

Transforming education through the Arts: Creating a culture that promotes learning

Brian Caldwell

Educational Transformations, Vic.

Professor Brian J. Caldwell is Managing Director and Principal Consultant at Educational Transformations Pty Ltd in Melbourne and Professorial Fellow at the University of Melbourne. He holds the degrees of Bachelor of Science (1962) and Bachelor of Education (1968) from the University of Melbourne, and Master of Education (1975) and Doctor of Philosophy (1977) from the University of Alberta.

From 1998 to 2004 he served as Dean of Education at the University of Melbourne. He was appointed Professorial Fellow and Emeritus Professor in 2004. His previous appointments include Head of Education Policy and Management (1995–1998) at the University of Melbourne; Head of Teacher Education (1988–1989) and Dean of Education (1989–1990) at the University of Tasmania; and Research Assistant Professor (1979–1981) at the University of Alberta, Canada. He has held leadership positions in schools in Australia (1963–68) and Canada (1968–1977).

International work over the last 25 years includes more than 500 presentations, projects and other professional assignments in or for 40 countries or jurisdictions on six continents. In addition to approximately 180 published papers, chapters and monographs, Professor Caldwell is author or co-author of books that have helped guide educational reform in several countries

Professor Caldwell was Chair of the Advisory Board of the Asia Education Foundation from 1998 to 2004. He was a director of the Board of the Australian Council for Educational Research (ACER) from 2003 to 2011, serving as Deputy Chair from 2009 to 2011. He is a member of the Board of Patrons of Foundation for Young Australians (FYA). He serves as an associate director of the Specialist Schools and Academies Trust (London). He is a Fellow and Life Member of the Australian Council for Educational Leaders (ACEL) and a Fellow and Life Member of the Australian College of Educators (ACE). He was President of ACEL from 1990 to 1993 and was awarded its Gold Medal in 1994. He is Patron of ACEL (Victoria). In July 2005 he received the College Medal of ACE. In 2004 he was awarded the

Sir James Darling Medal of ACE (Victoria) and the Hedley Beare Educator of the Year Award of ACEL (Victoria).

Tanya Vaughan

Educational Transformations, Vic.

Dr Tanya Vaughan is Senior Consulting Researcher at Educational Transformations based in Melbourne, and Honorary Fellow in the Graduate School of Education at the University of Melbourne. She serves as Director of Impact Studies at Educational Transformations. She holds a Bachelor of Science (Monash), Bachelor of Education (Queensland University of Technology) and Doctor of Philosophy (Griffith University). Since completing her doctorate in 2004 she has presented at national and international conferences and published in her specialist field of bioinformatics and genomics, and served as biology coordinator at the senior secondary level at St Margaret's Anglican Girls School in Brisbane.

Dr. Vaughan's major responsibility with Educational Transformations in 2009 and 2010 was as lead consultant in the major research project investigating the impact of programs in the arts on outcomes for students in highly disadvantaged setting. A summary of the research entitled *Bridging the gap in school achievement through the Arts* (Vaughan, Harris & Caldwell, 2011) was launched at Parliament House Canberra in March 2011 by Peter Garrett, Minister for School Education, Early Childhood and Youth. Her other project responsibilities have included support of the review of teacher education and induction in Queensland, evaluation of the state schools' academies program in Queensland, consultancy on middle schooling, and research on school improvement and futures in education. She is co-author with Brian Caldwell of *Transforming education through the Arts* (Caldwell & Vaughan, 2012). She is also co-author of two chapters in *Changing schools in an era of globalization* (Lee & Caldwell, 2011).

Dr. Vaughan was lead consultant in a research project to investigate the effectiveness of The Song Room Creative Arts Indigenous Parents Engagement (CAIPE) in building parental and youth engagement with schools and schooling and co-leader of a project to study the social rate of return of investment in arts education. The findings of the CAIPE evaluation show important benefits for the engagement of Aboriginal and Torres Strait Islander parents and students in the arts.

Abstract

There is persuasive evidence that participation in the arts can have a powerful impact on achievement in other areas of the curriculum and on student wellbeing. We gained a positive view of what is possible in research commissioned by The Song Room (TSR) (Vaughan, Harris & Caldwell, 2011). TSR is a non-profit organisation that provides free music and arts-based programs for children in disadvantaged and other high-need settings.

Researchers examined the performance of students in 10 schools in highly disadvantaged settings in Western Sydney, within a quasi-experimental model with three groups of schools 1) longer-term TSR - 12-18 months 2) initial TSR - 6 months and 3) non-participating – control. The schools were a matched set; they scored roughly the same on the Australian Curriculum, Assessment and Reporting Authority (ACARA) Index of Community Socio-Educational Advantage (ICSEA). Students in eight schools completed the Social-Emotional Wellbeing (SEW) survey designed and validated at the Australian Council for Educational Research (ACER).

Students in TSR programs outperformed students in non-TSR schools in school achievement tests and in NAPLAN tests (Caldwell & Vaughan, 2012). The percentage of students absent on a day when TSR programs were offered was higher in non-TSR schools than in TSR schools. The gain in achievement in reading is approximately one year which is a larger effect than achieved in more sharply focused interventions. A higher proportion of student in TSR programs were at the highest levels of SEW and resilience than their counterparts in non-TSR schools.

Introduction

UNESCO considers education in the arts to be a universal human right, implying that its absence or sidelining is a breach of the convention on the rights of the child. A ‘road map for arts education’ was prepared at the First World Conference on Arts. It included the following statement:

Culture and the arts are essential components of a comprehensive education leading to the full development of the individual. Therefore, Arts Education is a universal human right, for all

learners, including those who are often excluded from education, such as immigrants, cultural minority groups, and people with disabilities.

(UNESCO, 2006, p. 3)

We gained a positive view of what is possible in research commissioned by The Song Room (TSR), as published in *Bridging the gap in school achievement through the Arts* (Vaughan Harris & Caldwell 2011), launched by Hon. Peter Garrett, Australia's Minister for School Education, Early Childhood and Youth in March 2011. The Song Room is a non-profit organisation that provides free music and arts-based programs for children in disadvantaged and other high-need settings. According to The Song Room, 700,000 students in government primary schools in Australia have no opportunity to participate in programs in the arts. The research was funded by the Macquarie Group Foundation. A complete account is contained in *Transforming education through the Arts* (Caldwell and Vaughan, 2012).

The research was conducted in primary schools in the public sector but we did the study against a background of international research in both primary and secondary schools in all sectors. The findings are as unexpected as they are powerful and there is no reason to expect that they do not also apply in secondary schools.

Our research team examined the performance of students in 10 schools in highly disadvantaged settings in Western Sydney. Three schools offered a longer-term program over 12 to 18 months, and three schools offered an initial short-term program of 6 months. In each instance the program was conducted for Grade 5 and 6 students for one hour on a single day once per week. A control group of four schools did not offer The Song Room program. The three sets of schools were a matched set. At the time of the study they scored roughly the same on the Australian Curriculum, Assessment and Reporting Authority (ACARA) Index of Community Socio-Educational Advantage (ICSEA) as calculated in 2009. An even closer match was evident when 2010 ICSEA scores were used. The study is a rare example of quasi-experimental design in educational research.

ICSEA is scaled to a mean of 1000 with a standard deviation of 100 (ACARA, 2011). ICSEA 1 data collected from the My School website in 2010 enabled the choice of control schools, while ICSEA 2 data collected from My School 2 in 2011 provided a more accurate comparison of ICSEA between the experimental groups. The ICSEA 2 data collected from the My School 2 had improved accuracy to predict NAPLAN scores (ACARA, 2011) and was different from the ICSEA 1 as it contained data sourced directly from parents rather than the Australian Bureau of Statistics census data, and included the proportion of students from

Language Background other than English (LBOTE) families having a low school education levels (Barnes, 2010). The schools not participating in TSR programs were chosen by the research team from a list of schools provided by TSR to match schools offering TSR programs. Weighted mean enrolments of the three groups were 439 (longer-term), 359 (initial) and 444 (non-participating). Weighted mean ICSEA 1 scores were 910 (longer-term), 905 (initial) and 883 (non-participating) for ICSEA. The ICSEA 2 scores provided an improved match between the cohorts, with those who had not participated in TSR having the highest ICSEA of 913, and the initial and longer-term cohorts having an ICSEA of 903. The slightly increased ICSEA for the non-participating group of schools would act as a slight bias towards the identification of higher outcomes in those who had not participated. The weighted mean in each instance takes account of the relative numbers of students in each school that participated in the study.

Data on gender, grade level, attendance, grades and NAPLAN results were collected from 10 schools and categorised according to participation in TSR program. Two schools from each of the cohorts were selected to participate in the Social-Emotional Wellbeing (SEW) Survey, which was designed and validated by the Australian Council for Educational Research (Bernard, Stephanou, & Urbach, 2007). The SEW survey was administered to a total of 271 students.

Students that participated in TSR showed significantly higher grades in their academic subjects (English, Mathematics, Science and Technology and Human Society) in comparison to those who had not participated in TSR. Students' grades in Science and Technology and Human Society were significantly higher for students who had participated in TSR in comparison to those who had not participated in TSR. The largest effect size was observed for Science and Technology grades, of $d = 0.46$ which was equivalent to a gain of half a year in achievement.

Baseline measurements of the NAPLAN results in 2008 showed no significant differences between the longer-term cohort (prior to participation in TSR) and those who had not participated in TSR. Significantly higher Year 5 NAPLAN 2009 results for the longer-term TSR cohort were observed in Reading, Writing, Spelling, Grammar and Punctuation and Overall Literacy ($p < 0.01$), with the largest effect size of $d = 0.79$ for Reading, which was within the 'zone of desired effects' for educational research and equivalent to a gain in achievement of at least a year. The comparison of the Year 5 2010 NAPLAN results showed lower percentages of students below the minimum national level for the longer-term TSR and

initial TSR cohorts in writing, spelling and grammar and punctuation in comparison to those students who had not participated in TSR.

Students who participated in TSR had higher overall SEWB and resilience, which showed the greatest magnitude of difference in the longer-term TSR in comparison to those schools who had not participated in TSR. Male students who participated in TSR showed significantly reduced agreement to the statement 'I feel stressed' in comparison to students who had not participated in TSR. The students' responses to the statement 'During the past six months, I have felt so hopeless and down almost every day for one week that I have stopped doing my usual activities' showed a statistically significant difference for female students in the longer-term TSR in comparison to those who had not participated in TSR.

Important differences were found in favour of students that undertake The Song Room program. The findings have national and international significance. First, related research in other countries is confirmed (Baker, 2011; Bamford, 2006; Brice, Heath and Roach, 1999; Catterall, Chapleau and Iwanaga 1999; Catterall and Pepler 2007; Catterall, Dumais and Hampden-Thompson, 2012; Hunter, 2005; Oreck, Baum and McCartney 1999; Schellenberg, 2006; Spillane, 2009; Uptis and Smithrim, 2003). Second, there appears to be a direct association between the arts and outcomes in other areas. Third, the wisdom of including the arts in Australia's national curriculum is confirmed. The key findings were summarised as follows:

- 1 Participation in TSR is associated with a gain of approximately one year in Year 5 NAPLAN scores in reading and approximately half a year in science and technology when compared to outcomes for students in matching schools.
- 2 Participation in TSR is associated with higher levels of social and emotional wellbeing on every dimension compared to measures for students in matching schools.
- 3 While there was no implication that students in TSR in participating schools had a propensity to engage in juvenile crime, the findings are consistent with worldwide research on factors that mitigate such engagement.

While caution must always be exercised in drawing cause-and-effect relationships, these differences in comparisons in matched sets of schools were statistically significant.

Moreover, the longer the students were in TSR programs, the greater the differences.

The sidelining of the arts appears to be more evident in public schools than in independent schools, and more so in public schools in highly disadvantaged settings than in their counterparts in more affluent communities. An explanation lies in the fact that large numbers of independent schools have, at least in the eyes of parents, a more holistic view of

the curriculum and have well-developed programs in the arts that have withstood the narrowing effect of high-stakes testing. There are notable exceptions, of course, especially for public schools of long standing or where the arts are a ‘protected’ specialisation. An associated reason that takes account of socio-economic status in the public sector as well as in the independent sector is that these schools have more financial resources to draw on or have higher levels of social capital from which they can secure support for the arts.

It is important that we acknowledge that the sidelining of the arts and the other dysfunctions we described above are not universal and that, even in the same countries or school systems or schools, there are outstanding programs in the arts.

The sidelining of the arts reflects the divisions in the disciplines of learning that has existed since at least the nineteenth century. Paul Johnson drew attention to the problem in *Creators* (Johnson, 2006) where he described the work of men and women of outstanding originality, including Chaucer, Shakespeare, J. S. Bach, Jane Austen, Victor Hugo, Mark Twain, Picasso and Walt Disney. In an affirmation of what can be accomplished in arts education, he declared that ‘creativity is inherent in us all’ and ‘the only problem is how to bring it out’ (Johnson, 2006, p. 3). Johnson believes that ‘the art of creation comes closer than any other activity to serving as a sovereign remedy for the ills of existence’ (Johnson, 2006, p. 2).

We conclude by returning to the Australian scene. In May 2011 *The Economist* published a lead article on the future of Australia under the heading ‘The next Golden State’ with a sub-title ‘With a bit of self-belief, Australia could become a model nation’ (*The Economist*, 2011, pp. 13–14). Much of the article contrasted the social and economic potential of the nation with the narrowly focused inward-looking discourse that it alleges is characteristic of politics in Australia. It looked at the characteristics of open, dynamic and creative societies as these have been created over the years in other nations and offered the following in respect to Australia:

Such societies, the ones in which young and enterprising people want to live, cannot be conjured up overnight by a single agent, least of all by government. They are created by the alchemy of artists, entrepreneurs, philanthropists, civic institutions and governments coming together in the right combination at the right moment. And for Australia, economically strong as never before, this is surely such a moment.

(*The Economist*, 2011, p. 13)

Australia will not achieve this state if it does not take seriously the intentions in the Australian Curriculum and evidence on the impact of the arts in schooling that is now irrefutable.

References

- ACARA (2011) My School: Guide to understanding ICSEA. Online. Available HTTP: <http://www.acara.edu.au/verve/resources/Guide_to_understanding_ICSEA.pdf>. Accessed 13 May 2011.
- Baker, R. (2011). The Relationship between Music and Visual Arts formal study and academic achievement on the eight-grade Louisiana Educational Assessment Program (LEAP) test, PhD thesis (Louisiana State University).
- Bamford, A. (2006). *The Wow factor: Global Research compendium on the impact of the arts in education*, Münster: Waxman.
- Barnes, G. (2010). Report on the generation of the 2010 Index of Community Socio-Educational Advantage (ICSEA). Online. Available HTTP: <http://www.acara.edu.au/verve/resources/2010_Index_of_Community_Socio-Educational_Advantage_Generation_Report.pdf>. Accessed 3 May 2011.
- Bernard, M. E., Stephanou, A., & Urbach, D. (2007). *Australian Scholarships Group (ASG) Student social and emotional health report: A research project conducted by the Australian Council for Educational Research*. Melbourne: Australian Council for Educational Research. Online. Available HTTP: <http://www.acer.edu.au/documents/SEWB_ASG-StudentSocialEmotionalHealthReport.pdf>. Accessed 13 May 2011.
- Brice Heath, S., & Roach, A. (1999), Imaginative Actuality. In E. B. Fiske (Ed.), *Champions of change: The Impact of the arts on learning*, Washington: The Arts Education Partnership; The President's Committee on the Arts and Humanities, 19-34.
- Caldwell, B. J., & Vaughan, T. (2012). *Transforming education through the arts*, London and New York: Routledge.
- Catterall, J. S., Chapleau, R., & Iwanaga, J. (1999). *Involvement in the arts and human development: General involvement and intensive involvement in music and theater arts*. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning*, Washington: The Arts Education Partnership; The President's Committee on the Arts and Humanities. Online. Available HTTP: <<http://artsedge.kennedy-center.org/champions/pdfs/ChampsReport.pdf>>, (accessed 27 April 2011).
- Catterall, J. S., & Pepler, K. A. (2007). Learning in the visual arts and the worldviews of young people. *Cambridge Journal of Education*, 37, 543-60. Online. Available HTTP: <http://gseis.ucla.edu/faculty/files/catterall/JC_CJEpublished.pdf>. Accessed 28 May 2011.
- Catterall, J. S., Dumais, S. A., & Hampden-Thompson, G. (2012). *The arts and achievement in at-risk youth: Findings from four longitudinal studies*. Washington: National Endowment for the Arts. Online. Available HTTP: <<http://www.nea.gov/research/Arts-At-Risk-Youth.pdf>>. Accessed 5 April 2012.

- Hunter, M.A. (2005). *Education and the Arts Research Overview*. Strawberry Hills: Australia Council for the Arts. Online. Available HTTP: <http://www.australiacouncil.gov.au/_data/assets/pdf_file/0018/34083/EdArts_Research_Overview.pdf>, (accessed 13 May 2011).
- Johnson, P. (2006). *Creators*. New York: Harper Perennial.
- Oreck, B., Baum, S., & McCartney, H. (1999). *Artistic talent development for urban youth*. In E. B. Fiske (Ed.), *Champions of change: The impact of the arts on learning*, Washington: The Arts Education Partnership; The President's Committee on the Arts and Humanities. Online. Available HTTP: <<http://artsedge.kennedy-center.org/champions/pdfs/ChampsReport.pdf>>. Accessed 13 May 2011).
- Schellenberg, E. G. (2006). Long-term positive associations between music lessons and IQ, *Journal of Educational Psychology*, 98, 457-68.
- Spillane, D. (2009). Boys in a small rural school: Developing a culture of confidence and success. In Harrison (Ed.), *Male voices, stories of boys learning through making music*. Melbourne: ACER Press.
- The Economist*. (2011). The next Golden State, *The Economist*, 28 May, pp. 13-14.
- UNESCO. (2006). Road Map for Arts Education. Report from The World Conference on Arts Education: Building Creative Capacities for the 21st Century in Lisbon, 6-9 March 2006. Online. Available HTTP: <http://portal.unesco.org/culture/en/ev.php-URL_ID=30335&URL_DO=DO_TOPIC&URL_SECTION=201.html>, (accessed 9 March 2009).
- Upitis, R., & Smithrim, K. (2003). *Learning through the Arts: National Assessment: 1999-2002. Final Report to The Royal Conservatory of Music*. Toronto: Toronto Royal Conservatory of Music.
- Vaughan, T., Harris, J., & Caldwell, B. J. (2011). *Bridging the gap in school achievement through the Arts: Summary report*. Melbourne: The Song Room. Online. Available HTTP: <<http://www.songroom.org.au/images/stories/Bridging%20the%20Gap%20in%20School%20Achievement%20through%20the%20Arts.pdf>>, (accessed 30 May 2011).