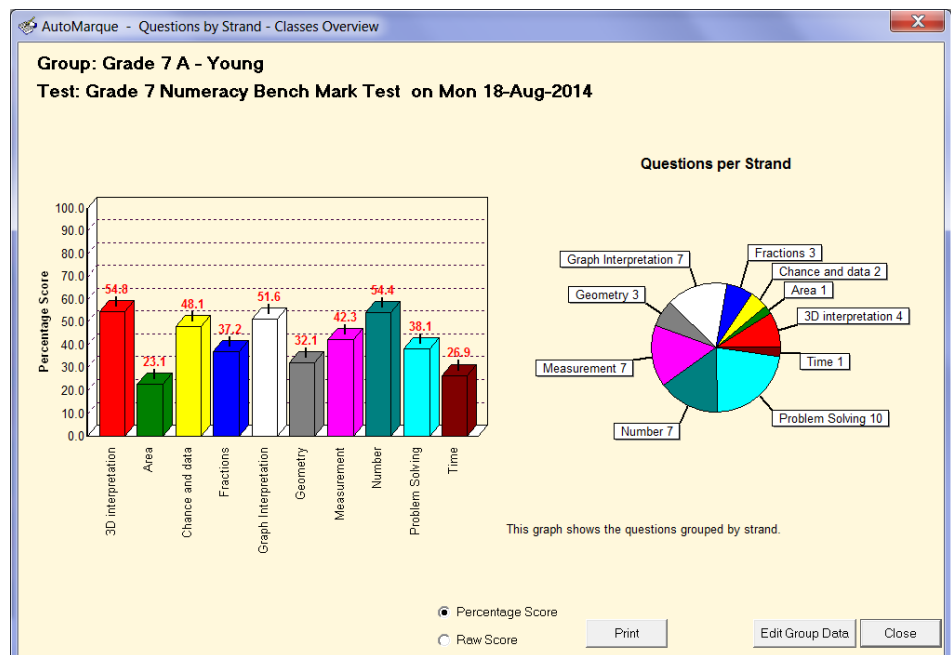**Figure 4. An example of a feedback sheet for each student**

Figure 5. An example of a feedback sheet showing the average success per strand of the teaching group

From the pie graph shown in Figure 5., we can see that the strands of learning within the test are not balanced thus limiting its effectiveness. An equal number of each strand will produce more effective data. There were 10 problem solving questions as revealed by the pie graph in Figure 5.

After addressing deep learning needs, there will come a time when the original test is conducted as a post test. As a consequence, the power delivered by AutoMarque is illustrated in Figure 7. and can be e-mailed to both the student and parents, demonstrating the quality of the school as a leader in improving students' outcomes. This feedback to parents has potential to boost the teachers' image for improving the student's index of educational growth. The author contends that this form of feedback is particularly powerful. Two staff from Pymble Ladies College told the author, 'AutoMarque has changed our lives as it has saved us so much time and the powerful diagnostics are so helpful' (Conversation at the MANSW Wollongong Conference 2011).

Strand: Problem Solving

	Class	Date set	Percent correct
Abergail Zeeland	Grade 7 A - Young	18-Aug-14	0.0
Douglas Williams	Grade 7 A - Young	18-Aug-14	0.0
Kellie Pear	Grade 7 A - Young	18-Aug-14	10.0
October Lime	Grade 7 A - Young	18-Aug-14	10.0
Sally Hunter	Grade 7 A - Young	18-Aug-14	10.0
Tom Garden	Grade 7 A - Young	18-Aug-14	10.0
Queenie Juice	Grade 7 A - Young	18-Aug-14	20.0
Yevette Berry	Grade 7 A - Young	18-Aug-14	20.0
Fred Udress	Grade 7 A - Young	18-Aug-14	30.0
Neil Mango	Grade 7 A - Young	18-Aug-14	30.0
Paul King	Grade 7 A - Young	18-Aug-14	30.0
Alec Raspberry	Grade 7 A - Young	18-Aug-14	30.0
Bronwin Blueberry	Grade 7 A - Young	18-Aug-14	30.0
Harry Smith	Grade 7 A - Young	18-Aug-14	40.0
Irene Roland	Grade 7 A - Young	18-Aug-14	40.0
Ursula Fig	Grade 7 A - Young	18-Aug-14	40.0
Charlie Apricot	Grade 7 A - Young	18-Aug-14	40.0
Margaret Nolan	Grade 7 A - Young	18-Aug-14	50.0
Barnaby Yoland	Grade 7 A - Young	18-Aug-14	60.0
Christine Xee	Grade 7 A - Young	18-Aug-14	60.0
Jack Quince	Grade 7 A - Young	18-Aug-14	60.0
Willamena Douglas	Grade 7 A - Young	18-Aug-14	60.0
Victor Eggplant	Grade 7 A - Young	18-Aug-14	70.0
Xan Cherry	Grade 7 A - Young	18-Aug-14	70.0
Laurie Orchard	Grade 7 A - Young	18-Aug-14	80.0
Ross Island	Grade 7 A - Young	18-Aug-14	90.0

Figure 6. Learning needs analysis for the strand of problem solving

By frequently using assessment for learning, a teacher can easily identify deficiencies in their pedagogy and use self-coaching to address the learning needs of their students. If teachers collaborate in their work, using AutoMarque, they could further reduce their workload by sharing their quality assessments.
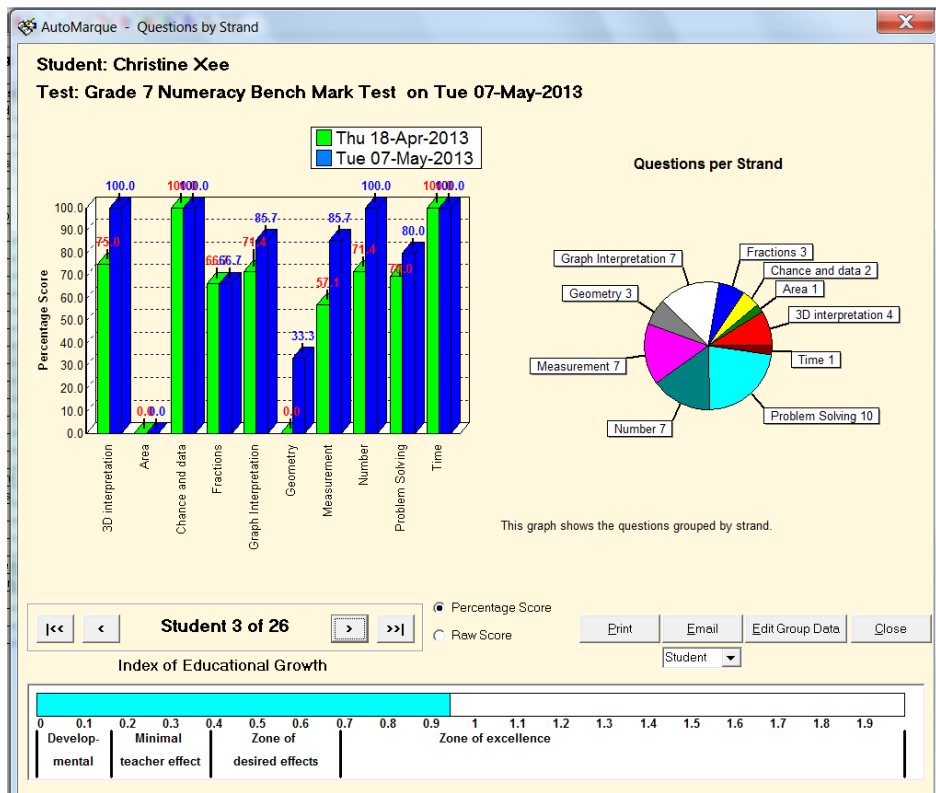
Figure 7. Learning effectiveness feedback sheet

Pre-test/post-test analysis feedback in Figure 7. displays the student's name, the two dates of assessment, how each strand was handled on both occasions, the proportions of the strands that made up the test and the 'Index of the students' educational growth'.

Knowing about Cohen/Hattie's effect sizes is one thing, but to be able to quantify ones' own teaching effectiveness is another which is something that AutoMarque delivers with ease as, displayed in Figure 8.

An Assistant Principal, Dr Toni Meath, told the Australian Council for Educational Leaders 2012 conference delegates that her students were learning at twice the rate of the national average, and at twice the usual depth through the regular use of pre-test and post-test analysis. Toni indicated that AutoMarque was used for '… quickly assessing students so that we,

1. Check their prior knowledge,

2. Check their progress,

3. Have a useful feedback tool to communicate their learning to the learner themselves, other staff and to parents. We use it across all domains'.
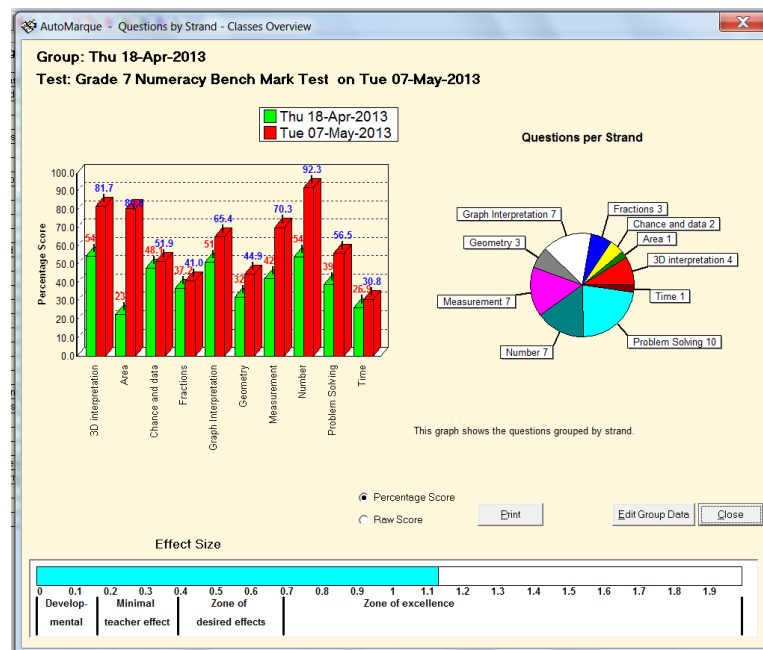
Figure 8. Teaching effectiveness feedback sheet

The teaching effectiveness sheet, Figure 8. contains the two dates of assessment, the average success per strand of the class on both dates, the proportions of the strands that made up the test and the effect size of the teaching. It is definitive evidence of the quality of teaching that has taken place. Such feedback will enhance teachers' awareness of their effectiveness and aid them to become more effective teachers. Further, when school leadership have access to such data they can reduce their direct supervision of effective teachers and concentrate on guiding the less effective members of staff either directly or by having the top performers mentor the strugglers or a combination of both.

Assessing multiple classes

At the beginning of a new year, new students arrive in your school with a wide range of learning needs. To help address the learning needs of all students promptly, a diagnostic assessment can be completed. The results of such an assessment can be merged within AutoMarque and interrogated by strand, see Figure 9. As a result of this year group strand analysis, students' learning needs can be readily addressed through differentiated instruction.

If it is a multiple choice format test, then the teacher can down-load all responses into a spreadsheet to identify and analyse the nature of student's erroneous thinking. A smarter option, which saves considerable time, is to rescan original response sheets as a survey, having told AutoMarque the segment of understanding for each choice, as shown in Figures 10. and 11. In planning for this, at least four questions should be asked the about same concept of understanding, thus reducing chance or guessing of the correct answers.
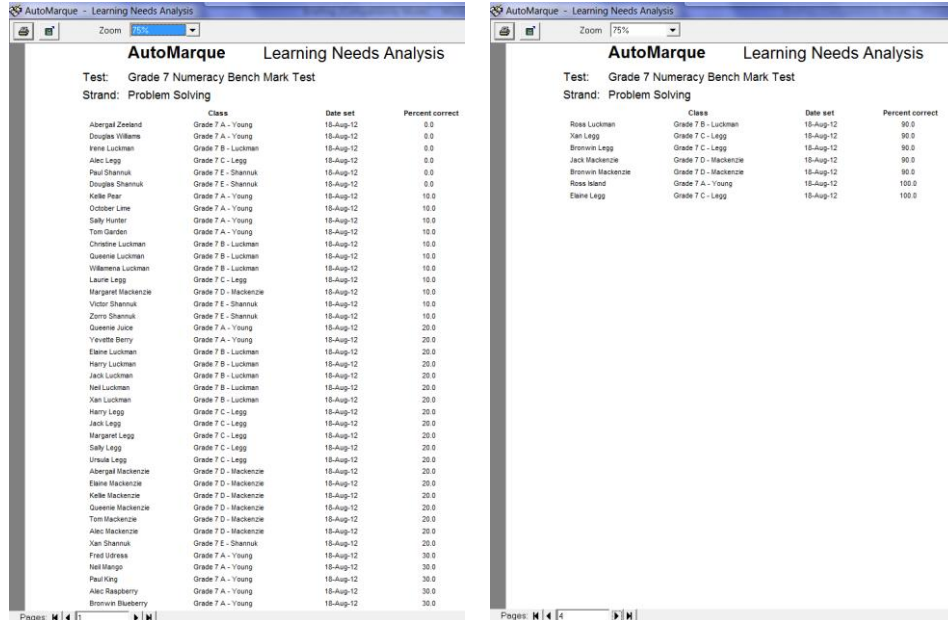
Figure 9. Pages 1 & 4 ranking 130 students in a single strand of learning within a test

Figure 10. An example of segment allocation in Biology
(Australian Science Olympaid Test Items)

Figure 11. An example of segment allocation for basic fractions

As a result of rescanning as a rating scale analysis, the teacher will be able to be so much better informed (see Figure 12.) than the student result of zero. More than anything, it provides a direction for the teaching that is to follow.
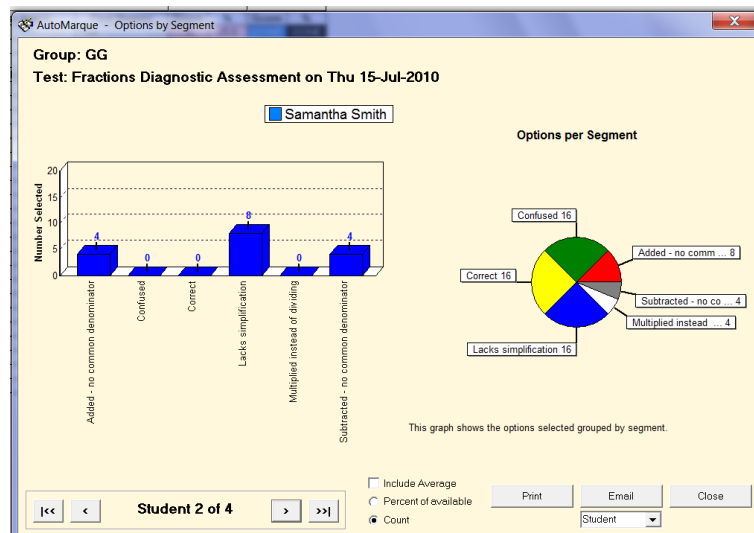
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Figure 12. An example of a fractions diagnostic assessment

We can see from Figure 12. that four questions were asked in each of the four functions. This student had no success in the test but her responses indicated that she needs to learn simplification and the use of common denominator.

Determining the quality of your multiple choice questions

There are considerable resources on the Internet, usually in pdf format, available for teachers to acquire. The quality of these questions can then be assessed by AutoMarque. AutoMarque requires a minimum of 100 students to have completed an identical test before the question quality analysis (item analysis) can take place. In the item analysis, as shown in Figure 13., we see how five classes, consisting of a total of 130 students, have completed an identical test, and that an analysis of each question is displayed, as well as an indication of the test's overall reliability.

AutoMarque expresses the difficulty of a question as a percentage of the students who answered incorrectly. For discrimination, the software uses a Point Biserial Coefficient of Correlation between the correctness of the response to the given question and the students' results in the test as a whole (Athanasou & Lamprianou, 2002).

The confidence intervals displayed are indicated by the length of each line, per question, for difficulty and discrimination. The line's length is inversely proportional to the square root of the sample size. Teachers can use this facility to verify the quality of test questions. This helps raise the quality and reliability of their work and consequent improvement in students' outcomes through better focused teaching.
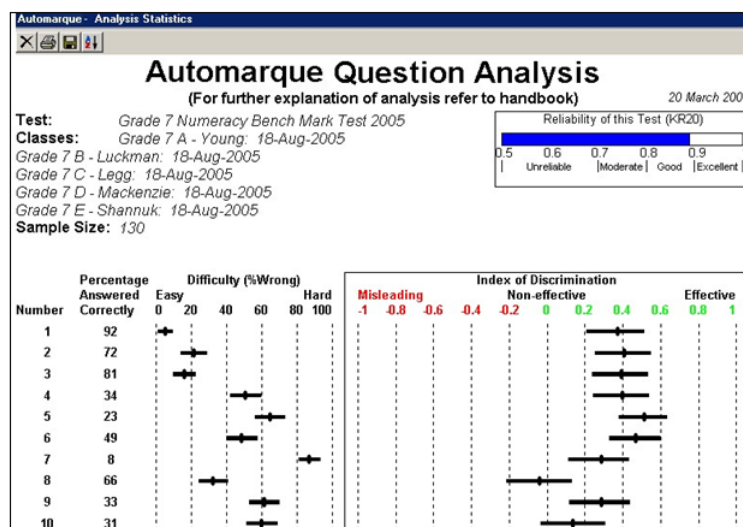

Figure 13. An example of AutoMarque's Item analysis

The item analysis feedback sheet seen in Figure 13., lists the classes that were amalgamated, sample size, the reliability of the test, confidence intervals per question of difficulty and discrimination and, which questions were not effective.

In developing this resource, the author was well aware of how students 'at educational risk' are highly-likely to go off task when they have access to a computer or tablet. This is based on his experience of over 30 years in schools and that of researcher referred to by Hu, 2004. Helping to keep them on task, when assessing such students, enables teachers to obtain a clearer understanding of their learning needs.

Most school photocopiers scan a sheet per second, so school wide moderation assessments can also be easily conducted. The major advantage of moderation testing or assessment of learning is the real time results and AutoMarque's ability to disclose what would, under other circumstances, be unknown. If you are a student of Vygotsky and his concept of ZPD, AutoMarque is of further assistance in producing Guttman Analysis as it does this via the 'G' icon seen in Figure 3. (Griffin, 2014, p. 197).

Conclusion

AutoMarque empowers teachers in new ways to drill down deeper into student learning needs, to address gaps in learning and to improve their effectiveness as both teachers and directors of student achievement. Having access to tools that tell us the reliability of our assessments opens a new door to help produce superior outcomes for our students.

This paper has addressed the two questions raised at the outset showing how the professions' insights into students learning can be massively improved. Teachers can now more clearly see how effective they are as teachers. Using this tool in schools will save the leadership considerable supervisory time. Further, highly-effective teachers can be clearly identified and assigned to coach less effective teachers, thus reducing the variation in effectiveness of teaching within a school.

Australian teachers need 21st century analysis tools to assist them to produce better outcomes for their students;

otherwise this nation will continue to be overtaken in the PISA ratings by nations that have a more effective teaching profession. Governments appear to be reluctant to continue to increase spending on education when the returns on expenditure are not apparent. As a nation, we need to work smarter not harder at keeping students on task to help them reach their full potential, especially those who are at educational risk.

References

Athanasou, J., & Lamprianou, I. (2002). *A Teachers Guide to Assessment*. Melbourne: Social Science Press.

Australian Academy of Science. (2015). *Science Olympiad, past exams*. Retrieved from https://www.asi.edu.au/site/past_exams.php.

Glasson, T. (2008). *Improving Student Achievement: A practical guide to Assessment for Learning*. Curriculum Corporation.

Griffin, P. (Ed). (2014). *Assessment for Teaching*. Cambridge University Press.

Hattie, J. (2009). *Visible Learning. A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Hays, G. & Challinor, K.. (2015). Professional learning—reflections from a trip to Finland. *ACER Teacher magazine*, 1 May 2015.

Hu, W. (2007). Seeing No Progress, Some Schools Drop Laptops. *The New York Times*, 4 May 2007, p. 1.

Masters, G. (2014). Achieving high standards by starting from current performance. *ACER Teacher magazine*, Nov 2014.

Masters, G. (2015). Addressing the learning needs of all students. *ACER Teacher magazine*, Mar 2015.

Petty, G. (2006). *Evidenced Based Teaching*. Nelson Thornes.

Sahlgren, G. H. (2015). *'Real Finnish Lessons' The true story of an education superpower*. April 2015, Centre for Policy Studies.

Sharratt, L. & Fullan, M. (2012). *Putting Faces on Data*. Hawker Brownlow.

Timperley, H. (2010). *Using Evidence in the Classroom for Professional Learning*. University of Auckland, New Zealand,

Paper presented to the Ontario Education Research Symposium. Retrieved from http://www.education.auckland.ac.nz/webdav/site/education/shared/about/schools/tchldv/docs/Using%20Evidence%20in%20the%20Classroom%20for%20Professional%20Learning.pdf

Thomson, S., De Bortoli, L., & Buckley, S. (2013). *PISA 2012—How Australia measures up*. ACER.

Watanbe, R. & McGaw, B. (2003). *Problem Solving for Tomorrow's World*. OECD.